THE EVALUATION OF GENERAL PRACTICE IN COMMUNITY HEALTH CENTRES: A CRITICAL REVIEW

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ABSTRACT

Australian general practice is currently the subject of intense governmental review. Community Health Centres (CHCs) in Victoria have general practice established as part of their primary health care services, whereas this is not generally the case in New South Wales CHCs. This paper examines Australian and international literature describing the evaluation of general practice conducted within CHCs, and it uses the evaluation criteria suggested by the original 1973 National Hospitals and Health Services Commission which established CHCs.

This review found that there is little objective evaluation findings upon which to base the decision to employ general practitioners as full time salaried employees of CHCs. Of the original evaluation parameters suggested, CHC general practice unit costs, patient and professional satisfaction and service utilisation have been addressed by some research and discussion papers. The collection and impact of epidemiological data, professional audit, community participation, co-ordination and continuity of services and accessibility of services have been ignored by reporters of CHC general practice. An evaluation of CHC general practice would be of benefit to determining the impact of the future of general practitioners within CHCs.
1 Introduction

The earliest reference to the role of general practitioners in community health centres (hereafter CHCs) in Australia envisaged them working within an independent self-contained centre which also provided an array of primary care services including district and community nurses, physiotherapists, occupational therapists and psychologists. It further foresaw the integration of pharmaceutical, dental and community welfare services. Daily case discussions, research into community morbidity and planned mass screenings for disease detection and prevention would distinguish the type of medical practice in the CHCs. It was foreseen that the development of CHCs could provide direction for the future role of general practice, both clinical and academic. Models for the establishment of CHCs attractive to general practitioners (then in short supply) and other health workers were described. An associated Royal Australian College of General Practitioners' report envisaged general practitioners working from rented rooms within the centre, but being integrally involved in the activities of the centre.

The 1973 report of the National Hospitals and Health Services Commission, entitled "A Community Health Program for Australia" has been widely regarded as the benchmark statement for the establishment of community health services in this country. It identifies general practice as a key component of the community health program, and specified the provision of preventive, diagnostic, and therapeutic services. It seems clear that the provision of general practice services was a major goal of the community health program. The late 1960s and early 1970s saw a shortage of general practitioners in Australia; other primary care services, such as the emerging allied health professions, were fragmented and not readily available to all sections of the community. The program specifically sought to improve the geographic and financial access of communities to general practice. It was always intended that the general practitioner would be a full time staff member within CHCs, although issues of renumeration and practice organisation were left to the discretion of individual centres. The community health movement also promotes the provision
of a non-traditional general practice service. Manzie and Anderson defined a community-oriented physician as holistic in approach, who places an emphasis on prevention and rehabilitation, co-ordinates resources and provides community development and identifies common medical problems.

However, the interpretation and implementation of the original intentions of the community health program toward the provision of general practice services has varied between Australian states. The most extreme differences are found on either side of the Murray River. New South Wales has a well developed network of CHCs, none of which provide general practice services. Conversely, most Victorian CHCs employ general practitioners; in 1984, 83 general practitioners were identified in 27 Victorian CHCs. NSW doctors have cited the speed of the community health program's expansion, and the lack of adequate liaison at that time as factors contributing to their lack of acceptance of the CHC model. The political association of the community health movement with the Australian Labour Party was a national reality and does not alone adequately explain the interstate differences exhibited in the willingness of general practitioners to work in CHCs. Thus, for whatever historical reasons, we find two discrete models for the involvement of general practitioners and CHCs currently operating in Australia. However, as a further development, NSW is developing regional models of co-operation and integration between CHCs and local general practitioners. Several of these have been reported to offer effective alternatives to the "live-in" models.

The role of the full time salaried or sessional general practitioner within CHCs, as best developed in Victoria, would seem worthy of independent evaluation, given that they lack such a role (or have such a different role) in NSW.

