Maximizing immunization coverage through home visits: a controlled trial in an urban area of Ghana

R.F. Brugha\textsuperscript{1} & J.P. Kevany\textsuperscript{2}

A strategy of home visits to maximize children's immunization coverage was implemented in three towns in Ghana. The strategy was tested in town 1 in a controlled trial where clusters of children were allocated to the intervention and control groups. A total of 200 mothers in the intervention group were visited at home by non-health workers and their children were referred to a routine under-fives' clinic. Subsequent home visits targeted at those who failed to complete immunization schedules were made by nurses. After 6 months, coverage had risen from 60\% to 85\%, which was 20\% higher than in the town 1 control group of 219 age-matched children ($P < 0.005$). A similar home-visiting strategy in a neighbouring town resulted in a rise in coverage from 38\% to 91\% ($n = 55$), mainly through home immunizations. Children were more likely to complete the schedule if their fathers were interviewed and participated in the decision to send them to the clinic. Countries with national service programmes can use a home-visiting strategy to supplement and strengthen their routine immunization programmes. A wide range of other community-based primary health care interventions could also be tested and implemented using this methodology.

Introduction

High immunization coverage in African cities, reaching 83\% in Harare, Zimbabwe, in 1988 (1), has failed to prevent epidemic outbreaks of measles (2) because of delayed immunizations and pockets of unimmunized children in urban slums (2–5). The ability of high coverage to prevent measles transmission depends on homogeneous and stable populations — which are rarely found in urban sub-Saharan Africa, where populations are highly heterogeneous and mobile (6). The World Health Assembly in 1986 made the improvement of immunization services for the disadvantaged in urban areas a priority (7, 8). Urban factors which reduce the demand for immunization services include poor social cohesion and high mobility; cultural, ethnic, and other barriers; and lack of contact or even friction between immigrants or minority groups and authorities (2, 3, 9–13). Fixed immunization clinics often fail to reach those children who are at highest risk, i.e. those who fail to attend (14–17), and it therefore is important to identify the reasons for underutilization of clinics (2, 18). A particular problem is the failure of children to complete immunization schedules (19, 20), especially in periurban areas (21).

There is a need for strategies that can identify urban population subgroups with low coverage and target them with immunization programmes (3, 4, 9, 15, 22–25). Some countries have implemented strategies of systematic home visiting to identify eligible children, including: Colombia (26–28), Ethiopia (2), Mozambique (2, 20, 29), Somalia (30) and Sudan (31). A similar strategy has been reported for targeting high-risk groups following unsuccessful mass campaigns in South African townships (13, 24, 32), and as a way of finding unimmunized children during a polio-eradication campaign (14, 23). The use of home-visiting strategies has been advocated for urban areas by WHO and UNICEF (2). The need for field research, ideally randomized controlled trials, to evaluate the effectiveness and impact of immunization and other health care delivery strategies has also been recognized (14, 22, 33, 34).

Despite a developed immunization infrastructure, Ghana continues to experience difficulty in achieving high coverage levels. Therefore, in conjunction with a population survey of immunization determinants (35), we implemented and tested in a controlled intervention trial a strategy of home visits by non-health workers to identify and immunize eligible children, and we describe our results in this article.

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Materials and methods

Setting

The study was conducted between July 1991 and February 1992 in three towns in the Eastern Region of Ghana (town 1: Nkawkaw; town 2: Kwahu Praso; town 3: Akwasiho) where regular immunization services were available. A controlled trial was performed only in the largest town, town 1. Unlike towns 1 and 2, which offered only preventive services, town 3 offered both preventive and curative care for children. Town 3 also benefited from the active participation of the community through a town health committee.

Sample

Recent plans for town 1 were obtained from the Town and Country Planning Department. All 2260 registered residences were identified and aggregated by geographical proximity into 60 units or clusters, with 36–39 residences per cluster. Clusters were constructed such that they lay within the borders of enumeration areas, using maps obtained from the Ghana Statistical Service (36). Contiguous clusters were paired, as far as possible within enumeration areas, and one of each pair of clusters was randomly chosen for the survey and home intervention, which were conducted during July 1991. All 12–18 month-old children living in the 30 selected clusters constituted the intervention group. Children living in unregistered houses were also included. The intervention group approximated a 50% sample of all eligible children in town 1. Children in the other 30 clusters constituted the control group. Using the number of clusters as the unit of analysis, we calculated that, with 25 clusters in each group, the test statistic used in the study would have a power of 80% at the 5% significance level (two-tailed test) if coverage in the study group was 20% higher than in the control group, using a local estimate of pre-intervention coverage of 60% (37). All 12–18-month-old children residing in towns 2 and 3 were included in the 1991 survey and received the intervention.

