

Research report

Rapid appraisal of primary level health care services for
HIV-positive children at public sector clinics in South Africa

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ACRONYMS AND ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ARTI	Acute respiratory tract infection
CSG	Child support grant
DOH	Department of Health
EC	Eastern Cape Province
FS	Free State Province
GAU	Gauteng Province
HIV	Human Immunodeficiency Virus
i.u	International Units
IMCI	Integrated Management of Childhood Illnesses
IMR	Infant Mortality Rate
INH	Isoniazid
INP	Integrated Nutrition Programme
KZN	Kwazulu Natal Province
MPU	Mpumalanga Province
NC	Northern Cape Province
NP	Northern Province
NW	North West Province
PCP	Pneumocystis carinii pneumonia
PCR	Polymerase Chain Reaction
PEM	Protein Energy Malnutrition Scheme
SA	South Africa
SAVACG	South African Vitamin A Consultative group
TB	Tuberculosis
VAS	Vitamin A Supplementation
WC	Western Cape Province
WHO	World Health Organisation

1. EXECUTIVE SUMMARY

South Africa has a large and growing number of HIV-infected children. While no policy exists to provide anti retroviral therapy to these children, several other effective health and social interventions are available which have been shown to improve life expectancy and quality of life in HIV-infected children. This study was undertaken to ascertain the extent to which some of these interventions are currently available to children attending public sector clinics in all 9 provinces of South Africa. The research was conducted as a rapid appraisal of services and information was collected through brief telephonic interviews with clinic managers at 11% of the public sector clinics in South Africa.

The study looked at whether the following five interventions were available:

1. Cotrimoxazole as a prophylaxis to prevent pneumocystis carinii pneumonia (PCP) in children
2. Vitamin A supplementation
3. Tuberculosis (TB) contact tracing for children
4. Nutritional supplementation through the Protein Energy Malnutrition (PEM) Scheme
5. Social assistance grants

Several policies and guidelines exist which provide health staff with information on the administration of one or more of these interventions. A set of comprehensive guidelines entitled "Managing HIV in Children" was released by the National Department of Health in March 2000. This booklet was intended as a guide for primary health care staff. This study also looked at the extent to which these guidelines were available to clinics and used by health care staff.

The results indicate that the guidelines are not widely accessible but that they are urgently required. Only 20% of the clinics had knowledge of the guidelines. Over 30% of the clinics reported that HIV-positive children are referred elsewhere for treatment. It was not clear from the study whether this included long-term management.

Only one third of the clinics had a policy in place for the administration of prophylactic cotrimoxazole to HIV-infected children and most of these clinics were prescribing the drug incorrectly. Clinics were also found to be administering cotrimoxazole inappropriately as a treatment.

Nationally, 35% of the clinics reported administering vitamin A to HIV-positive children. The administration of both vitamin A and cotrimoxazole was impeded by their availability at clinics.

Most of the clinics reported some system for following up on child contacts of adult cases of TB. 57% of the clinics reported administering prophylactic TB treatment for child contacts as part of their contact tracing. Of the clinics that provided details on the specific prophylactic agent used, only 19% were providing the correct regimen according to the National TB Control Programme recommendations.

The majority of the clinics (75%) reported that HIV-positive children were included on the clinic's PEM scheme. 53% of these clinics reported however that the child had to be underweight or malnourished in order to qualify. Irregular supplies of milk formula and PVM porridge were cited as the major problems with the implementation of the scheme.

The vast majority of the clinics (73%) reported that they refer clients elsewhere for advice and assistance with accessing a social security grant.

The study highlights the need for monitoring and evaluation of the implementation of existing policies/guidelines and for training of primary health care staff on the appropriate management of HIV in children. The results also indicate the need for greater inter-sectoral collaboration and for clear directives on certain interventions for HIV-infected children, such as the inclusion of all HIV-infected children on the PEM scheme.

Finally, the regular supply of necessary drugs and supplements are essential for the successful implementation of existing policy and guidelines.

2. INTRODUCTION AND BACKGROUND

South Africa is experiencing one of the fastest growing paediatric HIV/AIDS epidemics in the world. The latest national HIV and syphilis sero-prevalence survey of women attending public antenatal clinics found 25% of these women to be HIV+¹. With no comprehensive programme in place to prevent the transmission of HIV from mother to child, over 100 000 infants are estimated to have been born HIV+ during the year 2000¹.

With large numbers of HIV+ children and HIV-infected caregivers, experts predict a close to doubling of child and infant mortality rates by 2010.² Table 1 below presents recent child health indicators and HIV sero prevalence data in pregnant women.

Table 1: HIV/AIDS and health indicators in South Africa

Health indicators	HIV sero prevalence ¹ (2000)	Under 5 MR (1998) ³	IMR (1998) ³	Immunisation coverage (1998) ³
Eastern Cape	20%	81	61	53%
Free State	28%	72	53	68%
Gauteng	29%	45	36	72%
Kwazulu Natal	36%	75	52	50%
Mpumalanga	30%	64	47	67%
Northern Province	13%	52	37	75%
Northern Cape	11%	56	42	81%
North West	23%	56	42	61%
Western Cape	9%	39	30	64%
South Africa	25%	60	44	66%

Sources: ¹ National Department of Health, 2000

³ South African Health Review, 2000.

The impact of HIV on health and social services is already being felt with an increased demand for services, coupled with reduced capacity to provide services as a result of HIV infection and related stresses among service providers⁴.

In order to facilitate the improvement of primary level health care services for HIV-infected children, information is needed on what services are currently available and what the barriers are, if any, to service delivery. Given the urgency of the situation and the daily cost to life of failure to provide adequate care, the decision was taken to collect this information through a rapid appraisal of HIV paediatric services.

3. FOCUS OF THE STUDY

While life-saving anti retroviral therapy remains inaccessible to the majority of South African's, several other interventions exist to increase life expectancy and improve the quality of life of HIV+ children.

A number of policy documents and management guidelines have been drafted which provide primary level health care workers with guidelines for implementation of the interventions available to HIV+ children. The most relevant of these is the Department of Health's HIV/AIDS policy guidelines entitled "Managing HIV in children" (hereafter referred to as the "DOH guidelines"). The guidelines were released in March 2000 and outline the primary interventions currently recommended

for the prevention of opportunistic infections and the management of common clinical problems in HIV-infected children as well as recommendations for the overall care of an HIV+ child.

In addition to the DOH guidelines, several other existing national policies / guidelines are relevant to the issues addressed in this research. These include; the guidelines for the Integrated Management of Childhood Illnesses, the Integrated Nutrition Programme (INP) guidelines, the Vitamin A policy guidelines, the National TB Control Programme Guidelines and Social Assistance legislation. Provincial and local guidelines and hospital circulars have also been developed in some areas, that provide health care staff with information on the management of HIV and related conditions in children.

With the Department of Health's decision to shift resources towards primary level facilities⁵, the bulk of public health care services is delivered through clinics, community health centres and district hospitals, with preventative, promotive and curative care for children provided predominantly at the level of the clinic. The rapid appraisal therefore focuses on the interventions available to HIV+ children at public sector clinics.

The research focuses on clinical, nutritional and social security interventions for which various policy guidelines exist and the necessary medication/supplements are widely available. The results will therefore reflect the extent to which existing policies are implemented. The research also looks at the extent to which clinics use the DOH guidelines for managing HIV in children.

The research focuses on 5 interventions, namely:

1. Administration of cotrimoxazole as a prophylaxis to prevent PCP in children
2. Vitamin A supplementation
3. TB contact tracing
4. Nutritional supplementation through the Protein Energy Malnutrition Scheme
5. Social assistance grants

The National HIV/AIDS Directorate has indicated that the results of the rapid appraisal will be used to inform the Department on priority areas around services for HIV+ children which need to be addressed as a matter of urgency. It is hoped that the study will provide a baseline against which further improvements to services can be measured and the implementation of policy monitored.

3.1 Administration of cotrimoxazole as a prophylaxis

Pneumocystis carinii pneumonia (PCP) is a major cause of morbidity and mortality in young infants who are HIV positive⁶. Trimethoprim-sulphamethoxazole (Cotrimoxazole) prophylaxis prevents PCP as well as other bacterial infections⁷.