The original National Hospitals and Health Services report determined that the ongoing evaluation of CHCs should be based on assessing the continuing relevance of the community health program to community development, and the need to measure the efficiency, effectiveness, and value of the program. The committee suggested specific criteria for the general evaluation of CHCs, all of which are relevant in considering an approach to the evaluation of general practice services. The eight criteria were:

1. Epidemiological surveys: for example, the collection and utilisation of data on maternal, infant and other age-specific morbidity and mortality, immunisation status, work absenteeism, and unwanted pregnancies;

2. Patient and professional satisfaction;

3. Accessibility of services;

4. Utilisation of services by eligible populations;

5. Co-ordination, continuity, and comprehensiveness of services;

6. Professional and management audit;

7. Costs per unit of service; and
8. Community participation.

The aim of this paper is to critically review the Australian and international literature describing the evaluation of general practice within CHCs. The criteria suggested by the National Hospitals report will be utilised as much as possible in approaching this subject. In doing so this paper intends to provide a foundation for the evaluation of general practice within Victorian CHCs.

It should be made clear that the studies reviewed may originate from health care systems that are widely disparate. In some cases, the organisation or even the definition of primary medical care are difficult to compare. The primary health care systems from which the following studies are derived require close scrutiny before work can be generalised and extrapolated to the Victorian system\(^7\)\(^9\).

2 PROFESSIONAL AND MANAGEMENT AUDIT AND EVALUATION IN COMMUNITY HEALTH CENTRES

There has been some criticism of the general community health movement for the lack of formal program evaluation work within its centres, leading to what one author describes as a rhetoric-reality gap\(^10\). As an example of this one paper has asserted, without specific evidence, that the CHC concept has enabled the collection of a huge wealth of information on the costs of operations of a variety of primary care processes, allowed unprecedented public accountability into primary care, developed radical concepts in health service delivery, and provided an effective solution to most of the problems of primary care delivery\(^11\).

In an important study, Blacker and McLennan undertook to review evaluation activities in all Victorian CHCs\(^12\). They sought to describe the current routine quality assurance and evaluation programs in CHCs, and the factors influencing involvement in such activity. In a tightly structured questionnaire format, all 60 CHCs operating in Victoria in 1982 were invited to participate, and an 82% response rate was achieved. The results are important enough to summarise, even though they did not specifically address the provision of general practice services.

**Overall centre evaluation**

17 centres (35%) were established primarily on the basis of an expressed need for medical services in the community. The majority of respondents 34 centres, (70%) reported that the needs which had originally led to the establishment of the Centre were no longer relevant to the community. Only 9 centres (18%) had attempted any assessment of the overall profile of needs of their community.

96% of all respondents claimed that their centre had documented goals and objectives. Only half believed that these were of any significance to the centre's operation. Most statements were descriptions of services or statements of service ideology.
Less than one-third of the CHCs put their statistics on service delivery and usage to any use other than the preparation of monthly and annual reports.

**Monitoring quality of CHC services**

32 centres (65%) had no formal system of assessing the quality of service provided to patients or clients. A further 13 centres (27%) had regular case conferences, but these were undertaken for difficult patient management problems or staff training only. Only 4 centres (8%) used case conferences and systematic review procedures (peer reviews, case record audits, surveys) to monitor treatment programs and outcomes. 10 CHCs (20%) used formal consumer feedback in program evaluation.

**Factors influencing evaluation activity**

The major difficulties impeding evaluation in CHCs were: lack of staff time; lack of staff knowledge or skills; staff reluctance due to methodological difficulties; and staff resistance.

The study concluded that program evaluation and monitoring was not an integral part of the community health care system in Victoria. It called for improved staff knowledge and appreciation of evaluation techniques, and the provision of resources for this end. And importantly, it highlights the context within which general practice evaluation in CHCs ought to be considered.

