The Macarthur GP After-hours Service: a model of after-hours care for Australia

Elizabeth J Comino, Nicholas A Zwar and Oshana Hermiz

Abstract

Introduction: The Macarthur GP After-hours Service (MGPAS) was established to streamline the provision of after-hours medical care in an outer-urban community. This paper reports on a process evaluation of the MGPAS.

Methods: A mixed methods approach involving surveys, stakeholder interviews and analysis of administrative data was used.

Results and discussion: This model of care was well accepted and regarded by general practitioners, Macarthur Health Service staff and the community. The MGPAS was found to be an acceptable and efficient model of after-hours medical care. Areas that required further review included the need for telephone triage, home visiting and improved communication and referral to the health service. The financial viability of the MGPAS depends on supplementary funding due to the constraints of the Medicare rebate, and limited opportunities to reduce costs or increase revenue. Further research, including an economic evaluation to identify opportunity costs of the service, is needed.

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What is known about the topic?

General practitioners are increasingly reluctant to provide after-hours care; waiting times in alternate after-hours services such as emergency departments can be extended; and patient need for and expectation of after-hours services are increasing. Thus, there is interest in new models of sustainable after-hours general medical care provision in Australia.

What does this paper add?

This paper reports on a process evaluation of the Macarthur GP After-hours Service, a GP-operated clinic near the emergency department of a large urban hospital.

Evaluation shows that the MGPAS is an appropriate model of quality care provision for the region; has a high level of stakeholder satisfaction; is efficient in terms of resource and GP commitment; but is not sustainable without supplementary funding.

What are the implications for practitioners?

This model of after-hours care has been well accepted and supported by GPs; is providing good quality GP-type care to patients; and has enabled GPs to rationalise their after-hours commitments.

Ongoing review is needed to ensure that the needs of stakeholders are met and opportunities for additional services such are telephone triage can be met.

COMMUNITIES ARE ENTITLED to high quality, appropriate after-hours general medical care.[1-4] Traditionally, general practitioners provided these services through prompt advice or consultation,[5] but have attempted to limit their after-hours care commitment through various arrangements such as "on call" rosters and deputising services.[6] However, demand for after-hours care is increasing due to changing patient needs and expectations,[7,8] creating imperatives to develop sustainable alternate models of after-hours general medical care provision.[6,9-11] One model that has widespread acceptance from GPs and health services

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involves an after-hours cooperative clinic, operated by GPs at a location that is independent of normal practice and from where patients are referred back to their usual GP for ongoing care.[6,12-14] The aim of this paper is to report on a process evaluation of such a model, the Macarthur GP After-hours Service (MGPAS), in terms of quality of care, satisfaction, appropriateness, efficiency and sustainability.

Macarthur GP After-hours Service

The MGPAS was established on 1 May 2000 at Campbelltown Hospital to provide a bulk-billing GP after-hours service in an outer urban region in Sydney's south west. Macarthur Division of General Practice (MDGP) operates the service through an agreement with Macarthur Health Service (MHS). MGPAS is funded by a grant from the Commonwealth Department of Health and Ageing and Medicare service rebates. GP membership is voluntary and is achieved by joining the GP roster or paying a membership fee. GPs receive an agreed fee for working in the service, and membership meets current practice accreditation standards. Located near the emergency department (ED) of the regional hospital, MGPAS is open every evening and afternoons on weekends. The service has access to hospital diagnostic services. Formal service standard guidelines, including arrangements for follow up through the patient's own GP and relationships to MHS, are in place.

Methods

The evaluation used mixed methods to evaluate the MGPAS.

Patient satisfaction surveys

Patients were surveyed during two time periods in 2002 (TP1) and 2003 (TP2). All patients were asked to complete questionnaires before and after consultation. A subset of patients who agreed to further contact completed a short telephone interview. These surveys sought information on the reason for consultation, perceived urgency, and outcome of and satisfaction with treatment.

GP survey

A brief questionnaire was mailed to all GP members of the MDGP and sought information on GPs' after-hours arrangements, satisfaction with these arrangements, and awareness of and satisfaction with the MGPAS. Twenty member and 20 non-member GPs were randomly selected and invited to participate in stakeholder interviews.