International policy recommends that all HIV- exposed infants be given prophylaxis from 6 weeks to 4 months of age. If at this stage a Polymerase Chain Reaction (PCR) test indicates the infant is HIV negative then prophylaxis is stopped. If the infant is truly infected then prophylaxis is continued until 1 year. Older children should be given prophylaxis only if their CD4 count falls below 15% or after an episode of PCP. If CD4 counts are not available (as is the case in most parts of South Africa) then all symptomatic children over the age of 12 months should be given prophylaxis for life. Cotrimoxazole can be given daily or 3 times a week on consecutive days according to weight.

Since PCR tests for HIV are not available in South Africa, the DOH guidelines specify that all ELISA positive children should be given cotrimoxazole from 4-6 weeks of age up to 15 months of age (unless it can be proven before this time that the child is not HIV-infected).

3.2 Vitamin A supplementation

In 1994 the South African Vitamin A Consultative group (SAVACG) conducted a national survey which highlighted the fact that a third of all children in SA under the age of 6 years were vitamin A deficient⁸. The findings of this study are shown in Table 2.

Table 2: Vitamin A deficiency in pre-school children

% Vit A deficiency in pre-school children ⁸	EC	FS	GAU	KZN	MPU	NP	NC	NW	WC	SA
	31%	27%	24%	38%	33%	44%	19%	32%	21%	33%

Source: South African Vitamin A Consultative Group, 1994

Vitamin A deficiency is common in HIV infected children. Vitamin A supplementation in HIV infected children has been associated with reduced morbidity, particularly in relation to diarrhoeal disease, reduced mortality and improved immune function^{9 10}.

The Nutrition Directorate has approved the Vitamin A Supplementation Policy, intended to provide Vitamin A capsules to children through the immunisation schedule. The use of high dose Vitamin A supplementation is seen as a short term strategy for improving the Vitamin A status of infants and children¹¹.

The DOH Guidelines state that all HIV-infected children should be given Vitamin A supplements in accordance with the following schedule:

- < 6 months – 50 000 i.u
- 6 to 12 months – 100 000 i.u
- > 12 months – 200 000 i.u

While the DOH Guidelines provide instructions on dosage and administration of Vitamin A, a number of other guidelines exist which provide the same type of information with varying degrees of similarity. These include the guidelines for the Integrated Management of Childhood Illnesses (IMCI), the Vitamin A deficiency booklet and the Integrated Nutrition Programme (INP).

3.3 TB contact tracing

Tuberculosis is the most common opportunistic infection in HIV infected persons. The risk of tuberculosis developing in a HIV infected person who has been infected with *Micobacterium Tuberculosis* is 10% per year compared to a lifetime risk of 10% in HIV-negative persons. Chemoprophylaxis of HIV infected persons with a positive skin test has been shown to be effective in preventing TB.

Table 3: Estimated TB and HIV co-infection (2000)

Proportion of TB cases expected to be HIV co-infected ¹²	EC	FS	GAU	KZN	MPU	NP	NC	NW	WC	SA
	40%	52%	45%	65%	59%	36%	33%	46%	32%	48%

Source: Medical Research Council, 2000

HIV infected children who have had household contact with sputum-positive patients or who are positive tuberculin reactors (mantoux reactions of 4mm or greater) should be given supervised prophylaxis to prevent them from developing tuberculosis. The National TB Control Programme recommends that children under the age of 5 years who are household contacts should receive INH prophylaxis for 6 months.

3.4 Nutritional supplementation through the Protein Energy Malnutrition Scheme

The 1998 South African Demographic and Health Survey found that 23% of children (1 to 6 years of age) in South Africa are stunted i.e have evidence of chronic malnutrition. Table 4 shows the breakdown per province.

Table 4: Stunting in children (1998)

% Stunting in children (1 to 6 years) ⁴	EC	FS	GAU	KZN	MPU	NP	NC	NW	WC	SA
	22%	27%	22%	24%	27%	31%	25%	26%	15%	23%

Source: South African Demographic and Health Survey, 1998

Children admitted to hospitals with HIV related illnesses commonly present with severe malnutrition^{13 14}. Changes in the immune system functioning due to HIV is very similar to changes in the immune system as a result of malnutrition. Poor nutritional status in turn hastens disease progression¹⁵: In addition to this, HIV/AIDS compromises the capacity of caregivers and breadwinners to provide the resources necessary to purchase food and to provide the child with a nutritionally balanced diet. Both children from HIV affected households and HIV-positive children are therefore at risk for malnutrition.

The Draft Policy Guidelines for Health Facility Based Nutrition Interventions (2001) states that all children who fail to grow adequately, especially those below the age of two years, should be included on the food supplementation programme (the Protein Energy Malnutrition Scheme - PEM). The scheme targets various vulnerable groups, including pre-school children, pregnant and lactating women, the chronically ill and the aged. The scheme distributes food supplements through primary level clinics and has been in operation since the early 1960's¹⁶.

The DOH Guidelines state that where nutritional supplements are available and affordable, they should be given to all HIV+ children.

3.5 Accessing social assistance grants

Approximately 60% of children in South Africa live in poverty¹⁷ and research suggests that this number is increasing, at least partly as a result of the HIV/AIDS

pandemic¹⁷. Table 5 shows the proportion of children (aged 0 to 5 years) in each province and nationally who live in conditions of poverty.

Table 5: Poverty rates (1998)

Provincial child poverty rates (age 0-5 years) ¹⁸	EC	FS	GAU	KZN	MPU	NP	NC	NW	WC	SA
	78%	73%	21%	59%	61%	61%	59%	68%	35%	57%

Source: IDASA, 2000

In many households, the diagnosis of HIV in a family member has an immediate socio-economic impact, with a reduction in household income and an increase in health-related expenditure³. Children who are HIV+ and living in conditions of poverty are at greater risk of contracting and dying from opportunistic infections and malnutrition. Poverty alleviation measures are therefore an important component of the broader strategy to address the impact of HIV/AIDS on children.

The government's poverty alleviation measures include the allocation of social assistance in the form of cash grants, to the caregivers of children who qualify. While there are no special provisions for children infected / affected by HIV/AIDS, caregivers of these children can access some financial support in the form of the child support grant, care dependency grant or foster grant. For children younger than 7 years, the most widely accessible of these grants is the child support grant (CSG). However, lack of knowledge of available grants and numerous administrative hurdles, make accessing the grants difficult for many caregivers.

Caregivers attending public health sector clinics with their children provide a window of opportunity for service providers to provide information on the existence of relevant grants and to advise them on how best to access these grants. The DOH Guidelines highlight social support as an appropriate intervention, including referrals where appropriate and assistance with grant applications.

4. AIMS AND OBJECTIVES

The aim of the rapid appraisal is to determine whether recommended interventions that are known to improve life expectancy and quality of life in HIV-infected children, are being implemented at public sector clinics around South Africa.

The objectives are:

- 4.1. To determine whether clinic managers are aware of the DOH Guidelines on managing HIV in children.
- 4.2. To determine whether clinics are administering prophylactic cotrimoxazole to HIV+ children according to accepted regimens.
- 4.3. To determine whether clinics offer Vitamin A supplementation to HIV+ children.
- 4.4. To determine whether clinics follow up on children living in homes where an adult has been diagnosed with TB.
- 4.5. To determine whether clinics offer nutritional supplements to HIV+ children through the Protein Energy Malnutrition scheme.
- 4.6. To determine whether clinic staff advise the caregivers of HIV+ children on how to access financial support in the form of social assistance eg. Child Support Grant.
- 4.7. To determine what, if any, the barriers are to providing the services mentioned in objectives 1-6.
- 4.8. To make recommendations for improvements to primary level health care services offered to HIV+ children at public sector clinics.

