

Missed opportunities for immunisation in Natal health facilities

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Abstract The World Health Organisation currently recommends that preventive measures be promoted at every contact with health services. However, there is still no uniform policy on immunisation currently implemented at curative health facilities in Natal. Surveys of missed opportunities for immunisations in four health facilities in Natal revealed that, even in those with an immunisation policy, many opportunities are still being missed. The reasons for this included a lack of emphasis on preventive measures by health workers, reluctance to open vaccines for only a few children, and vaccines not being immediately to hand. It is recommended that a firm policy be implemented in Natal, with regular self-evaluation by the health facilities.

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Improvement of the immunisation status of the children of South Africa is crucial if ill-health and death from infectious diseases in the poorer sectors of society are to be relieved. A vaccination coverage survey undertaken in Natal in March 1990 found the vaccination coverage rate for measles to be 61,2% (range 53,3 - 69,1%) for the rural black population, and 74,1% (range 66,1 - 82%) for urban blacks.¹ The coverage rates for polio 1 - 3 and diphtheria-pertussis-tetanus (DPT) were of a similar order.

In May/June 1990 a mass measles immunisation campaign was carried out in Natal and KwaZulu, with the aims of increasing immunisation coverage rates, strengthening existing immunisation services and reducing the incidence of measles. One communicable disease referral hospital in Natal showed a 64,4% average monthly decrease in measles admissions in the 6 months following the campaign.²

A vaccination coverage survey in June 1991 showed that documented evidence of measles vaccination in Natal has risen to 74,8% (range 66,7 - 82,9%) in the rural black population, and to 85,1% (range 79,6 - 90,6%) for urban blacks.³ However these increases are not statistically significant (χ^2 -test; $P > 0,05$). Similar results were obtained for polio and DPT coverage. These results show that the battle to control infectious diseases in Natal is far from won.

The World Health Organisation recommends that preventive measures be promoted at every contact with health services.⁴ Several studies have shown that many opportunities for immunisation are missed at curative health facilities.⁵⁻⁹ In South Africa the opportunity for measles vaccination is missed in a high proportion of children passing through curative facilities in the western Cape, even though the policy is to immunise all eligible children over the age of 6 months who attend a hospital.¹⁰ However, it has been shown in other countries that it is possible effectively to establish immunisation services at a health facility treating acutely ill patients.¹¹

The present study was undertaken at the request of the Natal Provincial Administration in order to determine the missed opportunities for immunisation in children under the age of 2 years who had been treated at selected curative health facilities in Natal, and to make recommendations in this regard.

Methods

A uniform policy on immunisation of children in curative facilities is not currently implemented in Natal. Some health facilities have developed their own policy, while others have retained the strict division between curative and preventive services. Where no intent to immunise at a curative facility exists there will obviously be many missed opportunities. It was therefore decided to assess the level of missed opportunities occurring at institutions where facilities and policies allowed for immunisation while patients sought curative care.

An initial telephone survey was undertaken of the 24 hospitals of the Natal Provincial Administration that offered curative paediatric services in order to determine their immunisation policy. Two of the hospitals offering vaccinations were selected for the survey — 1 tertiary (academic) hospital and 1 community hospital. Two rural clinics providing a comprehensive service were also surveyed. In 1 clinic (clinic A) the immunisation service was provided by a different authority and in a different building from the curative service. In the other (clinic B) the immunisations were offered mainly on 1 day of the week, but were given on any other day if there was a need.

The study was conducted over a 2-week period in October/November 1991. All mothers leaving each facility on 1 day between the hours of 08h00 and 16h00 with a child aged 2 years or less were interviewed. The survey was conducted according to the protocol from the Expanded Programme on Immunisation (EPI) of the WHO.¹² One professional nurse for each institution was fully trained in all aspects of the study, and assisted with field work. Only the senior staff of each health facility was informed of the exact nature of the study to prevent a change in usual immunisation practices.

Mothers were asked the age of the child, and whether they had brought the Road-to-Health card (RTHC). Details of all vaccinations were recorded from the card. If these were not available a careful history of vaccinations was elicited. The reason for not receiving any vaccination due was requested.