Stakeholder interviews

Structured interviews were conducted with 56 key stakeholders in the region including GPs, MGPAS and Area Health Service (AHS) staff, hospital and nursing home staff, and representatives of community organisations. Interviews sought views on aspects of the MGPAS with a particular focus on its appropriateness, efficiency and sustainability. Efficiency was defined as "the effect or end result in relation to effort expended in terms of time, money and resources" and sustainability as "the potential for long term viability in terms of cost, resources and work force demand".[15] Opinions were also sought about the appropriateness of the services in meeting the needs of potential patients. All interviews were taped and conducted at the respondents' workplace.

Impact on alternate after-hours services

The ED Information System (EDIS) records information on patients attending an ED. Patients who indicated to ED that they would attend the MGPAS were recorded by ED under a field "left for another facility". Data were examined from patients in triage categories 4 and 5 (the categories of patients most suitable for GP care) who presented between 1 May 1999 and 30 July 2002. The Health Insurance Commission (HIC) provided data on all after-hours GP claims for the period 1 May 1999 to 30 June 2002, stratified by month and year, and local government area (LGA). These data included all specific GP claims for after-hours care. Claims lodged by the MGPAS were for normal consultations and did not include after-hours consultation item numbers.

Analysis

Data analysis was undertaken using the Statistical Program for the Social Sciences version 14.0 (SPSS Inc, Chicago, Ill, USA). Descriptive methods were used to analyse the patient satisfaction and GP surveys, EDIS, and HIC data. A thematic analysis was used to identify the main issues reported by the stakeholders and focused on satisfaction with the model of service, and comments on perceived appropriateness, efficiency and sustainability.

Results

Patient satisfaction surveys

At TP1 and TP2 2106 patients were registered with MGPAS. About half of the patients were female and the mean age of patients was 20.3 years (standard deviation, 17.7 years). Forty-four percent were aged less than 15 years, with 27.1% of patients aged less than 5 years. Most patients (77.1%) were from Campbelltown LGA and were born in Australia (84.9%). The benchmark of 30 minutes waiting time between registration and consultation was achieved for 87.3% of patients. There were no significant differences between TP1 and TP2, and the results were combined.

Pre-consultation questionnaires were completed by 72.4% (1532) of patients; post-consultation questionnaires by 51.6% (1086); and telephone follow-up interviews by 271 patients. The reasons for presentation and the nature of these needs are summarised in Box 1. Most (68.9%) reported that they would have attended ED if the MGPAS was not available. Patients reported high levels of satisfaction with the care received, with most patients at post-consultation (96.3%) and telephone interview (93.0%) rating MGPAS as excellent or good and meeting most or all of their needs. At telephone interview most patients reported that their condition had resolved (48.8%) or improved (35.9%). Most patients (98.5%) would use the services again or recommend them to others.

GP survey

Thirty-nine members (97.4%) and 51 non-members (56.7%) completed the GP survey. The majority (93.3%) provided after-hours care to their patients other than through MGPAS. All member and 70.6% of non-member GPs referred patients to MGPAS using a variety of methods including waiting room leaflets and answer machine messages. Thirteen non-member GPs did not refer patients to MGPAS because of the distance to the service. GP respondents expressed high levels of satisfaction with all aspects of MGPAS, and believed this was an appropriate model of after-hours general practice care provision for the region.

Stakeholder interviews

Through the stakeholder interviews, GPs, MHS staff, patients and the Macarthur community

1 Reason for and nature of presentation to Macarthur GP After-hours Service, stated before consultation (*n* = 1532)

Reasons for presentation	No. (%)*	Nature of need	No. (%)
Condition required urgent medical care	736 (48.0)	Sudden onset of an acute illness	559 (36.5)
Patients could not attend during usual GP hours	410 (26.8)	Worsening of an existing condition	469 (30.6)
More convenient to see doctor now	257 (16.8)	Injury	361 (23.6)
Less waiting time than usual GP	149 (9.7)	Reaction to medication	10 (0.7)
Family doctor advised	126 (8.2)	Drug-related issue	8 (0.5)
Availability of bulk billing	63 (4.1)	Other	84 (5.5)
Other	128 (8.4)		

*Multiple responses allowed.

indicated that the MGPAS was an appropriate model of after-hours service for the region, and was consistent with good quality GP care. Stakeholders also indicated that the MGPAS assisted the MHS to meet the needs of the community. Because participation enabled them to manage their after-hours work and qualify for accreditation, GPs would remain involved. Non-member GPs would reconsider their membership over time; however there was little support for enforcing an annual membership for non-member GPs who referred to the service. MHS stakeholders indicated that the location near the ED was both feasible and desirable. ED staff indicated that being able to offer an alternative service to patients with "GP-type" presentations improved their job satisfaction and helped them deal with patients with less urgent care needs more efficiently. Patient stakeholders appreciated access to care from experienced GPs and indicated satisfaction with the quality of care provided and with the GPs on duty.

