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Evaluation of a mobile clinic for older people in Shamshuipo

Key Messages

1. The mobile clinic was effective for reaching older people not in contact with medical services.
2. Previously unidentified or unmanaged hypertension was discovered in 10% of attendees and possible depression in 9%.
3. Benefits of the mobile clinic include the prevention of deaths and events due to cardiovascular disease and of diabetic complications such as retinopathy, lost life years from diabetic-related and other avoidable mortality, disability, and also for achieving improvements in the quality of life.

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Background

The mobile clinic, staffed by specialist nurses, was designed to park in well-populated areas of Shamshuipo and invite people over 60 years to be screened for health problems. Those found to have a problem would then be referred to the appropriate health care service.

Aim

The aim was to evaluate the effectiveness of a mobile clinic service for people over 60 years only in Shamshuipo. The objectives were to identify the prevalence of previously unidentified morbidity and risk factors in people aged over 60 years who live in the Shamshuipo district, to assess the effectiveness of the mobile clinic and to model the likely impact of the clinic on future morbidity and mortality.

Methods

This study was conducted from January 2001 to May 2003. We recruited a group of people who attended consecutively between June and August 2002, aiming for 700 participants. On their first attendance they were interviewed (baseline) then given a clinical assessment. A telephone follow-up was done at 1 and 6 months to determine whether there had been any change in health status and whether people found to have health problems had been seen by a doctor. We also recruited local people who had not attended the clinic to determine why they did not, and recruited a household sample from a local estate to estimate the extent of local knowledge about the service.

Results

Attendees

We obtained a sample of 861 people, 85% of whom attended for the first time during the recruitment period; the 1-month follow-up was completed by 648 (75%) people and the 6-month follow-up by 366 (43%). The mean attendee age was 72 years, most had only primary or no formal education, 94% were retired, 19% smoked, and 69% rated their health status as good or very good, 9% were classified as likely to be depressed and 41% had not used health services in the last 6 months.

Fifty-one of the attendees were referred to another source of care and eight self-referred after the mobile clinic visit for a new problem (n=35, 69%) or an old but unmanaged problem (n=24, 41%) [Table 1]. Of problems detected, high blood pressure alone was found in 34 (58%), high blood pressure and diabetes were found in 19 (32%) and other problems were found in six (10%) [Table 2]. Thirty-one failed to attend a second check to determine whether they really had a new problem. Forty-eight (81%) of those referred were treated for their problem, six (10%) defaulted, one (2%) was not treated at all and we had no further information about four (7%) people.

The strongest predictors of having a problem identified at the mobile clinic visit were (1) not having used health care services in the last 6 months: these people were five times more likely than the others to have problems identified,

Table 1. Mobile clinic health check outcomes

Outcome	New or inadequately managed problem identified No. (%)	Total No. (%)
No problem detected	-	290 (33)
Have a problem		
Adequately managed*	-	447 (50)
Inadequately managed		
Referred immediately	24 (16)	24 (3)
Returned for second check		
No problem found	63 (41)	129 (14)
Referred	27 (18)	-
Self-referred	8 (5)	-
Defaulted second visit	31 (20)	-
Total	153 (100)	890 (100)

* Attendee already under medical care and management was considered acceptable

and (2) low education: those with primary education or less were twice as likely to have a problem identified. Those who had a problem identified by the mobile clinic were more likely to report that their health was better at the 6-month follow-up. Those attendees who were found to have either no health problems, or problems already well-managed, saw only a short-term improvement in their self-perceived health.

Possible depression (identified by a score of ≥8 on the Geriatric Depression Scale–short form) was found in 9% of attendees. Attendees were satisfied with the service provided by the mobile clinic and 88% reported that it had helped them.

Non-attendees

A sample of 194 people who did not attend the mobile clinic was recruited; their health status was poorer than that of attendees but fewer of them had not used health services in the last 6 months and the main reason for not visiting the mobile clinic was that they were already under care.

Household sample

A sample of 196 elderly residents of a local estate was contacted and 171 (87%) agreed to participate in the survey. They were older and reported poorer health than the mobile clinic attendees. About half had heard of the clinic and a third had visited it.

Benefits

Annualised benefits included identifying almost 200 people at increased risk of cardiovascular events per year and the prevention of around 14 cardiovascular events, mainly stroke, over the subsequent 5 years. This is likely to include the avoidance of six deaths. New cases of diabetes and unmanaged old cases identified would number around 80 people annually who would have been at high risk of complications like retinopathy. Benefits would include better self-perceived health, reductions in mortality due to identification and treatment of diabetes, avoidance of disability and maintenance of quality of life. The older population was alerted to health issues and was encouraged to develop a healthier lifestyle through the detection of lifestyle problems and education from the nurses and the special education sessions. The service also highlighted the work of Caritas Medical Centre in the community and promoted the Centre's services and image. Finally, we collected a lot of information on the prevalence and severity of undetected and unmanaged chronic health problems in the community.

Cost-effectiveness

The marginal cost of running the mobile clinic for a year and gaining these benefits was HK$1.59 million. Deducting those savings we can quantify in monetary terms results in a net cost of HK$1.09 million to set against all the benefits described above.

Conclusions

The mobile clinic was effective at reaching its target population of older residents who were not in contact with health care services. A large number of health care problems

Table 2. The problems identified at the mobile clinic assessment

Problems	Referred immediately	Referred or self-referred	Defaulted check	No problem after check	Total No. (%)
High blood pressure					
New	3	15	21	38	77 (50)
Old	9	7	-	2	18 (12)
Diabetes					
New	-	-	8	12	20 (13)
Old	-	-	-	-	-
High blood pressure and diabetes					
New	2	9	2	11	24 (16)
Old	4	4	-	-	8 (5)
Other problem					
New	6	-	-	-	6 (4)
Old	-	-	-	-	0
Total No. (%)	24 (16)	35 (23)	31 (20)	63 (41)	153 (100)

were identified and dealt with. Although many of the benefits achieved by the mobile clinic are difficult to quantify, the cost of saving one life in this population by identifying risk factors, obtaining appropriate treatment, and preventing a cardiovascular event like stroke was estimated to be less than $180 000. The use of the mobile clinic could also help prevent diabetic complications such as retinopathy, lost life years from diabetes-related and other avoidable mortality, disability and reduced quality of life, and should achieve improvements in the quality of life. The benefits and costs above can be used to determine whether this type of service should be expanded to other geographical areas in Hong Kong. In particular, the policy-maker may determine whether those benefits which we have been unable to value fully in monetary terms may justify any extra money required to provide the service.

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