5. METHODOLOGY

5.1 Consent

The researchers obtained the support and consent of the National HIV/AIDS Directorate within the National Department of Health. Letters were then sent to the Head of Health in each province, informing them of the research and inviting their comments. Two of the nine provinces requested further information before granting permission for the research to be undertaken. Where necessary, permission was also obtained telephonically or in writing from the relevant District Health Managers. The research was approved by the Health Sciences Faculty Research and Ethics Committee of the University of Cape Town.

5.2 Sampling

The study focused on fixed clinics and did not include mobile, satellite or specialized clinics. A fixed clinic is a facility with its own building / structure, permanent staff and equipment, and where services are provided on site on most work days¹⁹.

Information on clinics was obtained from the District Health Information Systems software. The list of 3238 clinics that fit the criteria for the study was stratified by province and then randomly sampled within each province.

The research originally intended to stratify the sample by whether the clinics served rural or urban populations. It was however not possible to obtain accurate information for all of the clinics prior to sampling. Clinic managers were therefore asked whether the majority of the clients that they served lived in rural or urban areas. On the basis of their responses, the data could be analysed by rural/urban client base.

The final sample of 383 clinics represents each provinces' proportional share of clinics and amounts to 11% of clinics nationally (95% confidence level).

Obtaining telephone numbers for clinics was extremely difficult. Less than half the numbers were available through Telkom and those numbers supplied by Telkom services were often incorrect. In many instances, the researchers had to make several calls in order to obtain the correct telephone number for each clinic. Useful sources of telephone numbers included District Hospitals (which provided telephone numbers of clinics in their area), Municipalities and other clinics.

In the event of the researchers being unable to contact a clinic in the original sample, a substitution strategy was developed. The preferred option was to select a clinic within the same district as the clinic being removed from the sampling frame. If this was not possible, another clinic within the same province was randomly selected to replace the clinic that was removed.

The interview schedule was telephonically piloted in 10 clinics in 4 provinces prior to data collection and the final interview schedule was modified based on feedback from interviewees and interviewers.

5.3 Data collection

Information was collected through telephonic interviews with clinic managers. Where clinic managers were unsure of answers to the questions, they consulted with other staff members in the clinic. On a few occasions, the researcher was referred to

someone other than the clinic manager. After the first 44 interviews, the interview schedule was pre-coded with the most common responses from interviewees. The schedule took between 5 and 15 minutes to administer. The interviews were conducted over a period of 4 months by two researchers.

6. RESULTS

6.1 Sample

Of the original 383 clinics sampled, 105 clinics were replaced using the substitution strategy. These clinics were replaced for the following reasons:

- The telephone was out of order or the clinic did not have a telephone (101 clinics)
- The clinic no longer existed (3 clinics)
- The clinic provided only specialized services (1 clinic)

11 of the clinics that were interviewed were removed from the sample prior to data analysis because they:

- Did not serve paediatric patients eg. mine workers clinic (5 clinics)
- Provided only specialized services eg. oncology clinic (5 clinics)
- Refused to answer any questions out of fear of repercussions (1 clinic)

Data analysis was therefore conducted on 372 clinics.

The table below shows the breakdown of the sample by province. The difference between the number of clinics sampled in each province and the number of clinics included in data analysis is also shown.

Table 6: Breakdown of the sample by province

	EC	FS	G	KZN	MPU	NW	NC	NP	WC	Total
Total number of clinics in Province	683	251	252	675	287	211	104	475	300	3238
Number of clinics sampled	81	32	30	80	34	25	13	52	36	383 (11.8%)
Number of clinics included in data analysis	80	31	29	76	33	25	12	50	36	372
Proportion (%) of provincial clinics included in data analysis	11.7	12.4	11.5	11.3	11.5	11.8	11.5	10.5	12	11.5

Clinic managers were asked whether the majority of the clients using the clinics' services lived in rural or urban settings or both (i.e. clients evenly distributed). The figure below shows the breakdown of clinics in the sample. By way of comparison,

Figure 4 shows the percentage of the population of South Africa living in urban and rural areas.

Figure 1: Breakdown of sample by client base

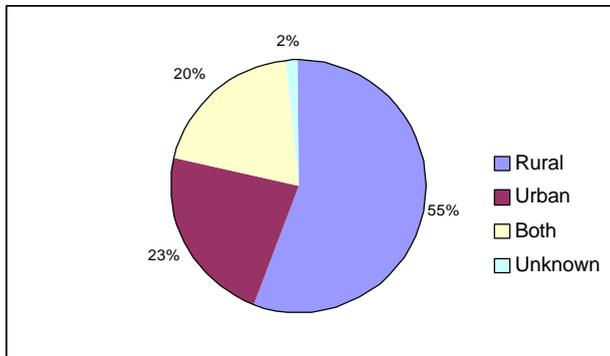
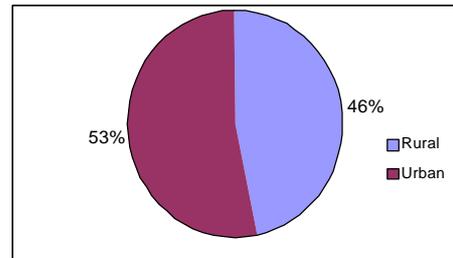


Figure 2 Rural / urban nature of SA population¹⁷

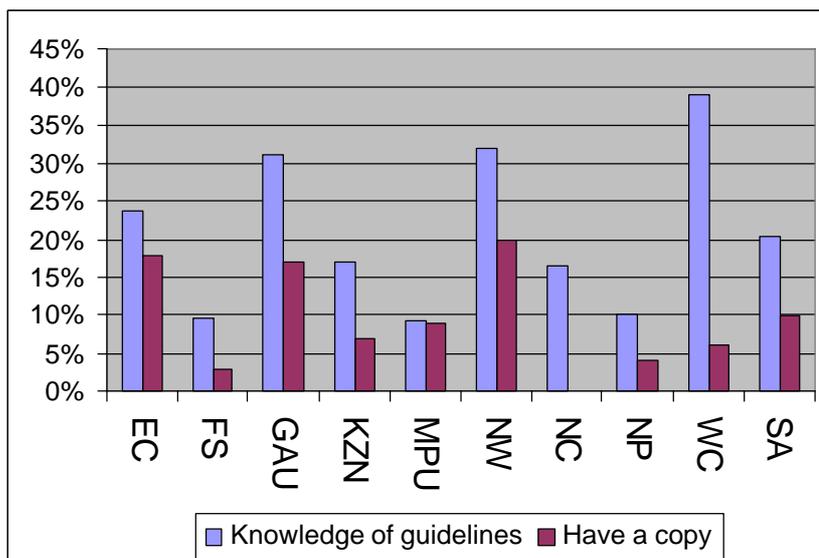


The clinic sample shows a similar pattern of distribution to the national estimates. 55% of the clinics in the sample served clients living in rural areas, while in South Africa as a whole, 46% of the population live in rural areas.

6.2 Knowledge and use of the DOH Guidelines

Eighty percent of the clinic managers who were interviewed had no knowledge of the DOH Guidelines. Of the 20% that had heard of the guidelines, 50% had a copy and almost all those who had a copy reported using it. In summary therefore, about 10% of clinics sampled reported using the DOH guidelines. The figure below shows the proportion of clinics with knowledge of the DOH guidelines that had a copy of the guidelines in their clinics.

Figure 3 Proportion of clinics per province with knowledge of the DOH guidelines and that have a copy of the guidelines.



While the Western Cape had the greatest percentage of clinics with knowledge of the guidelines (39%), the same province had one of the lowest percentages of clinics with copies of the guidelines (6%). The research found very little difference in knowledge of the guidelines between rural and urban clinics.

In the absence of guidelines for managing HIV in children, the researchers were interested to know what information was used to inform the treatment of HIV-infected children.

Over 30% of clinics reported that HIV+ children were referred to a doctor or hospital as the first line of treatment. Some of these children would then be referred back to the clinic with guidelines for treatment provided by the doctor/hospital. The research did not however determine the proportion of these children who were referred back to the clinics.

Fifty percent of the clinics reported that they use other guidelines. These guidelines included guidelines for the management of signs and symptoms, IMCI guidelines, prevention of mother to child transmission (PMTCT) guidelines, the essential drug list protocol, TB guidelines, nutrition guidelines, basic primary health care guidelines, guidelines issued by hospitals eg. Edendale circular and guidelines produced and distributed by district or provincial departments of health.