One response to the need for formal evaluation of CHCs has resulted in the development of a national Community Health Accreditation and Standards Project (CHASP). This is an external reviewing process based on a published set of standards or goals supported by more specific, measurable indicators. However, the CHASP standards do not directly address the quality of general practice within CHCs. In the initial piloting of the review standards, none of the 21 CHC-based professionals reviewing panel were medical practitioners. The administration of the CHASP review is currently being debated. As with public hospital accreditation, informal, voluntary use of the accreditation standards has occurred, but unlike hospitals no independent national body has been established to accept responsibility for its implementation.

An Australian study attempted to apply a modified version of the Community Health Accreditation and Standards Project (CHASP) to review processes and standards of primary medical care within Australian CHCs. Opinions on the client orientation, client satisfaction, teamwork and community orientation of the medical service within the CHC were sought from a panel of each of the eight CHCs in the study. The panel consisted of the manager of the CHC, four non-medical staff, at least one board member, and two doctors.

The modifications of the CHASP standards were made on the basis of the literature review and further discussion: however, no details of the sources of literature or discussion were given. Further, the panel which represented the CHCs and formed the subjects of the study were open to self-selection bias, or even management selection bias. This was recognised by the researchers, but not corrected. Patient
satisfaction was not measured, and the actual content of the consultations was also not investigated.

The areas examined were divided into "input" and "output". The output areas included questioning on: client orientation; community orientation of the medical service; doctors' satisfaction; the level of doctors' teamwork. The input areas examined the panel for: financial aspects of medical service; shared goals or ethos; education/experience; community management at the centre; effectiveness of internal management.

This study reported that primary medical care could be effectively integrated into CHC, and that this is currently happening. The study found that fee-for-service arrangements scored poorly in all aspects examined.

One CHC commented that while the ethos of the CHC allowed all other staff to give equal time to client contact, prevention, and community development, doctors were expected to spend all their time on patient contact and were rostered on call after hours for patient contact. While cost-effectiveness was not investigated, the authors received opinions on the relative costs of fee-for-service versus salaried general practice; it felt this warranted further exploration. Many centres have been established to provide medical services to communities with limited geographical or financial access to such services. However, even where there was now a reasonable supply of private practitioners, the CHC medical practice was still given high priority because it was felt that it provided longer consultations and real competition to bring fees down in the area generally. Private general practitioners were not surveyed. Actual ratios of long:short consultations were not able to be estimated.

The option of formal external evaluation has not often been adopted by CHCs. One such evaluation was commissioned by the Caulfield Community Care Centre, the oldest (with Queenscliff) CHC in Victoria. Its structure is not representative of Victorian CHCs: it is on the campus of the Royal Southern Memorial Hospital, it shares the hospital's board of management, and it does not provide general practice services on site (although the bulk of its referrals are from general practitioners, and the hospital allows general practitioners admitting rights).

This review found that the Caulfield Centre had succeeded in the integration of community and hospital health activity; accessibility and continuity of care had been adequately addressed, and the hospital affiliation of the allied health staff ensured adequate quality assurance mechanisms. However, the review found that evaluation procedures within the centre fell short of what could and should occur in the facility. It highlighted the lack of a formal community needs assessment, to guarantee the appropriateness of the programs offered. The review found that community participation should be improved, and discussed models for this. This review also confirmed that there was a general shortage of evaluation studies concerning the activities of CHCs.

The review did attempt to measure the effects of the operations of the Centre on acute hospital admissions, arguing that it might expect a reduction in admissions, re-admissions and length of stay for residents in the Centre’s service areas, when
compared to residents in nearby nominated areas without Caulfield Centre services. The data failed to demonstrate clear reductions in hospital utilisation in Caulfield residents: hospital admissions and re-admissions were higher, although average length of stay was lower for Caulfield residents. The review however recommended that the application of more sophisticated analysis with appropriate regression variables would be required, to be more definitive in its conclusion.

No other specific general practice based audits or research papers could be identified. However, the lack of emphasis on evaluation and review in CHCs generally may mitigate against the involvement of GPs.