Survey

A team of 18 O-level graduates was selected and given a 5-day training programme, which was followed by participation in a pilot study. Interviewers, working in pairs, administered structured questionnaires to the mothers or female caretakers and to the fathers or male providers of the target children. In all cases the main female caretaker (almost always the mother) of the target child was interviewed, rather than any other woman who might be temporarily caring for the child. Each house was revisited until this was accomplished or the absence of an eligible child verified. There was only one refusal to participate. Daily in-service training, in-the-field supervision, and subsequent visits to respondents' homes to verify the data that had been collected were conducted by one of the authors and two local supervisors, a senior nursing officer and a social science student. Immunizations were recorded from the client-held road-to-health (RTH) cards, supplemented in cases where the RTH card was missing by clinic records. An immunization register of surveyed children was thereby compiled.

Clinic referral and home follow-up

Having administered the questionnaires and recorded the immunization dates, the interviewers advised each of the parents to bring their child to the next under fives' clinic of their choice. All respondents were given this advice, with a referral note to be handed in at the clinic, but the advice was targeted particularly to parents whose children had not completed immunization schedules. The names of the child and of the parents, the child's address, the clinic number, and the cluster and house reference numbers were recorded on the referral note. When referred children visited the clinic, details of immunizations performed there were recorded on the notes, which were collected and used to update the immunization register. Children who failed to complete the schedule following the referral were identified from the register, and up to a maximum of three home visits to each child were made by a nurse over 6 months, in order to maximize coverage. On these subsequent visits in town 1, the advice to bring the child to the next clinic was repeated, whereas in town 2, post-intervention immunizations were mainly performed in children's homes.

Survey of control group immunization coverage

In February 1992, at the end of the follow-up home visits, an immunization coverage survey of all children of the same age cohort (date of birth, 1 January 1990 to 30 June 1990) living in the 30 control group clusters was conducted in town 1. At this point, control group mothers were also encouraged to bring their children to the next clinic for immunizations.

Data analysis

Data were analysed with Epi Info, version 5.1, software (38). Analysis included $\chi^2$ tests and stratified analysis. Paired $t$-tests and multiple logistic regression analyses were performed using SPSS PC soft-
ware (39). Two-tailed tests of 5% statistical significance were used. Reported confidence intervals are at the 95% level. The proportions of children in each cluster who were fully immunized (BCG, poliovirus vaccine 3, DPT 3, and measles), i.e. the mean coverages of the clusters, were used for the t-tests. For example, where six out of eight children in a cluster were fully immunized, a value of 0.75 was ascribed to the cluster. Immunization status was defined two ways: by documented evidence (RTH card only, supplemented by clinic records), and by RTH card and mother’s history.

Results
A total of 294 female caretakers (293 mothers) and their children in the three towns were surveyed in July 1991 and given a referral note: town 1 (200), town 2 (55), and town 3 (39). With the exception of two sets of twins in the intervention group, mother–child pairs were one-to-one. As the twins shared identical immunization coverage before and after the intervention, each set was analysed as a single unit, i.e. as one child. A principal male provider was reported by 254 (86.4%) of the mothers, usually the child’s father (239), of whom 170 were located and interviewed (with one refusal). Table 1 shows a comparison of baseline variables between town 1 intervention and control group children.

The mother’s reported ability to speak English, a proxy for a higher level of education and one of the strongest determinants of immunization status (35), was almost identical in the intervention (29.0%) and control groups (29.2%). Completed immunization coverage rates on 1 July 1991, before the intervention, were similar. The lower coverage measured by “card only” and the slightly higher coverage measured by “card and history”, for control group children is explained by the fact that in February 1992 a higher proportion of older children’s RTH cards were missing in the control group (12.3%) than in the intervention group in July 1991 (8%). Where the RTH card was unavailable (nine control group children and one intervention group child), if a history of completing the immunization schedule was confirmed by a nurse, these children were included as having completed immunization schedules by “card and history”. At the completion of the 6-month period of visits by nurses to the homes of intervention group children in February 1992, an immunization coverage survey was conducted in the 30 control group clusters in town 1. Table 2 compares the coverage rates of the two groups at this time.