Five percent of the clinics reported that they used the information that they had learnt at workshops to assist them in managing HIV in children. These workshops included in-service training, workshops run by a hospital, departmental workshops and workshops run in association with the PMTCT programmes.

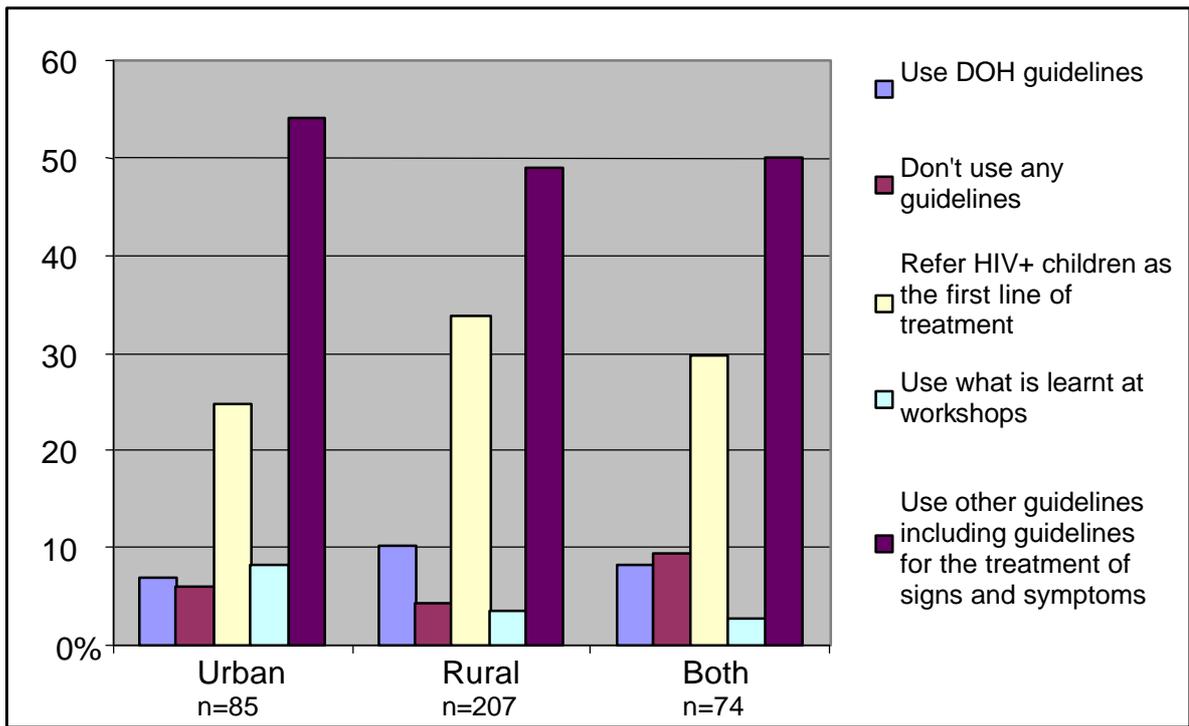
Table 7 summarises responses by province and nationally.

Table 7: Information used to treat HIV+ children at clinics

Province	N	Use DOH guidelines	Don't use any guidelines	Use other guidelines, including treatment of signs and symptoms	Use what is learnt at workshops	Refer HIV+ children as the first line of treatment
EC	80	15%	10%	48%	3%	25%
FS	31	3%	6%	58%	6%	26%
GAU	29	17%	0%	51%	10%	21%
KZN	76	5%	4%	45%	4%	42%
MPU	33	9%	3%	63%	3%	21%
NW	25	20%	12%	44%	0%	24%
NC	12	0%	0%	50%	8%	42%
NP	50	2%	6%	36%	6%	50%
WC	36	6%	3%	67%	6%	19%
SA	372	9%	6%	50%	5%	31%

Figure 4 presents the data from Table 7 divided by rural/urban client base. The pattern of information available is very similar for urban and rural areas, with the most common response in all three categories being that clinic staff make use of other guidelines when treating HIV+ children.

Figure 4: Information used to treat HIV+ children by rural / urban client base



6.3 Administration of cotrimoxazole as a prophylaxis

One third (33%) of the clinics reported that they administer cotrimoxazole as a prophylaxis to HIV+ children. 40% reported not administering cotrimoxazole to HIV+ children at all. 27% of the clinics reported administering cotrimoxazole as a treatment (see Figure 5).

Figure 5: Administration of cotrimoxazole nationally

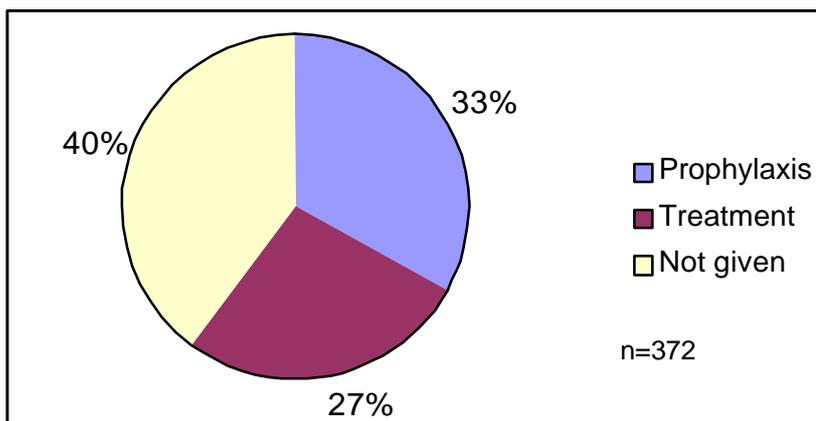
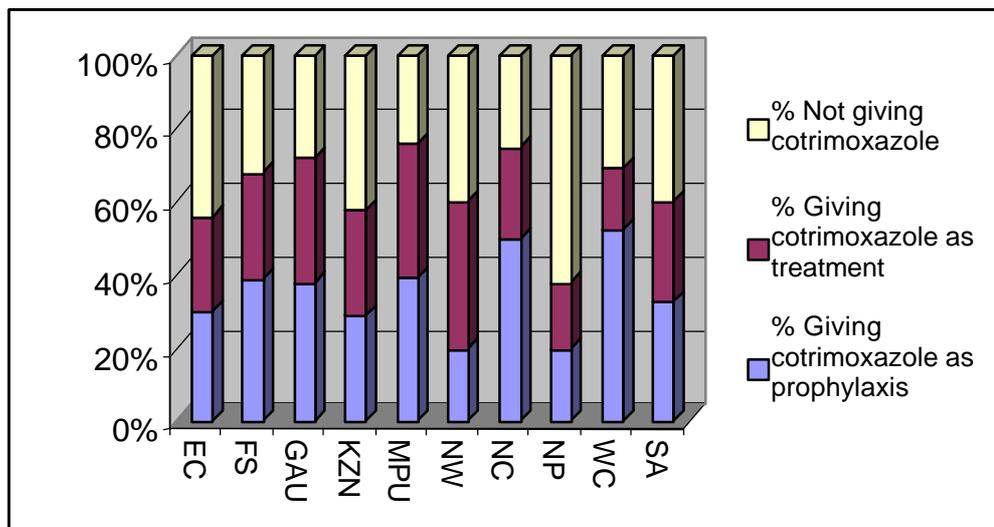


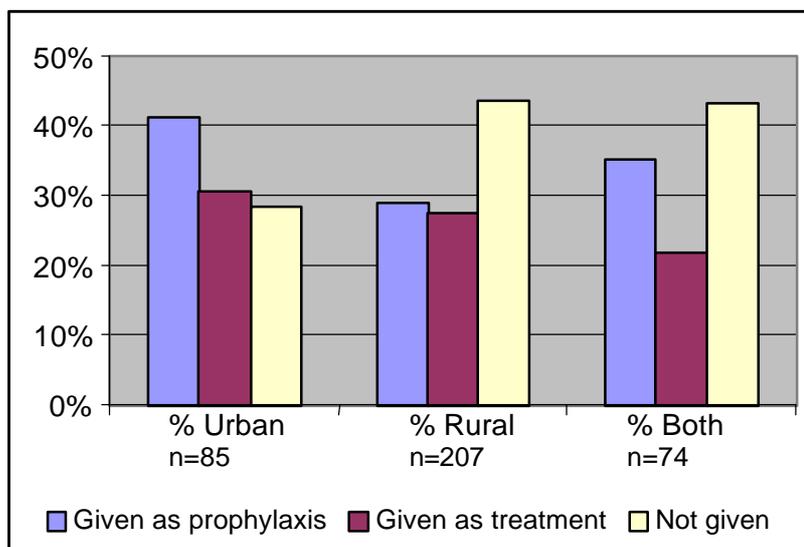
Figure 6 below breaks these results down by province.