A missed opportunity for immunisation was defined as having occurred when a child came to a health facility and, in the absence of any contraindication, did not receive any or all of the vaccine doses for which he or she was eligible.

All children found to be in need of immunisation were referred back to the service, in order to avoid further missed opportunities.

Results

The results of the telephone survey are shown in Table I. Eight (34%) hospitals stated that they checked for vaccination status during the curative outpatient sessions, and gave all immunisations as necessary. One

(4%) referred children to a well-baby clinic in the same hospital; 2 screened for measles and polio status, and 1 of these also gave measles immunoglobulin to children aged between 4 months and 8 months. Two (8%) hospitals screened for and gave measles vaccine only. At 11 (46%) hospitals no vaccines were given at the hospital and vaccination status was not checked routinely in the outpatient department. Any child found to be in need was referred to the nearest clinic or mobile service.

TABLE I.
Outpatient immunisation policies in Natal hospitals, 1991

Policy	Hospitals	%
All vaccines given as required	8	34
Referred to well-baby clinic in same hospital for all vaccines	1	4
Measles, measles immunoglobulin and polio given	1	4
Measles and polio given	1	4
Measles vaccine only given	2	8
No vaccines given — referred to nearest clinic or mobile service	11	46
Total	24	100

Table II shows the results of the four missed opportunities surveys. Between 33% and 61% of parents/guardians had brought the child's RTHC with them, the highest percentage from clinic A, where an immunisation clinic ran alongside the curative service (60,5%) followed by the tertiary hospital (55%). Between 26% and 54% of all attenders were eligible for immunisation.

At the tertiary hospital, where all children were screened for immunisation status with regard to measles and polio on arrival, 12 of the 40 children who were eligible for immunisation received all those required (30%). There were 28 missed opportunities for immunisation, which comprised 25,7% of total attenders, and 70% of those eligible. Possession of a RTHC by those eligible for immunisations (19/40) made no difference to whether or not they received them (χ^2 -test; $P = 0,4$).

The community hospital had a policy of checking immunisation status while the patient was seen at the outpatient department. However, of the 4 children who were eligible for immunisation, none was immunised. Hence there were 4 missed opportunities for immunisation, comprising 26,7% of total attenders and 100% of those eligible.

At clinic A 23 (53,5%) children were eligible for immunisation. Of these 15 (65,2%) received the due immunisations, but 8 opportunities were missed. These comprised 13,6% of total attenders and 34,8% of those eligible.

At clinic B, where an immunisation clinic was held once a week, with immunisations given on other days if necessary during curative sessions, none of the 12 children who were eligible (42,9%) was immunised.

Table III shows which immunisations were missed at each facility. It can be seen that at the tertiary hospital, where measles and polio vaccines were offered, 27 (57,5%) of the individual vaccines missed were measles and polio. At clinic B, where immunisations were to be given if necessary, the 3 BCG immunisations which were not given were for children who were over 1 year old, and had no history of any immunisations.

Accurate reasons why the immunisations were not given were difficult to obtain from the mothers. Together with answers obtained from the health workers after the survey, the predominant reasons were: (i) the RTHC was not requested by health workers; (ii) in the absence of a RTHC, a detailed immunisation history was not sought; (iii) health workers were reluctant to open a vial of vaccine unless they were sure it would all be used on the same day. Hence many opportunities were missed at the community hospital where numbers were small, clinic B where most immunisations were given on a different 'immunisation day', and clinic A where after 13h00 the numbers dropped; (iv) 'pressure of work' was cited mainly in the community hospital and clinic B where the refrigerators containing the vaccines are situated in another building; and (v) vaccine was not available (DPT at the tertiary hospital).