### Table 1: Comparison of intervention and control group children in town 1

<table>
<thead>
<tr>
<th></th>
<th>No in study group</th>
<th>No. in control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mother-and-child pairs</td>
<td>200 (100)*</td>
<td>219 (100)</td>
</tr>
<tr>
<td>Showed RTH card to interviewer</td>
<td>174 (87)</td>
<td>189 (86.3)</td>
</tr>
<tr>
<td>Lost RTH card or could not find it</td>
<td>6 (3)</td>
<td>20 (9.1)</td>
</tr>
<tr>
<td>Kept RTH card elsewhere</td>
<td>10 (5)</td>
<td>7 (3.2)</td>
</tr>
<tr>
<td>Mother could speak English</td>
<td>58 (29)</td>
<td>64 (29.2)</td>
</tr>
<tr>
<td>Average number of children per cluster</td>
<td>6.7</td>
<td>7.3</td>
</tr>
<tr>
<td>Immunization coverage on 1 July 1991 (RTH card only)</td>
<td>118 (59)</td>
<td>124 (56.4)</td>
</tr>
<tr>
<td>Immunization coverage on 1 July 1991 (RTH card and mother's history)</td>
<td>119 (59.5)</td>
<td>133 (60.7)</td>
</tr>
</tbody>
</table>

* Figures in parentheses are percentages.

### Table 2: Completion of immunization coverage for children in town 1 by February 1992 at the completion of the home-visit intervention

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Study group</th>
<th>Control group</th>
<th>Study group</th>
<th>Control group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polio 1</td>
<td>191 (95.5)*</td>
<td>187 (85.4)</td>
<td>193 (96.5)</td>
<td>198 (90.4)</td>
</tr>
<tr>
<td>Polio 3</td>
<td>176 (88.0)</td>
<td>151 (68.9)</td>
<td>178 (89.0)</td>
<td>160 (73.1)</td>
</tr>
<tr>
<td>Measles</td>
<td>182 (91.0)</td>
<td>150 (68.5)</td>
<td>183 (91.5)</td>
<td>159 (72.6)</td>
</tr>
<tr>
<td>Schedule complete</td>
<td>171 (85.5)</td>
<td>137 (62.6)</td>
<td>172 (86.0)</td>
<td>146 (66.7)</td>
</tr>
<tr>
<td>Student's paired t-test</td>
<td>4.2</td>
<td>3.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P value</td>
<td>0.0001</td>
<td>0.003</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Figures in parentheses are percentages.
Table 3: Distribution of fully immunized children in towns 1, 2, and 3 (by RTH card and history)

<table>
<thead>
<tr>
<th>Town</th>
<th>At 12 months of age</th>
<th>By July 1991</th>
<th>By February 1992</th>
<th>Increase in coverage following intervention:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. fully immunized</td>
<td></td>
<td></td>
<td>Relative risk</td>
</tr>
<tr>
<td>Town 1</td>
<td>111 (55.5)</td>
<td>122 (61.0)</td>
<td>172 (86.0)</td>
<td>1.40</td>
</tr>
<tr>
<td>Town 2</td>
<td>19 (34.5)</td>
<td>21 (38.2)</td>
<td>50 (90.9)</td>
<td>2.38</td>
</tr>
<tr>
<td>Town 3</td>
<td>33 (84.6)</td>
<td>37 (94.9)</td>
<td>39 (100.0)</td>
<td>1.05</td>
</tr>
<tr>
<td>Total</td>
<td>163 (55.4)</td>
<td>180 (61.2)</td>
<td>260 (88.4)</td>
<td>1.44</td>
</tr>
</tbody>
</table>

* Children aged 12–18 months.
* Children aged 19–25 months.
* Figures in parentheses are percentages.