3 PATIENT AND PROFESSIONAL SATISFACTION

Doctor’s Attitudes to CHCs

In 1991, the results of an Australian national general practice Think Tank, sponsored by the National Centre for Epidemiology and Population Health in Canberra found that there was consideration suspicion, bordering on hostility, among community health staff in their relationships with general practitioners, in some Australian states. Other Australian research work has found unwillingness of independent general practitioners to become involved with CHCs.

As a follow up to the 1991 Think Tank, a national questionnaire was sent to 16,000 general practitioner readers of a medical bi-weekly newspaper. 1904 responses were received and analysed, along with a sample of 114 randomly selected doctors from the newspapers mailing list, who were interviewed by telephone to determine any bias in the responders. The general practitioners were given sets of statements upon which to indicate their level of agreement. A section of the questionnaire was devoted to community health workers and general practice. The strongest support was given to the statement that ‘the general practitioner should be the co-ordinator of the primary health care team’ (90.2% strongly or partly agree). The statement that ‘there is need for greater integration of general practitioner and community health services’ received fairly strong support (76.7% strongly or partly agree). A majority of the respondents agreed that ‘large investment in community health professional services is a waste of public money’ (58.9% strongly or partly agreed). In ranking their community health colleagues, the general practitioners chose a practice nurse first, followed in order, by, physiotherapist, community health nurse, dietitian, social worker, mental health worker, podiatrist and audiologist.

Silverstone reported on a questionnaire survey of doctors working in CHCs and a group not working in CHCs within the same inner London health district. The study found that both groups’ appraisal of the advantages and drawbacks of medical practice within CHCs was comparable. The main disadvantages were:

i. Lack of continuity of the doctor-patient relationship due to the nature of the appointment system.

ii. Bureaucracy of the institution;
iii. Interpersonal relationship difficulties with other staff;
iv. Diminished independence of the medical practice.

The main advantages, perceived by both groups, were:
i. The ready availability of other members of the primary health team;
ii. Improved premises and facilities.

Doctors within the CHCs alone, however, felt that it was an advantage to be separated from the responsibility for the administration of the practice.

Mullan, a member of the National Health Corps in the United States, described his anecdotal experience in establishing a community health centre in New Mexico. He discussed several issues that were prominent in his role as a physician within such a setting. The problem of maintaining the privacy of medical records that were accessible to many staff members, and most of them locals, was perceived to be a problem by the doctors and the users of the centre. The salary gap between doctors and other service providers at the CHC was a difficult issue in community clinics. While it was noted that the doctors working in the CHCs were at the lower end of the pay spectrum for physicians, in general, its effect was not discussed. The uncertain role of the doctor in the leadership and direction of community clinics was seen as one of the most predictable and difficult problems of community medical practice. Even the issue of attitudes to dress by the physicians aroused discussion - while informal dress was perceived as removing elitism, the older and more traditional community members felt more trusting and secure if the doctor retained a traditional dress sense.

Family physicians in Canada have debated the rapid expansion of CHCs, especially in Ontario and Quebec. In a discussion paper, supporters of Canadian CHCs believe that the pressure of private fee-for-service practice detracts from the provision of health promotion and prevention to patients, and denies access to medical care for a proportion of the population unable to afford medical insurance. Anecdotal reports of a decreasing turnover of medical staff points to a more stable and committed attitude among medical personnel. Politically, CHC doctors feel they are not adequately represented by the mainstream medical association due mainly to a perceived conflict of interest on the part of the medical association.

It was reported that the Canadian Medical Association supports the CHC model, while arguing that the representation of fee-for-service doctors as not providing health promotion and prevention is false. While broad based CHCs in areas of need are supported, the CMA asserts that CHCs are increasingly developing a piecemeal approach to primary care, providing centres to serve interest groups such as women or senior citizens. Where existing primary care services are accessible and in good supply, they claim that the argument for opening special purpose CHCs is related more to political expediency than health needs.
Patient's Attitudes

An Australian study examined patients' reasons for selecting a primary care agency in one CHC\textsuperscript{22}. The distinctive characteristic of patients' choice to that regional CHC was the perception that the patients' problem was related to worker's compensation. This may have reflected the particular CHC's trade union background rather than a perception about CHCs generally. Otherwise attenders at the CHC were not significantly different to those attending private general practices for the influences on choice of attendance examined (closeness to home, recommended, good service, no other doctor, cheap/economic reasons). Allegiance of patients to CHCs was found to be lower than for patients attending private practices.