Figure 6: proportion of clinics within each province administering cotrimoxazole as prophylaxis, treatment or neither.



Data analysis showed that 41% of clinics in urban areas were administering cotrimoxazole as prophylaxis, compared to 29% in rural areas. The figure below shows a breakdown of the results.

Figure 7: Administration of cotrimoxazole by rural / urban client base



Of the 124 clinics that reported routine use of cotrimoxazole prophylaxis only 5 (4%) specified that the dose was weight related (this is the correct way of administering cotrimoxazole prophylaxis). Most respondents specified a 5ml twice a day dosage (treatment dose), whilst a few indicated that the dose varied according to age.

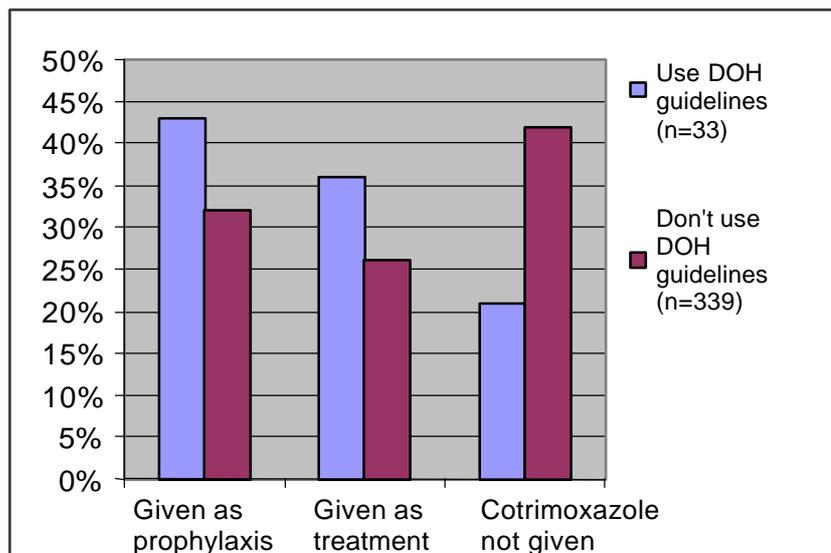
100 clinics (27%) specified that cotrimoxazole was used as a therapeutic option for children who were ill. The drug was prescribed in 37% of clinics for upper and lower respiratory tract infections, in 30% of clinics for diarrhoea, and occasionally for other conditions such as urinary tract infections.

40% of clinics (149 clinics) reported not giving cotrimoxazole as either a treatment or prophylaxis. The 3 main reasons given by respondents for why cotrimoxazole was not administered are:

1. No guidelines for administering the drug (15%)
2. Don't have cotrimoxazole (9%)
3. HIV+ children are referred to doctor or hospital (76%)

A comparison was done between the administration of cotrimoxazole (as treatment or prophylaxis) in those clinics that use the DOH guidelines and those that do not. Figure 8 shows the findings.

Figure 8: Administration of cotrimoxazole in clinics which use the DOH guidelines compared to those which do not.

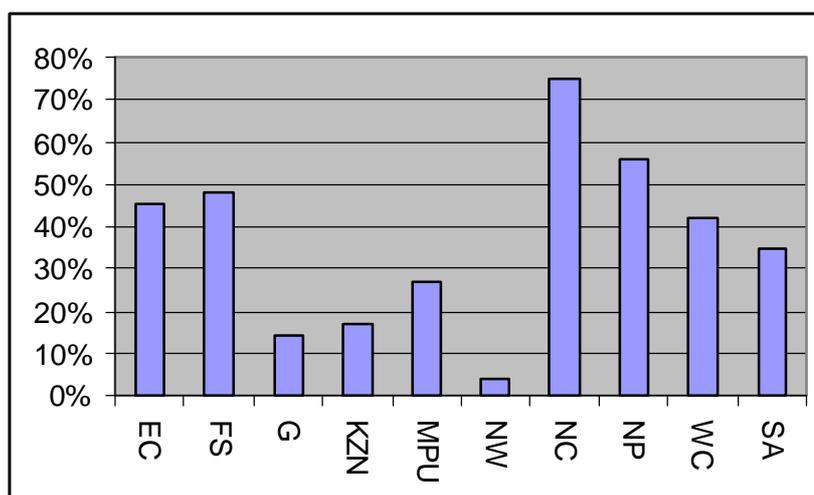


43% of clinics that use the guidelines administer cotrimoxazole as prophylaxis, compared with 32% of clinics that do not use the guidelines.

6.4 Vitamin A supplementation

Nationally, 35% of the clinics reported that they routinely administer Vitamin A to HIV+ children (i.e. according to an age based regimen). The figure below shows the breakdown by province.

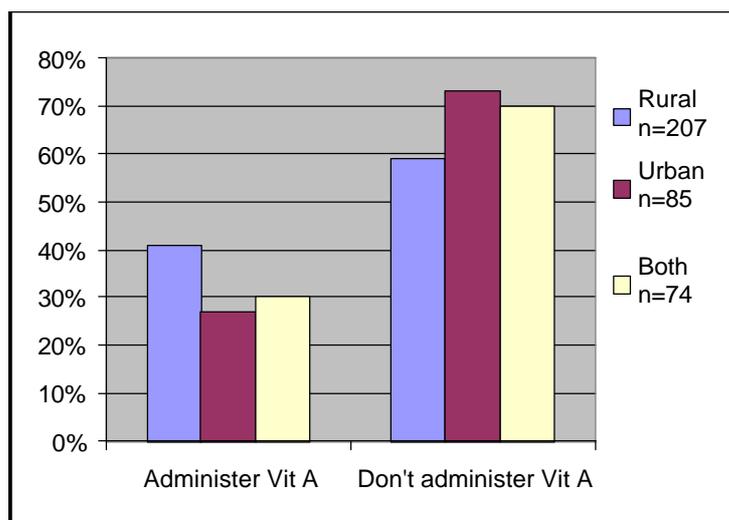
Figure 9: Proportion of clinics per province that administer vitamin A to HIV+ children.



65% of the clinics reported that they did not administer vitamin A to HIV-positive children. From the responses it was clear that the majority of these clinics were not discriminating against HIV-positive children, but were not administering vitamin A to any of the children using their services.

Vast differences can be seen between provinces in the proportion of clinics that reported that they administer vitamin A to HIV-positive children.

Figure 10: Proportion of clinics that administer Vitamin A to HIV+ children, by rural / urban client base



Of the 130 clinics where vitamin A was dispensed, only 20 (15,4%) clinics prescribed the appropriate and correct regimen for HIV infected children. In a few cases where vitamin A was not given to HIV+ children (16 clinics), vitamin A was given to women in the immediate post-partum period.