TABLE II.
Results of exit surveys — Natal health facilities, 1991

	Tertiary hospital (N = 109)		Community hospital (N = 15)		Clinic A (N = 43)		Clinic B (N = 28)	
	No.	%	No.	%	No.	%	No.	%
Owned RTHC	101	92,7	15	100	41	95,3	25	89,3
Brought RTHC to clinic	60	55,0	5	33,3	26	60,5	12	42,9
In need of immunisation on arrival at clinic	40	36,7	4	26,7	23	53,5	12	42,9
Immunised at clinic visit	12	11,0	0		15	34,9	0	
Missed opportunities	28	25,7	4	26,7	8	13,6	12	42,9

TABLE III.
Missed opportunities surveys — types of vaccines missed, Natal health facilities, 1991

	Tertiary hospital		Community hospital		Clinic A		Clinic B	
	No.	%	No.	%	No.	%	No.	%
BCG	0		0		0		3	9,4
Polio	20	42,6	3	30	6	42,6	10	31,3
DPT	20	42,6	3	30	6	42,6	10	31,3
Measles	7	14,9	4	40	2	14,9	9	28
Total vaccine doses missed*	47	100	10	100	14	100	32	100

* Some children missed more than one dose of vaccine.

Discussion

For many years there has been a fragmented approach to the provision of health care within South Africa, with curative and preventive services provided by different authorities. This made comprehensive care difficult to attain.

This study has highlighted the fact that, despite WHO recommendations, there is no consistent policy on immunisation at curative facilities in Natal. Hospitals decide upon their own policy but, as comments made during the telephone survey revealed, many hospitals feel that immunisations should be left to those authorities with responsibility for preventive services.

At the health facilities studied, between 26% and 53,5% of attenders up to the age of 2 years were eligible for immunisation. If no immunisations were offered all these opportunities would be missed. Presumably this is occurring in at least 11 of Natal's hospitals.

Even in health facilities where vaccines are available, between 34,8% and 100% of opportunities are still being missed. This accounts for between 13,6% and 42,9% of all attenders.

The reasons for these missed opportunities show that there is a lack of emphasis on immunisation status by health workers. No worker cited illness as a contraindication to vaccination, but it is apparent that usually only treatment of the presenting complaint is undertaken. This is of great concern, particularly when one considers that clinic B — which missed many opportunities — is situated in an area of unrest, with much instability and many refugees. It appears that when specific health workers are allocated the task of immunisation, as in the tertiary hospital and clinic A, fewer opportunities are missed. When workers are faced with the pressure of large numbers of sick children, and the additional inconvenience of having to go to another building to fetch vaccines, immunisations are neglected.

Although the presence or absence of a RTHC was not a factor in determining whether immunisations were given at the tertiary hospital, it is obviously easier for the health worker to assess immunisation status if the card is brought. When we asked mothers for their 'cards', several different types were often produced — clinic record cards, hospital cards, and RTHCs. RTHCs were associated in their minds with immunisation, and when attending for curative care they were often not brought (Table II). If the same card were used both for recording vaccinations and for curative care, and by all health facilities, immunisation status would be more readily apparent. Inspection of the immunisation status should form part of every interview with the principal health professional.

It is disturbing that health workers are still reluctant to open a vial of vaccine for only a few children. It appears that further education is required in this regard; it is better to waste a little vaccine than leave a child unimmunised.

Only the tertiary hospital administered measles immunoglobulin to children between the ages of 4 months and 8 months. This policy was introduced after it was realised that hospitals can serve as a source of measles infection, both in wards and outpatient departments, and that until Edmonston-Zagreb vaccine is in use these younger children will be at risk. Whether this

policy should be extended to other hospitals is debatable. Confusion may result for health workers as to whether measles vaccination should be administered subsequent to measles immunoglobulin, and after what time interval. A mother may be unaware of what her child has received and therefore seek a measles vaccination too soon. Alternatively she may believe her child to have received measles vaccine, and so fail to go for vaccination. Administration of Edmonston-Zagreb vaccine at 6 months of age, as previously advocated by the WHO¹³ and for South Africa,¹⁴ may be the preferable option.

Unless there is a firm policy on immunisation in the curative health services of Natal there will continue to be many missed opportunities. This study has revealed that this is so even when facilities do offer immunisation, as health professionals focus predominantly on curative care. The WHO protocol provides a rapid and flexible method of evaluating an immunisation service and could be utilised by other hospitals and clinics for self-assessment.

It is recommended that a consistent immunisation policy for curative facilities be introduced in Natal, that the same RTHC be used for recording both curative and preventive care, and that institutions continuously monitor and evaluate their services to reduce the number of missed opportunities.

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