In a study of the use of the Glasgow CHC, a random sample of 1344 users (3.1% of the list size) were interviewed\textsuperscript{23}. 70.2% of patients felt that the health centre was an improvement from their doctor's old surgery. When invited to comment on any possible improvements that could be made to the CHC, the commonest response was the difficulty in obtaining appointments (22.2%). The majority of users surveyed (56.5%) preferred to see their own doctor within the CHC for medical problems.

A Washington DC survey of mothers' satisfaction with their children's care in a variety of primary medical care settings was performed by conducting interviews with mothers in a stratified random sample of households\textsuperscript{24}. 90% of the mothers in the study sample were black. The completion rate was 86% and included mothers of 618 children from 442 families. It revealed that on all patient satisfaction items except cost (which included personal care, physician friendliness, atmosphere, and waiting time) solo practitioners had the highest or second highest average satisfaction levels, with fee-for-service group practices generally ranking second. Next were the prepaid groups, outpatients and emergency departments while public clinics received the lowest rankings for non-economic aspects of care. Satisfaction with the cost of care showed a reversal of the rankings with the free public clinics ranking first, prepaid groups second, and solo doctors and fee-for-service groups ranking fourth and sixth.

4 UTILISATION PATTERNS OF MEDICAL SERVICES

A longitudinal study of the effect of the introduction of a CHC was undertaken when a CHC was established in Mossgiel, New Zealand in 1974\textsuperscript{25}. Mossgiel is a community of 9,000 residents, geographically separated from the closest regional centre Dunedin (population 100,000). The study investigated the working patterns of the general practitioners, the utilisation rate of medical service by patients, the time allocation to various practice activities, and the rate of referrals to diagnostic and consultant services from 1972 to 1977. The Mossgiel general practitioners relinquished their solo practices and took up accommodation at the centre, and a further GP training registrar was employed. The doctors provided a fee-for-service schedule in the CHC. The results showed that total number of services decreased in Mossgiel, slightly preceding a similar decrease in Dunedin. A decline in home visits from CHC was also mirrored in Dunedin.
There was no evidence of an increase with the time spent with patients in the Mossgiel CHC. One to two hours per week less was given to hospital maternity work, while an additional hour was spent on general hospital patients. Formal contact with non-medical staff increased from virtually none in 1974 to three and a half hours per week in 1977. Comparison of the before and after periods (1972 and 1977) revealed an increase in the rates of referral by Mossgiel doctors to the private laboratory and radiology service. The rate of referrals to the public hospital remained small and steady at one per 1,000 consultations. There was no reduction in referrals to the Accident and Emergency Department, however, referrals to private consultants decreased markedly. The reasons for this reduction were explored, but no cost implication was made.

Jacob and Anderson reported on a study which described the changes in medical practice recorded by a group of British general practitioners before and after entering a CHC. A control group of non-CHC doctors was also utilised. The study found a 27% reduction in home visiting after entry to a CHC; the control group recorded a 5% reduction over the same period. Repeat prescriptions increased overall by 17% for the CHC entry group and 27% for the groups. The practice list sizes remained stable throughout the changes.

In a paper describing the experience of a (non-doctored) CHC in Glebe, New South Wales, direct professional services formed the largest part of the workload, with social work, mental health and physiotherapy providing the bulk of the services. The Centre used two evaluative tools. The first was monthly peer review meetings, using random case selection and discussion. The second outcome evaluation method involved a discharge categorisation of the patients’ problem. Over a two year period 25% had their problem solved, and 27% were discharged because contact was lost or the patient declined to accept the recommended program.