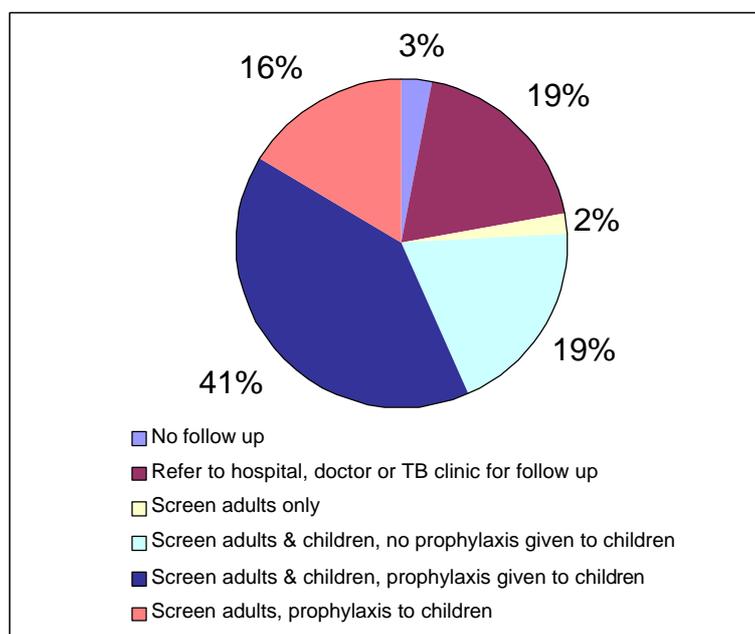
6.5 TB contact tracing

Only 11 (3%) clinics reported that they do not do any contact tracing. The most common reasons for not doing contact tracing were staff shortages (4) and the fact that the clinic did not have a vehicle (3).

A mechanism for contact tracing for children who were exposed to a case of TB was reported in the remaining 358 clinics. Contact tracing mechanisms included referrals for follow up, home visits (by clinic staff, community health worker, health inspector or volunteers) or asking the TB patient to bring contacts to the clinic.

The type of follow up offered to children exposed to TB varied and the results are displayed graphically in the figure below (n=365 because 7 of the clinics did not specify type of follow up).

Figure 11: Clinic follow up offered to TB contacts.

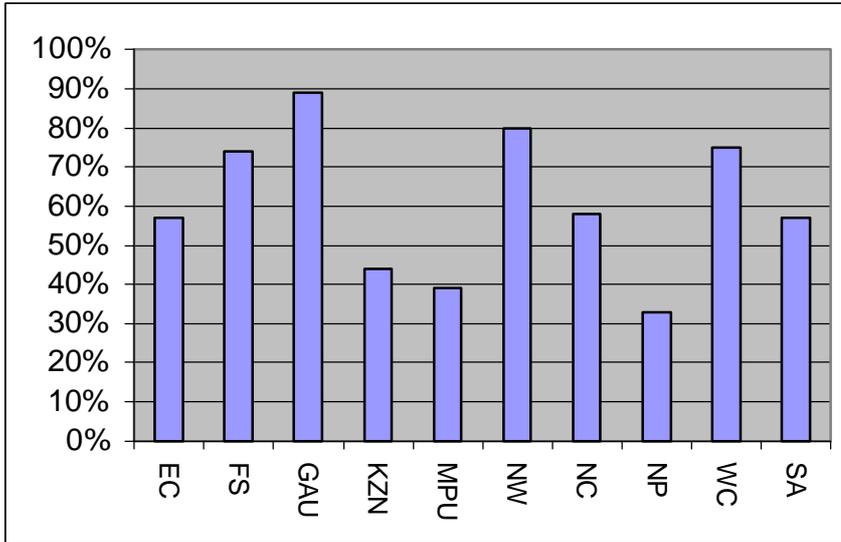


A total of 207 clinics (57%) reported administering TB prophylaxis to children exposed to TB.

Of the 207 clinics that administered TB prophylaxis to children, 154 clinics (74%) reported that child contacts received specific prophylactic agents and 124 (60%) reported correctly that children under 5 years of age should be given prophylaxis. In 70 clinics INH was the prescribed drug. Of these clinics, 36 clinics prescribed INH for 3 months; 30 for 6 months (the correct regimen) and 4 for 4-6 months. In 84 instances rifampicin on its own or in combination with INH was prescribed.

The proportion of clinics per province that administered TB prophylaxis to child contacts varied. As can be seen from the figure below, the proportion of clinics that administered TB prophylaxis to child contacts ranged from 88% in Gauteng (n=27) to 33% in the Northern Province (n=49).

Figure 12: Proportion of clinics in each province that administered TB prophylaxis to children

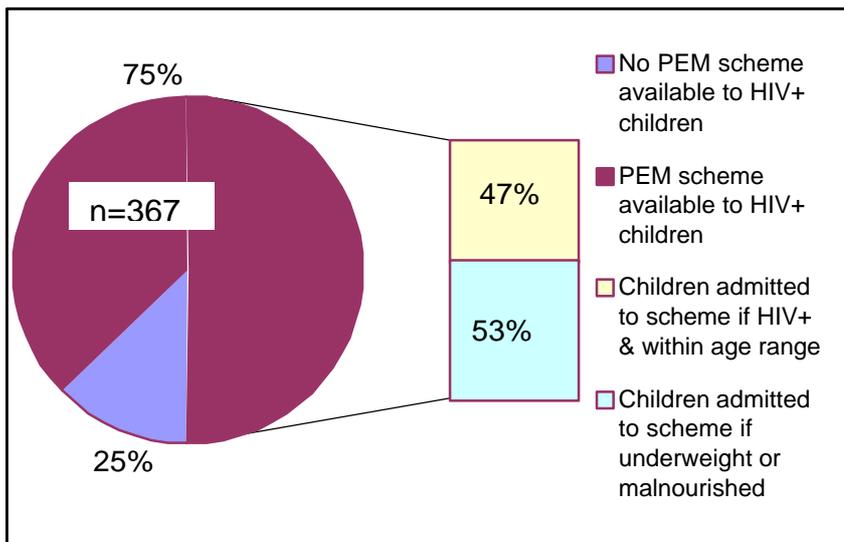


A comparison was made between the TB contact tracing provided at rural and urban clinics. 61 urban clinics (73%) reported providing TB prophylaxis to children compared with 96 rural clinics (47%). 51 rural clinics (25%) reported that they refer child contacts to a hospital, doctor or TB clinic for follow up. This compares with 13 urban clinics (16%).

6.6 Nutritional supplementation through the Protein Energy Malnutrition Scheme

Only 367 clinics provided a response to questions related to the PEM scheme. 276 of these clinics (75%) reported that they included HIV+ children on the PEM scheme.

Figure 13: Criteria for inclusion of HIV+ children on the PEM scheme

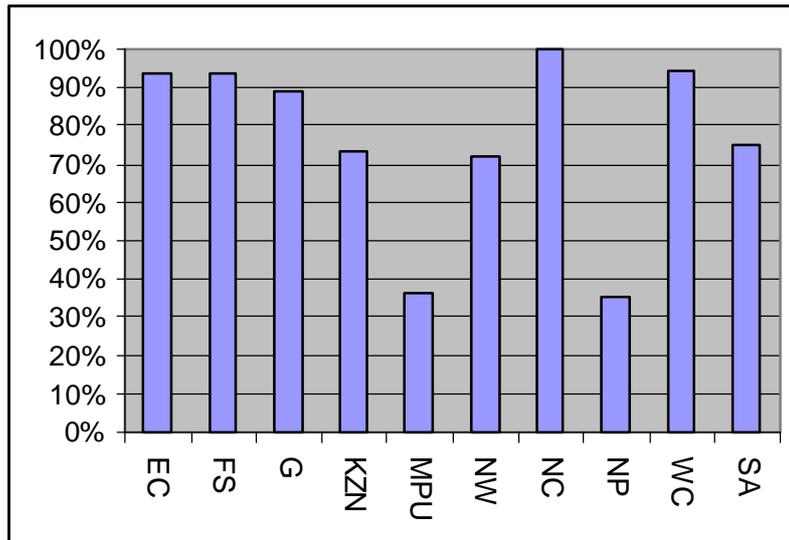


In 47% of the clinics that included HIV+ children on the PEM scheme, a child (within the correct age range) who was HIV+ automatically qualified for the scheme. In the

remaining 53% of cases where PEM schemes were available, the HIV+ child had to be underweight / malnourished to qualify.