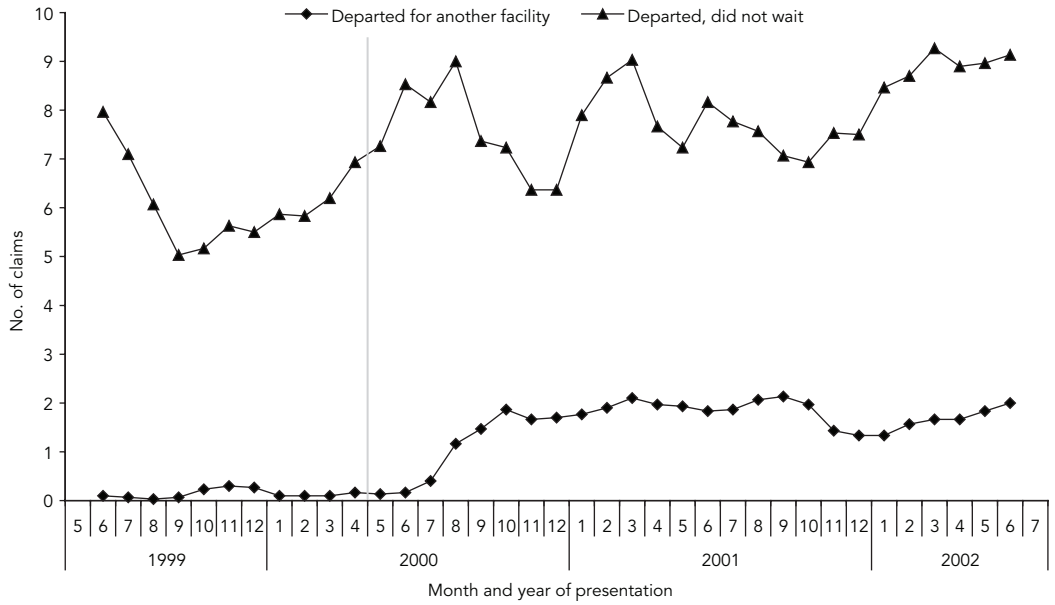
GPs were very satisfied about the feedback from MGPAS and the prompt receipt of attendance notes about patients who used the service, ensuring continuity of care for their patients. However, they indicated a need to develop more timely reporting procedures from the health service to GPs for communication of results of diagnostic tests performed by MHS. The location of the service near the Campbelltown Hospital ED was considered appropriate. GPs regarded this as a "neutral" location, not in competition with other GP services in the region. Other stakeholders agreed that this location was central, well known and readily identified by users. The location had access to MHS services including diagnostic testing and security, and provided opportunities for interaction between GPs and the MHS. However, long distances and inadequate after-hours public transport in the region made access difficult for patients outside Campbelltown without private transport. Discussion of the ideal opening hours for MGPAS indicated support to continually review the opening hours.

Two concerns, particularly for community groups and aged care facilities, were telephone triaging and home visiting. Stakeholders thought that a telephone triage service would augment the MGPAS by providing timely advice and reassurance, and meet the needs of the community, especially families with small children, and elderly or disabled patients. For some stakeholders the lack of a home visiting service was an issue, particularly in providing after-hours care for aged care facilities and families with young children. Aged care facilities currently refer patients needing after-hours care to the ED by ambulance; they identified long waiting times and lack of hospital accommodation as significant issues. Opinions about the feasibility of including home visiting were mixed due to security concerns for GPs, particularly when GPs were visiting patients who they did not know.

Stakeholders generally, but particularly GPs, thought that the MGPAS was an efficient model of after-hours care provision for the Macarthur community, GPs practising in the region, and the MHS. The location, streamlining of GP resources and rosters, easy access to diagnostic services, and employment of experienced GPs contributed to this efficiency. MHS staff thought that the MGPAS provided an efficient alternative to ED for some patients, but acknowledged a need to streamline and improve referral processes between the MGPAS and ED with the expectation that patient throughput would increase as the MGPAS became more established.