The proportion of completed schedules was higher among the 200 intervention group children than among the 219 control group children, by 22.9% (measured by card only) or 19.3% (measured by card and history). Mean coverage in the 30 intervention group clusters was significantly higher than in the control group clusters ($P < 0.005$). Because of a wide range in the number of target children per cluster, and in view of the possible confounding effect of clustering on the measurement, cluster pair — a category variable with 29 degrees of freedom — was entered as a variable in a multiple logistic regression equation. The other variables considered to explain completion of immunization schedules by February 1992 among the 418 town 1 intervention and control group children were as follows: receipt or nonreceipt of the intervention, pre-intervention immunization status (during July 1991), and the ability of the mother to speak English. Receipt of the intervention was the only variable in the equation with a regression coefficient significantly different from zero. Prior to the intervention, a similar proportion of children in the two groups, 23.7% of the intervention group and 26.9% of the control group, required only one immunization to complete their schedules. Intervention group children who required only one visit to the clinic to complete their immunization schedules were not more likely to complete the schedule than were children who required more than one visit for completion (relative risk (RR) = 1.09, confidence interval (CI) = 0.39–4.15).

Between 1 July 1991, before the start of the intervention, and 1 February 1992, at the end of the home visits in town 1 to intervention group children, there was a significantly greater rise in immunization coverage in the intervention group (26.5%) than that observed during the same period in the control group (6.0%, $P < 0.005$). Table 3 shows immunization coverage (by card and history) for the children in each of the three towns at the start of the interven-

Table 4: Variables that were significantly associated with completion of immunization schedules

<table>
<thead>
<tr>
<th></th>
<th>No. of children with completed schedule</th>
<th>No. of children with incomplete schedule</th>
<th>Total</th>
<th>Relative risk</th>
<th>Confidence interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A:*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visit to clinic after referral</td>
<td>27 (90.0)</td>
<td>3 (10.0)</td>
<td>30</td>
<td>1.43</td>
<td>1.17–1.75</td>
</tr>
<tr>
<td>No visit to clinic after referral</td>
<td>53 (63.1)</td>
<td>31 (36.9)</td>
<td>84</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home visit by nurse</td>
<td>62 (76.5)</td>
<td>19 (23.5)</td>
<td>81</td>
<td>1.40</td>
<td>1.00–1.96</td>
</tr>
<tr>
<td>No home visit by nurse</td>
<td>18 (54.5)</td>
<td>15 (45.5)</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>80 (70.2)</td>
<td>34 (29.8)</td>
<td>114</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B:*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Father participated in immunization decision</td>
<td>31 (79.5)</td>
<td>8 (20.5)</td>
<td>39</td>
<td>1.85</td>
<td>1.10–3.12</td>
</tr>
<tr>
<td>Father did not participate in immunization decision</td>
<td>9 (42.9)</td>
<td>12 (57.1)</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40 (66.6)</td>
<td>20 (33.3)</td>
<td>60</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* The 114 children who had not completed the schedule at the time of the initial survey.
* The 60 children who had not completed the schedule at the time of the initial survey and whose fathers were interviewed.
* Figures in parentheses are percentages.
tion (July 1991) and at the end of the intervention (February 1992). Coverage rose significantly in town 2 (RR = 2.38, CI = 1.68–3.37) and in town 1 after the intervention (RR = 1.40, CI = 1.24–1.59).

Table 4 shows those factors with which completion of the immunization schedule at the end of the follow-up period was significantly associated, among the 114 children whose schedules were incomplete at the time of the initial survey in the three towns. The child was more likely to have completed the schedule where the mother followed the advice of the interviewer and, without further prompting, brought the child to the clinic (RR = 1.43, CI = 1.17–1.75), and where a nurse met the mother at a subsequent home visit (RR = 1.40, CI = 1.00–1.96). Among the subgroup of 60 children where the child’s father was interviewed, the only characteristic of the mother or father which was significantly associated with immunization status was the father’s reported participation in the decision to send the child to the clinic (RR = 1.85, CI = 1.10–3.12). During the period of home visits, 70.2% of previously uncompleted immunization schedules were completed.

