

Far fewer missed opportunities for immunisation in an integrated child health service

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Abstract The mobile nature of the population of Khayelitsha makes it imperative that opportunities for immunisation of children are exploited at every visit to health services. Previous studies have demonstrated a high incidence of missed opportunities for immunisation at curative health services.

The occurrence of undetected opportunities for immunisation are compared at two primary care institutions: one in which curative and preventive services are provided separately, and one in which these functions are integrated. Far fewer opportunities for immunisation were missed at the integrated service, underscoring the urgency of integrating child health services throughout the country.

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The policy of the World Health Organisation's Expanded Programme on Immunisation (EPI) is that immunisations should be made available to every child at every contact with the health care system.^{1,2} But studies in developing countries demonstrate that a significant number of children leave health facilities without their incomplete immunisation having been detected.^{3,4} Opportunities for immunisation are most likely to be missed in visits to curative health services.^{5,6}

Fragmented health services undermine efforts to achieve maximum vaccination coverage, particularly in the face of a rapidly urbanising population.⁷ High mobility of people, far walking distances and long waiting times at health services dictate that every opportunity for vaccination be exploited.

Surveys conducted in Khayelitsha demonstrate a sig-

nificant improvement in proven vaccination coverage of children following mass measles immunisation campaigns.^{8,9} These improvements, however, are not sustained, and coverage outside of campaign periods was found to be roughly 60 - 70%.¹⁰

The key to better vaccination coverage lies in changes to routine health services.¹¹

A study of curative facilities in the western Cape conducted in January 1990 found that a considerable number of opportunities to immunise children against measles were being missed.¹² It concluded that there was a need for rapid integration of preventive and curative components of health care into a metropolitan-based primary health care service.

An integrated service for preschool children was introduced at the Nolungile Primary Health Care (PHC) Centre in Site C, Khayelitsha, in January 1992. Previously, children who were ill were treated at the day hospital, while children attending child health clinics or requiring treatment for tuberculosis were seen at the local authority facility — located on the same premises as the day hospital.

The restructured service allows a single portal of entry for all children less than 6 years of age, regardless of their reason for attendance. All children are initially screened by a nurse aid and clerk: weights are plotted on the Road-to-Health cards (RTHCs), and temperatures are recorded in the event of illness. Well babies are mainly seen by professional nurses with general training, while sick children are seen by nurses with an additional qualification in primary care. Children with complicated or severe illness are referred to a doctor employed by the Cape Provincial Administration (CPA), but physically located on the local authority side of the health complex.

The aim of this study was to compare the detection of opportunities for immunisation at the integrated child health service at Nolungile PHC Centre with that at a similar health complex in which preventive and curative care of children were still provided separately.

The objectives were to determine: (i) the frequency with which RTHCs were requested by health personnel — essential for the detection of incomplete immunisation; and (ii) the number of children whose incomplete immunisation was not detected during their visit to the health facility.

A significant reduction in missed opportunities for immunisation, achieved as part of the routine of an integrated facility, is a powerful motivation for rapid integration of all preventive and curative health services for children.

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Methods

Crossroads II Health Centre was chosen as the non-integrated child health service, because it is structurally similar to that at Nolongile in Site C, Khayelitsha, with preventive (Western Cape Regional Services Council) and curative (CPA) services being housed in the same building. The study was conducted over 5 consecutive mornings from 16 to 20 March 1992. Interviews were conducted by 4th-year medical students, aided by Xhosa-speaking interpreters. All carers of children aged 60 months or less who had attended either the clinic or the day hospital were interviewed at the exits of the facilities.

Carers were asked the age of the child, and whether the RTHC had been requested. The card was then examined to determine whether the immunisation schedule was up to date. Where the commencement of immunisation was delayed, or the schedule interrupted, the current vaccination status was assessed. If documentation was not available, the carers were asked whether immunisations were up to date.

A missed opportunity for immunisation was defined as the attendance of a child aged 60 months or less without evidence of up-to-date immunisation, which ended without the appropriate immunisation being given in the absence of any contraindications.

Two definitions for documented immunisation were used: (i) strict — details of immunisation documented on the RTHC; and (ii) lenient — details documented on the RTHC, or history of up-to-date immunisation given by the carer.

Children found to be incompletely immunised were taken directly to the immunisation room. Personnel responsible for immunisation were informed of the nature of the study, but asked not to disclose the details to other staff members.

Results

Fewer children were seen at Crossroads II than at Nolongile Clinic during the course of the week. Daily attendance at Crossroads fluctuated, because child health (preventive) clinics are only held on Tuesdays and Thursdays. A parent, in fact always the mother, accompanied the child in over 90% of attendances. At Nolongile, the RTHC was requested in 90% of cases. The remaining 10% were children receiving daily tuberculosis treatment, who bypassed the routine screening mechanisms. In fact, this group constituted all but 3 (91%) of the missed opportunities for immunisation at Nolongile (strict definition). Although 75% of children at Crossroads had RTHCs available, health personnel only requested the card in 42,7% of cases (Table I).

According to the strict definition, three times as many opportunities for immunisation were missed at Crossroads II as opposed to Nolongile ($\chi^2 = 77,4$; $df = 1$; $P < 0,001$). Four times as many opportunities for immunisation were missed at Crossroads, according to the lenient definition ($\chi^2 = 53,4$; $df = 1$; $P < 0,001$).

TABLE I.
Missed opportunities for immunisation at two primary care institutions

	Nolongile	Crossroads
Sample size (No.)	285	178
Child accompanied by parent (%)	90,2	93,0
RTHC requested (%)	90,2	42,7
RTHC available (%)	90,9	75,3
Missed opportunities for immunisation (%)		
Strict definition*	11,2	35,4
Lenient definition†	6,6	25,3

* No documentation of up-to-date immunisation available.

† No documentation of up-to-date immunisation available, or no history of complete immunisation given by the carer.

Discussion

An integrated child health service has been shown to exploit opportunities for immunisation far more effectively than one in which preventive and curative services are rendered separately. Far greater use is made of the RTHC by personnel in the integrated service.

However, where a separate vertical programme still exists in the largely integrated service, namely the management of tuberculosis, opportunities for immunisation are still missed.

Besides ensuring that far fewer opportunities for immunisation are missed, the integrated child health service has another important benefit. This is that older children (over the age of 2 years) who have slipped through the net and missed their routine primary immunisations will be picked up when they attend as sick children. This is particularly important in populations with high mobility, as is the case in most areas of rapid urbanisation. The importance of picking up these older children has been demonstrated at Site C. In 1992, this clinic immunised ten times as many children in the age category 2 - 5 years as did a comparable clinic in Site B, despite the fact that the total number of children immunised at the two clinics was approximately equal (W. Lombard, Western Cape Regional Services Council — personal communication).

The implications of these findings are that:

1. The tuberculosis programme should be integrated into the general child health service. If there are other valid reasons for retaining tuberculosis as a vertical programme, staff in the tuberculosis treatment room in particular should be urged to check RTHCs for incomplete immunisation as well as for growth monitoring — surely a fundamental part of the routine management of tuberculosis!

2. The remaining health centres in which preventive and curative child health services are separate should be integrated as soon as possible.

There is now a local precedent for integrated child health services. The system is operating well — and this study shows that children are already reaping the benefits.

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