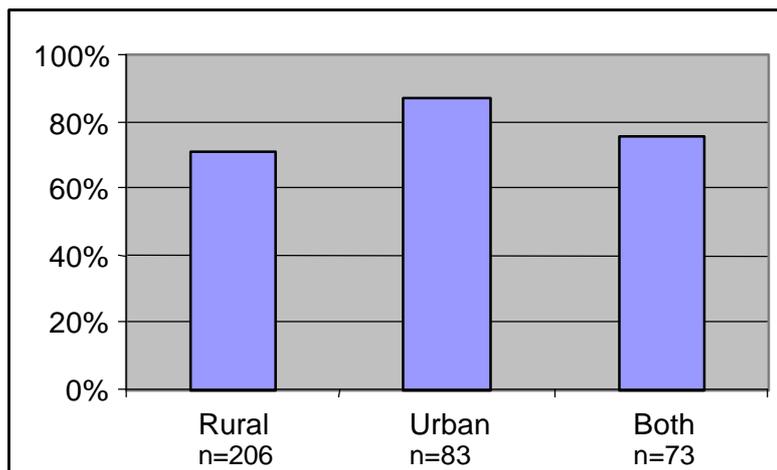
The percentage of clinics providing the PEM scheme to HIV-positive children varied quite substantially between provinces with 100% of clinics in the Northern Cape reportedly administering the scheme, compared with just over 30% of clinics in the Northern Province and Mpumalanga.

Figure 14: Proportion of clinics by province that include HIV+ children on the PEM scheme



Data analysis showed slight differences between the availability of PEM schemes in rural and urban clinics.

Figure 15: Proportion of clinics that offer a PEM scheme to HIV+ children by rural / urban client base



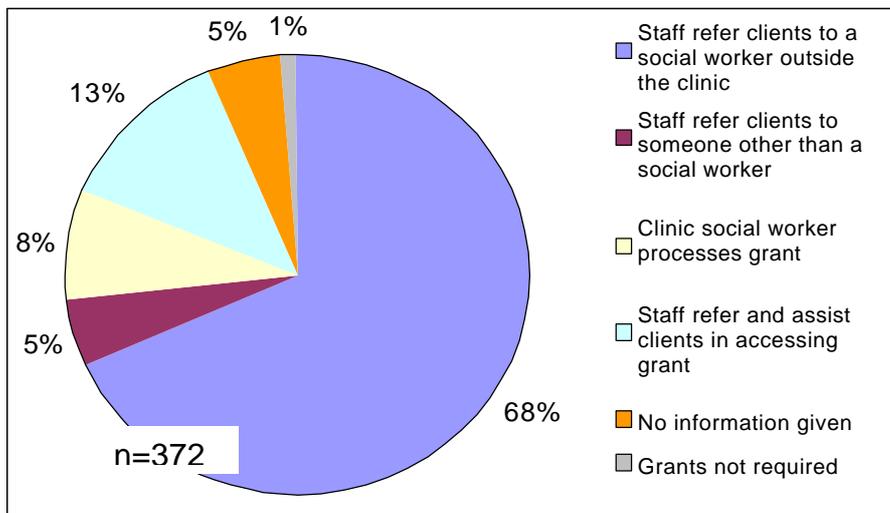
Over 90% of the clinics that did not provide HIV+ children with nutritional supplements cited unavailability of the porridge or formula at the clinic as the main reason for not giving it. It can therefore be assumed that these clinics were not providing any children (HIV-infected or not) with supplements through the PEM scheme. Irregular supplies of porridge and formula was also a problem for those clinics that did administer the PEM scheme.

Many clinics reported that they often provided advise to caregivers on the importance of a nutritionally balanced diet for HIV+ children.

6.7 Accessing social assistance grants

In 79 clinics (21%), clinic staff reported that they assisted clients in accessing a grant. In these cases, either a clinic-based social worker processed a grant application, or the nursing staff assisted the client in applying for a grant (types of assistance included making appointments for clients with a social worker, helping the clients to complete a grant application form or writing a letter of introduction on behalf of the client).

Figure 16: Assistance offered with accessing social security grants



253 clinics (68%) reported that they referred clients to social workers for grant applications without providing any form of assistance. When asked to provide the interviewer with details on a grant that could be accessed by a caregiver with an HIV+ child, 61 of the interviewees (16%) could not provide details on any of the grants.

Table 8 shows the difference between the assistance provided in rural and urban clinics.

Table 8: Assistance offered by clinic staff to caregivers in need of social security grants arranged by rural / urban client base

Assistance offered	% Both n=74	% Rural n=207	% Urban n=85
Social worker comes to the clinic to process grant applications	8%	7%	9%
Staff refer client to an external social worker and assist client in accessing grant	19%	12%	7%
Staff refer client to an external social worker and provide no further assistance	64%	68%	76%
Staff refer client to someone other than a social worker	7%	6%	1%
No information given	3%	6%	2%
Grants not required	0%	0%	4%

In both urban and rural areas, the majority of clinics referred clients to a social worker outside of the clinic.

7. DISCUSSION

This study was designed to determine the practical implementation of DOH policy and guidelines for the care and treatment of HIV-positive children at primary level health care facilities. Data was collected telephonically, through a *rapid appraisal*. The research design was selected in order to quickly identify problem areas where more in-depth assessment is needed.

In most instances clinic managers were willing to talk with the interviewer and many were even relieved to be able to speak to someone about the problems and challenges they face. A few were however very reluctant to speak about services for HIV+ children and one clinic manager went so far as to say: “I am afraid, I am afraid” and then put the phone down. Health care workers are at the forefront of the HIV/AIDS pandemic and clinic managers highlighted the need for staff support. “People are dying like flies” – a comment by one of the clinic managers that encapsulates the desperation expressed by many of the research participants.

Human resource constraints, irregular supplies of drugs and poor infrastructure were repeatedly cited as problems that impact on the clinic’s ability to provide the recommended interventions.

Stigma surrounding HIV/AIDS was also cited as a barrier to service delivery. Clinic managers reported that parents are reluctant to have their children tested for HIV and when they know the child’s HIV+ status, are reluctant to share this information with clinic staff.

7.1 Availability, knowledge and use of DOH guidelines

Many of the clinic managers who were interviewed requested copies of the DOH guidelines and indicated that they were urgently needed. The rapid appraisal has

highlighted the fact that these guidelines are not widely available at clinics. Between 65 000 and 70 000 copies of the guidelines were originally printed. The responsibility for distribution to clinics and other health facilities fell with the provincial HIV/AIDS directorates. The National Department of Health reportedly distributed copies to the provinces from where the document should have been distributed to clinics. Copies were also made available on request from the “Beyond Awareness Campaign”, the company awarded the government tender to distribute health information and promotional material.

The National Department of Health have indicated that they will be reprinting and distributing the guidelines. Effective distribution of the guidelines is obviously dependent on there being a database of health facilities that is maintained and regularly updated.

Many of the clinics that did not have the DOH guidelines reported using a range of other guidelines. These guidelines often provide different information for the treatment of the same condition eg. the DOH guidelines for the administration of Vitamin A and cotrimoxazole differs slightly from the IMCI guidelines for the administration of Vitamin A and cotrimoxazole. Apart from the fact that this leads to confusion, it could also impact on the quality of the treatment received by the child.

Over 30% of the clinics reported that, in the absence of guidelines for the treatment of HIV+ children, these children were automatically referred to the nearest hospital or available doctor for assessment and treatment. The research did not ascertain what proportion of these children were then referred back to the clinic for ongoing care and support. The referral of children to secondary level facilities for conditions that could be handled at primary level facilities has implications for service providers and clients, particularly in rural areas where this pattern was more common and transport is problematic. Training and support for primary level facility staff could reduce the rate of referral by building staff capacity and confidence.

It was not possible to determine the extent to which the guidelines were being appropriately used because of the very small number of clinics that reported using the guidelines.

7.2 Cotrimoxazole

PCP is the most common opportunistic infection in the first year of life and can be prevented through prophylaxis with cotrimoxazole. However, only a third of the clinics sampled had such a policy in place. Even at these clinics the prescribed dosage in most instances was inappropriate. Only 5 clinics indicated the correct manner of prescription i.e. a weight dependent dose.