In a United States study, patients attending a General Medical hospital outpatient department were selected as being able to be treated at the CHC, and a pre- and post-referral utilisation survey was undertaken on those patients who accepted the transfer. 86% of patients attended their CHC referral. After 6 months, 91.6% were still attending the CHC. Utilisation of primary care visits increased after the referral, however specialty clinic visits and emergency department visits both decreased after the referral.

**Health Promotion and Disease Prevention**

A Canadian study sought to compare the level of knowledge of, and compliance with, the recommendations of the Canadian Tasks Force on the Periodic Health Examination by doctors working in CHCs, Health Service Organisations and fee-for-service practice.

An interview administered questionnaire method was utilised. The study relied on self-reporting of information and further, the response rate among private FFS practices was lowest (just above 50%) introducing the possibility of non-response bias.
No significant differences were found in the levels of knowledge of effective disease prevention activities, recall systems, or the estimated health screening coverage of their patient populations between the different practice types. CHCs reported a significantly higher level of formal health promotion activities than the other models of care. Fee-for-service practices were less likely to have an explicit policy on disease prevention, and nearly half of such practices interviewed felt that the payment mechanism limited their ability to deliver preventive services. CHCs reported greater use of non-physician personnel in the delivery of health promotion.

Referral Rates

Wijkel reports on a study which sought to investigate previous Dutch research that has found lower referral rates among general practitioners practising in CHCs, and to determine whether differences in referral rates disappeared in a multiple regression analysis with structural variables that have a proven influence on Dutch referral rates. He also sought to determine if the differences were attributable to a healthier patient casemix, or to physician selection in a CHC.

The methodology was complex. Structural factors known to affect referral rates were identified and multiple regression analysis was performed in one methodological arm. The second method used matched pairs, where each CHC was matched with a number of one- and two-man practices which showed only slight differences in structured variables.

This study found significantly lower crude referral rates for doctors in CHCs using both methods.

The study utilised health status data and age/sex distributions routinely collected by the Dutch Bureau of Statistics. Health centre patients were younger, more often in single parent families, with higher incomes and higher education levels. However, no differences in health status and chronic disease indices could be found. It was reported that general practitioners who preferred to work in partnerships had lower referral rates regardless of the setting (i.e. CHC or private practice). Mean referral rates were highest in both those general practitioners who spent a little time and those who spent a great deal of time in professional meetings.

5 COSTS OF COMMUNITY HEALTH CENTRE MEDICAL SERVICE

The Victorian Government has enquired into the economic organisation of general practice within CHCs. Davenport and Duckett reported on the results of a questionnaire survey on the costs of medical services within Victorian CHCs in 1983. While the survey was undertaken just prior to the introduction of Medicare, it sought to compare the unit costs of salaried medical services with quasi-salaried services (where the general practitioner is paid a salary from a trust fund into which the generated fees are paid) and fee-for-service practitioners with CHCs. It revealed that there were just over the equivalent of 80 full-time general practitioners in CHCs at the time, with the highest numbers in the northern and western metropolitan regions and Gippsland. The costs of the medical staff salaries per
consultation was $10.82 for salaried CHCs and $9.57 for quasi-salaried CHCs. No figures were available for fee-for-service arrangements. The bulk billed rebate to be introduced by Medicare for a standard consultation was to be $11.00. Salary costs associated with the provision of medical support staff found that salaried or quasi-salaried CHCs had an average expenditure of $31,733 per general practitioners equivalent, whereas fee-for-service CHCs had an expenditure of $18,896 per general practitioner. The effect of Medicare was predicted to result in a substantial increase in the fee generation of salaried CHCs. The study found no difference between unit costs and throughput between salaried and quasi-salaried general practitioners in CHCs. Fee-for-service general practice was not supported as it was felt to erect a financial barrier to health care and, as such, would undermine the philosophy of teamwork within the multidisciplinary CHCs.

A U.S. study examined the utilisation of visits, pharmaceutical prescribing, and pathology testing of patients referred to a CHC from a hospital outpatient department. This study revealed an increase in patients' primary care visits, pharmaceutical prescriptions and pathology testing for the six months after referral. The cost implications were felt to be substantial.