Discussion

Outcome of the home-visiting intervention

The aim of this study was to evaluate the potential of home visits using non-health workers for improving population immunization coverage. Among the three study towns, the greatest benefit was in town 2 (which had the lowest pre-intervention coverage), where coverage rose from 21 (38.2%) to 50 (90.9%). Little improvement was possible in town 3, where 37 of 39 children were already fully immunized before the intervention. A home-visiting strategy is more effective in a town or community with low coverage where there is greater potential for improvement. The use of a controlled trial in town 1 demonstrated that the increased coverage associated with a home-visiting intervention was not due to a secular effect. Coverage in the intervention group rose by 26.5% to 86.0%, compared with a 6.0% rise in the control group during the same period. If the allocation of adjacent clusters of households to the two groups resulted in “contamination” of the control group, i.e. if control group mothers became aware of the intervention in neighbouring households and therefore decided to send their children for immunizations, this would have reduced the relative impact of the intervention among town 1 intervention group children.

Among the 294 children in the three towns, there were 60 whose schedules had been incomplete and whose fathers were interviewed. The fathers of almost two-thirds (39) of these children claimed to have participated in the original decision to send the child for immunizations. Although this suggests that the fathers’ involvement in this decision was not effective, almost 80% (31/39) of these children went on to complete the schedule after the fathers were interviewed and advised during a home visit (Table 4). This suggests that involvement of fathers through home visits has the potential to improve immunization coverage.

The significant association of completion of the schedule with the mother following the referral advice and visiting a clinic without further prompting suggests that a strategy of home visits by non-health workers, without subsequent visits by a nurse, has potential for improving coverage. The significant association of completion of the schedule with a home visit by a nurse arose partly because 12 target mothers and children did not receive such a visit — nine because they left the study towns after the initial survey, before completion of the schedule could be confirmed, and three because their homes could not be traced subsequent to the initial survey.

The allocation of clusters to intervention and control groups was chosen because there was no available sampling frame for individuals. A preliminary census to prepare one, necessitating an explanation to potential respondents, would have biased the subsequent intervention and involved extra expense and logistical problems (37, 40). The allocation of individuals might also have led to contamination of the control group, where intervention and control group individuals resided in the same house. Similar literacy and pre-intervention immunization coverage in the two groups suggests that the allocation of clusters resulted in a balanced distribution of potential confounding variables. Donner & Klar have reported that extensive simulation research has shown that the two-sample t-test is remarkably robust to violations of underlying assumptions, and the resulting P values are likely to be accurate to a reasonable approximation (40).

A home-visiting strategy

The potential advantages of home visits include the following: obtaining accurate baseline immunization coverage levels; raising coverage levels nearly to 90%; disaggregated data collection, allowing identification of pockets of low coverage; the compilation of population registers for health care programmes; the auditing of existing services to provide information on health service user’s perspectives, barriers to service uptake, inappropriate timing of immunizations, missed opportunities, and side-effects; more
efficacious and cost-effective use of health workers’ time and resources if they use slack periods for targeted home visits; and, possibly, more active and constructive involvement of fathers in decisions about the health care of their children.

The potential disadvantages of a home visiting strategy, which are characteristic of mass campaigns, include the relatively high level of support, input, and skills in management, training, and supervision which are at least initially required. The strategy is more cost-effective where populations are concentrated (i.e. in towns or urban areas) and is less suitable for rural areas with dispersed populations. Sustainability may be difficult to achieve; therefore, the focus should be on using the strategy to strengthen routine primary health care (PHC) services, by identifying and addressing weaknesses and gaps in service provision and on avoiding the diversion of resources from routine services, as occurred in Mozambique (2, 20, 29). As a way of increasing immunization coverage, the strategy depends on the presence and effective functioning of a local health infrastructure, preferably fixed immunization clinics. Home visiting should not be seen as a substitute for providing a reliable, attractive, affordable, routine clinic service. However, it can assist in identifying the weaknesses in such a service and reasons for its underutilization.

Other potential applications of home visits include the following: population-based nutrition screening and education of parents in the interpretation of home-based health records; teaching parents how to prepare oral rehydration fluids; health education about human immunodeficiency virus (HIV) transmission, sexual health, and family planning, including the distribution of condoms; the maintenance of compliance in tuberculosis treatment programmes and the tracing of defaulters; the compilation of registers of “at-risk” households, on the basis of evaluated risk indicators and simple morbidity studies and other types of population research.