The MGPAS relies on the Commonwealth Government grant as the current Medicare rebate ($25.05 per normal consultation) was inadequate to cover operating costs. Alternative funding sources and opportunities to decrease costs were explored with stakeholders, including reducing the cost of GP services; increasing patient throughput; and increasing the return from patient care. GP stakeholders indicated that they would reconsider their commitment to MGPAS if the GP fees were reduced. The wisdom of a substantial increase in patient throughput was queried. Stakeholders indicated that the introduction of patient fees or copayments, or private billing would reduce the sustainability of the MGPAS due to limited ability of patients to pay

2 Proportion of all patients who departed the Macarthur Hospital Emergency Department without completing treatment stratified by month and year of presentation



Vertical line denotes the commencement of the service on 1st May 2000
Data presented as a 3-month moving average.

upfront fees, the costs of managing patient billing and patient drift to the ED where no fees apply. MHS stakeholders indicated that there was little likelihood of increased contribution from the health service as their "in kind" contribution of facilities at nominal cost was already substantial. MHS stakeholders saw the federal–state Medicare agreement as an additional barrier to further funding of a general practice service.

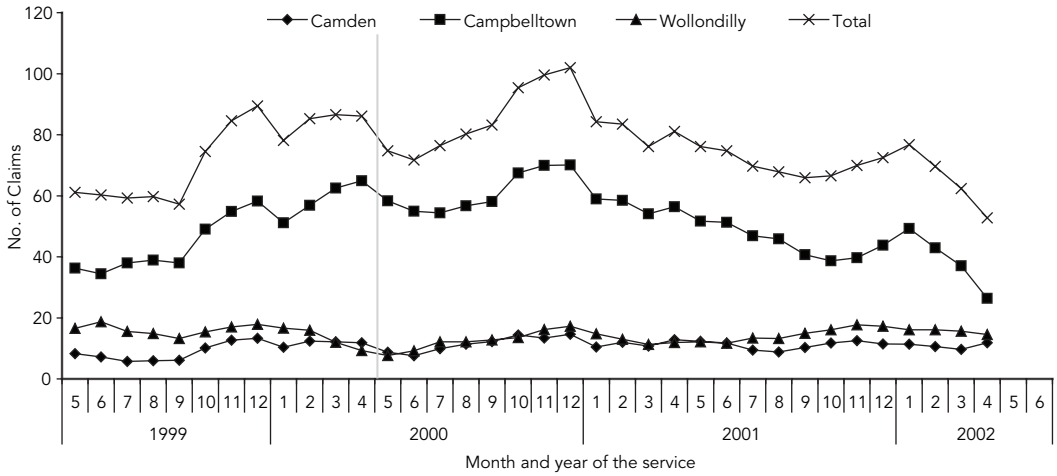
Impact on other after-hours services

Since the establishment of the service, there has been an increase in the number of patients recorded as "left ED for another facility" during the hours when the MGPAS was open (Box 2). Of 111 979 patient presentations to the ED, 56 952 (50.8%) were assigned to triage categories 4 and 5. The mean age was 29.8 years (SD, 23.8) with children aged 0–4 years and young adults aged 20–29 years comprising the most frequent attendees. During the study period 6501 claims for GP after-hours services (0.07% of total claims) were processed. Data from the HIC indicates a reduction in the numbers of GP after-hours claims following opening of the MGPAS (Box 3). This was observed for both Macarthur Health Service and the Campbelltown LGA.

Discussion

Before the establishment of the MGPAS, after-hours general medical care in the Macarthur area was provided through individual GP practices, some medical centres that offered extended opening hours, and the Campbelltown Hospital ED. The establishment of the MGPAS enabled GPs to rationalise their personal commitment while ensuring continued medical care for their patients. It has also assisted the AHS to provide a bulk-billing alternative to the ED. For the

3 Number of general practitioner after-hours claims per 100 000 Health Insurance Commission claims for Macarthur Hospital, stratified by local government area and by month and year of claim



Vertical line denotes the commencement of the service on 1st May 2000
Data presented as a 3-month moving average.

Macarthur community, the MGPAS has been well accepted and has achieved high levels of patient and provider satisfaction. Stakeholders recognised that under current Medicare funding arrangements the service is dependent on receipt of the Commonwealth Government grant. Alternative proposals to improve the sustainability of the service through increased revenue or reduced costs were not acceptable to the stakeholders participating in this evaluation.