An economic evaluation of medical services within CHCs in the United States was performed by Goldman and Grossman. They found that CHCs departed from cost-minimisation behaviour in employing too few physician aides and too many medical support and ancillary staff relative to primary care physicians. They also found that smaller centres selected more appropriate cost inputs than the larger centres. However, the authors felt that the differences with private sector medical practice were small, as were the impact of the overall cost deviations. This was felt to be especially relevant since CHCs targeted difficult and deprived target groups.

6  CONCLUSION

There is little information available to reliably assess the impact of general practice within CHCs. Currently, the notion of integrating Commonwealth funded general practice services with the state health system is being promoted nationally, as outlined in the recent National Health Strategy paper on general practice. CHCs may benefit enormously from this reorientation, as they already maintain an administrative infrastructure, employ allied health personnel, and are regionally based. Yet if the principally Victorian model for the integration of general practitioners as full-time salaried staff in CHCs is to be recommended to New South Wales, further study into the organisation and effectiveness of general practice in CHCs would be desirable. It is clear that some of the international studies described in this review have utilised methodologies which deserve closer attention, and perhaps with appropriate modifications may prove applicable to the current Australian health care system. But apart from the studies on the costs of CHC general practice, the papers reviewed here have focussed on either specific aspects of CHC general practice (for example, health promotion or referral rates) or the longitudinal effects of general practitioners moving into a local CHC medical practice (for example the effect of a CHC in Mossgiel, New Zealand). More global patterns of practice and outcome have not been described.
I believe that the clear evaluation criteria established by the National Hospitals and Health Services Commission in 1973 still provide a relevant framework for progressing with the task of examining CHC-based general practice. Within this review, it has been demonstrated that certain criteria have been addressed with some authority. These criteria are: unit costs per service; patient and professional satisfaction; and service utilisation (although not with the stated emphasis on coverage of target populations). This implies that a cost-effectiveness evaluation of CHC general practice is certainly possible, if it is assumed that the costing of the alternatives to CHC general practice either already exist or can be estimated using the same methodology applied to the CHC general practice, and if appropriate outcome measures (not simply throughput measures) are defined. Also there is clearly adequate international evidence to support the notions that general practitioners within CHCs spend more time in communicating with allied health staff, and that referral rates from CHC general practitioners to private specialists or outpatient clinics are lower than private fee-for-service practitioners.

However, some of the original evaluation parameters have been overlooked almost entirely by researchers and reporters of CHC general practice. These include: the collection, reporting and impact of epidemiological data; professional audit; community participation; co-ordination, continuity, and comprehensiveness; and accessibility of services (including under this heading the targeting of specific populations). It may be that such criteria are often addressed in internal `formative' CHC evaluation, and the results may be reported in annual reports, internally prepared monographs, or the minutes of advisory committee meetings. Such sources of data should be examined by any future evaluation. However, it should also be apparent that annual reports are not usually designed to be held up to methodological scrutiny, and form a descriptive rather than evaluative function.

Finally, the issue of comparing CHC general practice with private fee-for-service practice is vexed. When considering comparisons of health outcomes and cost-effectiveness, CHC doctors may argue that the philosophy of CHC general practice, and the patient population served, mitigate against direct comparisons of their processes and outcomes. The picture is further blurred in Australia at present with universal medical insurance allowing access of the underprivileged to traditional private, entrepreneurial and CHC general practice. Yet even if CHC general practice claims only to be significantly different than traditional fee-for-service general practice, not `better' or `worse', then this in itself must be able to be demonstrated through an examination of its processes and especially its outcomes. If there are few differences, then the presence of general practitioners in CHCs as a policy tenet of the community health movement deserves reconsideration. If the differences in process and outcome are significant, then New South Wales CHCs can rightly call for the inclusion of general practitioners among their staff. The methodology of any study of CHC general practice should consider carefully all the issues raised in this literature review.
REFERENCES