Home visiting has potential for bringing health workers into contact with individuals and groups in the community who are at risk for disease, and who make ineffective or little use of preventive health services, e.g. immigrants and minority ethnic groups. Any intervention in people’s homes that is tailored to meet their needs, if implemented in a sensitive way, is likely to have a positive impact. However, the use of health workers for visiting untargeted homes is unlikely to be cost-effective.

Ghana has a national service programme, composed of secondary and technical school graduates and university students. Their services are available to the country at the district level and are used mainly for education and PHC, for periods of 1–2 years. A systematic district or city-based programme, utilizing these personnel, could carry out some of the functions suggested above and could identify at-risk households for subsequent targeted visits by health workers. The value of a home-visiting strategy would lie not only in the implementation of PHC programmes but also in the possibility of field-testing PHC strategies, using the logistically simple controlled trial methodology used in this study. Further studies are required to explore the potential applications and cost-effectiveness of such strategies.

Acknowledgements
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Résumé
Maximisation de la couverture vaccinale au moyen de visites à domicile: essai contrôlé dans une zone urbaine au Ghana

En 1986, l’Assemblée mondiale de la Santé a fixé parmi ses priorités l’amélioration des services de vaccination dans les zones urbaines. Il est donc nécessaire d’établir des stratégies capables d’identifier les sous-groupes de population dans lesquels la couverture vaccinale est faible et de cibler les programmes de vaccination sur ces groupes. Des stratégies de visites à domicile visant à encourager la fréquentation des services de vaccination ont été décrites en Colombie et au Mozambique.

Une stratégie de visites à domicile visant à maximiser la couverture vaccinale des enfants a été mise en œuvre dans trois villes du Ghana. Elle a été testée dans la ville 1 au moyen d’un essai contrôlé dans lequel les enfants ont été répartis par grappes entre le groupe d’intervention et le groupe témoin. Au total, 200 mères du groupe d’intervention ont reçu la visite à domicile d’interviewers recrutés parmi des étudiants, et leurs enfants ont été envoyés dans un dispensaire pédiatrique réservé aux moins de cinq ans. De nouvelles visites à domicile ont été faites par des infirmières pour les enfants n’ayant pas encore reçu la totalité des vaccins. Au bout de six mois, le taux de couverture était passé de 60% à 85%, soit 20% de plus que dans un groupe témoin de 219 enfants appariés pour l’âge...
Maximizing immunization coverage through home visits

(p < 0.005). Une stratégie similaire appliquée dans une ville voisine a entraîné une augmentation de la couverture de 38% à 91% (n = 55), dans ce cas grâce à des vaccinations pratiquées à domicile.

Les enfants avaient davantage de chances de recevoir les vaccins manquants si les pères étaient également interviewés et participaient à la décision d’envoyer l’enfant dans un dispensaire (risque relatif = 1,85; intervalle de confiance 1,10–3,12). La vaccination complète était également associée avec le fait que la mère avait suivi les conseils de l’interviewer et avait conduit l’enfant au dispensaire sans qu’une relance soit nécessaire (risque relatif = 1,43; intervalle de confiance = 1,17–1,75).

Les pays qui comme le Ghana possèdent des programmes de service national peuvent appliquer une stratégie de visites à domicile pour compléter et renforcer leurs programmes de vaccination, et pour en identifier les faiblesses. Les avantages potentiels de cette stratégie comprennent l’établissement d’une carte exacte de la couverture vaccinale, l’augmentation de cette couverture, l’identification des poches de faible couverture, l’établissement de registres de population pour les programmes de soins de santé, l’audit des services existants en vue d’obtenir des informations sur le point de vue de l’utilisateur, une utilisation plus efficace et plus rentable du temps des agents de santé et des ressources, et une participation plus active des pères aux décisions concernant la santé de leurs enfants.

De nombreuses autres interventions de soins de santé primaires en communauté pourraient être testées et appliquées au moyen de visites à domicile et de la méthodologie simple d’essai contrôlé utilisée ici, par exemple le contrôle de la nutrition et l’information nutritionnelle, le suivi de l’observance du traitement antituberculeux, et l’établissement de registres des ménages “à risque” qui pourraient être utilisés pour cibler les visites des agents de santé.

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