The process evaluation employed quantitative and qualitative descriptive research to canvas a wide range of views on aspects of the MGPAS, with focus on its appropriateness, efficiency, and sustainability. The evaluation did not include the collection of morbidity and treatment data nor did it examine the impact of GP care provided on patient health outcomes. Further, an evaluation of the economic impact of the MGPAS was not attempted. The evaluation instruments drew on those used for evaluation of other GP after-hours services.[12,16]

Stakeholders who participated in the study regarded the MGPAS as an appropriate model of GP after-hours care provision. GP views on the MGPAS were consistent with those published elsewhere in Australia and overseas.[9,10,17] GPs and MHS staff recognised the need to work together to improve referral and communication between MHS, including the ED, and the MGPAS. They recognised that the quality of these relationships can determine the success of GP services.[18] Patients indicated that MGPAS was an acceptable alternative to the ED.

Introduction of other general medical services such as telephone triaging requires careful consideration. While there was strong support for a telephone triage facility to provide timely advice and the need might be substantial, there were financial and operational costs for MGPAS. Published evidence suggests that the ratio of telephone advice from ED to attendance at ED is 1 : 3[19] and that up to 50% of after-hours GP calls can be dealt with by telephone.[7,10,20] Thus, a triage service could further reduce the sustainability of the MGPAS by reducing patient throughput[3] and increasing staff costs. Similarly, while the lack of home visiting was an issue for nursing homes that continued to refer patients needing after-hours medical care to the ED,

there are similar resource considerations for MGPAS. Further, in the region, and more generally, GPs are reluctant to do home visiting.[9] Patients' expectations of a home visit[21] are changing and they are willing to attend an efficient and appropriate service.[14]

MGPAS offered an efficient service. The major operating cost of the service comprised the salaries of the receptionist and GP on duty and some administrative support. Accommodation and consumables were provided by MHS at a nominal cost. Provision of care by experienced GPs has been shown to be more efficient in terms of patient diagnosis and treatment, and more cost effective than ED care as GPs order fewer investigations and prescriptions, notably antibiotics.[5,11] While the current average throughput (three patients per hour) is expected to increase over time, the capacity for increased efficiency in this way is limited, as GPs who are not familiar with the patients require a longer consultation. Caution will be needed to ensure that any increased patient throughput in the MGPAS does not compromise the quality of patient care. Without supplementary funding through the Commonwealth grant or increased payment through the Medicare Benefits Schedule, it was apparent that the service was not sustainable. In this outer urban region, limited opportunities to increase income through increased throughput or consultation fees, or to reduce costs through salary reductions, were presented. Identifying how to achieve viable after-hours services will require commitment from many parties.

Limited information was available on the impact of the MGPAS on other after-hours services in the region. Examination of ED data indicated movement of patients to other services such as the MGPAS, and HIC data indicated reduced after-hours claims for GPs who practiced in Campbelltown following the introduction of MGPAS. These trends are in the right direction and suggest that the MGPAS may provide a lower cost alternative to other after-hours services. However it should not be presumed that the provision of these services would prevent overcrowding in the ED.[22] Further research is needed to identify how best to address ED utilisation.

Conclusion

In Australia, there is considerable interest in the development of sustainable models of after-hours general medical care. The MGPAS is a bulk-billing after-hours GP service located in a large outer urban regional hospital and staffed by practising GPs from the region. This model of care was well accepted and regarded by GPs, MHS staff and the community. All agreed that the MGPAS was an appropriate model of after-hours medical care, was acceptable to stakeholders and was efficient in care provision and cost.

Issues concerning the ongoing financial viability of the MGPAS will continue due to the constraints of the current Medicare rebate, and limited opportunities to reduce costs or increase revenue. Additional services such as a telephone triage and home visiting service were suggested; these have resource and cost implications for the MGPAS. There is a need to improve communication and referral processes within the MHS. Further research, including an economic evaluation to identify opportunity costs of the service, is needed.

Note

Since this paper was submitted for consideration, the Commonwealth has announced new Medicare Benefits Schedule payments for general practitioner after-hours care (See Australian Government. 2006. http://www9.health.gov.au/mbs/search.cfm?go=browse&type=item&bCat1=1&bCat2=265&bCat3=&RPP=10). The Commonwealth Department of Health and Ageing After-hours Primary Medical Care Department has continued to provide infrastructure support until June 2008. The new GP After-hours Medicare Benefits Schedule Items now fully reimburse the GPs working on the service.

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Competing interests

The authors declare that they have no competing interests.

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