The situation will hopefully improve when the prevention of mother to child transmission intervention rolls out to all the districts in the country. This programme allows for the early identification and follow-up of the HIV exposed infant, including cotrimoxazole prophylaxis from 6 weeks of age.

It is also rather disconcerting to note that 26% of the clinics surveyed were using cotrimoxazole as a therapeutic option for acute respiratory (ARTI) and gastrointestinal tract infections. Such a policy is incorrect since most of the pathogens causing ARTI are generally resistant to cotrimoxazole²⁰ and the current SA national IMCI guidelines for the management of acute respiratory tract infections recommend amoxicillin as the first line of treatment. In addition cotrimoxazole is not

recommended for the treatment of gastro-intestinal infections²¹. Training on the appropriate use of prophylactic cotrimoxazole and the correct use of antibiotics in general, is therefore essential.

In the vast majority of clinics that did not administer cotrimoxazole, the reason given was that the clinic referred all HIV+ children to hospitals. This practice was more common in rural clinics than in urban clinics, which could be a result of the fact that urban clinics are more likely to be better resourced and have access to staff training and drug supplies.

7.3 Vitamin A

In 1994 the SAVACG highlighted the problem of vitamin A deficiency in preschool children⁸. This national survey indicated that a third of all children under the age of 6 years was vitamin A deficient. SAVACG made a number of recommendations including guidelines for vitamin A supplementation (VAS). The Department of Health has developed a VAS policy and distributed a handbook to primary care workers describing the importance of vitamin A deficiency and highlighting interventive measures. Vitamin A is also recommended for HIV positive children.

It is disturbing to note that only a third of clinics sampled were aware that Vitamin A should be prescribed for HIV positive children and that only 20 clinics had knowledge of the appropriate regimen. One of the major stumbling blocks in implementing the VAS policy has been the availability of vitamin A capsules and this may account for the extremely low coverage. While it was not specifically asked, it can be assumed from the responses that most of the clinics that did not administer Vitamin A to HIV+ children, did not administer Vitamin A to children generally.

Interestingly, unlike with the administration of cotrimoxazole, a greater proportion of rural clinics than urban clinics reported administering Vitamin A to HIV+ children.

7.4 TB contact tracing

Most of the clinics reported that they had a system for following up child contacts of adult cases of TB. However, it was not clear from the responses how many of the clinics actually conducted home visits. Many clinics reported that their contact tracing involved asking the TB patient to bring contacts to the clinic. The reliability of this mechanism for contact tracing requires further research, particularly in the case of households with HIV+ children.

While the majority of the clinics reported that they provided prophylaxis for child contacts under the age of 5 years, only 30 of them provided the appropriate regimen of treatment. The provision of TB prophylaxis was more common in urban areas (73% of clinics) than in rural areas (47% of clinics), whereas referral to hospitals for follow up was more common in rural than in urban areas. This is similar to the pattern which emerged in the administration of cotrimoxazole.

The research indicates a pattern, particularly in rural clinics, of clinic staff referring HIV+ children to hospitals or doctors for treatment. In rural areas, where transport is expensive and unreliable, the chances are good that a child who is referred to a hospital many kilometers away may not be able to access the necessary treatment.

7.5 PEM scheme

The impact of HIV/AIDS on childhood malnutrition can be observed at many levels. HIV infection in children compromises their nutritional status and with poor nutritional status, disease progression is hastened. This creates a vicious cycle that undermines the health of the infected child⁴.

It is therefore reassuring to note that the vast majority (75%) of clinics reported that they included HIV+ children on the clinic's PEM scheme. However, while the intention was there, in many instances milk formula and PVM porridge were not available and mealie meal and beans were commonly used alternatives.

Poor health and increased rates of stunting are common among children living in HIV-infected households²². Acknowledging the increased vulnerability of these children, a few clinics reported that they include children on the PEM scheme who are not HIV+ but who are living with an HIV+ caregiver.

The removal of children from the PEM scheme on the basis of weight gain is problematic. Children are removed from the scheme when they are no longer considered to be "at risk". At present, this is based largely on the child's weight gain, with little consideration given to the socio-economic circumstances in which the child lives. In households affected by HIV or where an AIDS related death has occurred, the child will remain vulnerable to malnutrition until the socio-economic circumstances in the household improve. The PEM scheme may be the child's only regular source of food and once removed from the scheme, the child is once again made vulnerable to severe malnutrition.

7.6 Social assistance grants

Almost all of the clinic managers reported that where needed, clinic staff referred clients to social workers for grant applications. In a few of the clinics, staff also provided some form of assistance to the client in the application process. However, 1 out of every 6 clinic managers who were interviewed were not able to provide details on a single grant available to children who were HIV affected.

The clinic environment provides an ideal opportunity for sharing information on social security and clinic staff should be informed of what is available and kept up to date on the latest developments with respect to accessing grants. Grant application forms could be made available at clinics, as well as information on how to apply for a grant and how to obtain the necessary documents. Collaboration between the Departments of Health, Social Development and Home Affairs could go a long way towards improving the take up of the much needed child support grant.

7.7 Recommendations

1. One set of reliable, comprehensive and easy to use guidelines on the management and treatment of HIV in children needs to be available at primary level health care clinics and should be accompanied by training on the use of the guidelines.
2. Systems need to be in place to monitor, on an ongoing basis, the implementation of interventions such as the Vitamin A supplementation programme and the PEM scheme.

3. Systems for the ordering and management of stocks of pharmaceuticals could be included in the training of clinic managers to reduce the chances of clinics running out of stock of vital medications or supplements. At the same time, district health managers should ensure that basic medications and supplements are available to clinics.
4. Because PCP is preventable, training is needed for health care workers on the appropriate use of prophylactic cotrimoxazole.
5. Management support for health care workers is essential in order to assist them to cope with the additional burdens placed on them as a result of the HIV/AIDS pandemic.
6. The criteria for accessing the PEM scheme need to be reviewed in light of the impact of HIV/AIDS on children. All children at risk, including HIV+ children and children with HIV+ caregivers, should be provided with nutritional supplements through the PEM scheme. The socio-economic conditions in which the child lives should be taken into consideration when considering removing the children from the scheme and the child should not be removed purely on the basis of weight gain.
7. Practical steps could be taken to assist caregivers of HIV+ children to access the financial support that would better enable them to care for their children, such as making grant application forms available at clinics.
8. Infrastructural needs of clinics (including access to telephone and electricity) should be addressed as a matter of priority.
9. An accurate and up to date list of clinic contact details should be available to facilitate research, monitoring and support.
10. There is a need for stigma to be acknowledged as a serious barrier to accessing services and for this issue to be prioritised.

7.8 Further research required

1. Further research is needed to explain the differences in the implementation of interventions between provinces, between rural and urban areas and even between clinics with similar resources. Such research could draw on the experiences of clinic and district managers where interventions are being successfully implemented.
2. Research is needed to establish the reasons for drug and supplement shortages at clinic level in order for practical steps to be taken to overcome this problem.
3. More research is needed into the reasons why so many clinics reported that they refer HIV+ children to hospital for treatment and on the impact of this practice on the care and treatment of HIV+ children.
4. Research is needed into the reliability of contact TB tracing that relies on the patient bringing household members to the clinic for treatment. This is particularly relevant in households with HIV+ children where stigma and poverty are potential confounding factors.

5. More information is needed on what happens to HIV+ children (or children living with an HIV+ caregiver) when they are removed from the PEM scheme purely on the basis of weight gain. This research could include a comparison between the costs of providing the supplements versus the costs of possible future hospitalisation if the child is removed from the scheme.
6. Research is needed into the health outcomes for children who are able to access the recommended interventions and how their outcomes compare with children who are not able to access the recommended interventions.

8. LIMITATIONS

As indicated earlier, 101 (27%) of the clinics in the original sample were not contactable by telephone. By excluding these clinics from the sample, it is likely that the results that are presented are biased. Clinics without telephones are likely to be less well resourced than clinics with telephones and, had we been able to collect information from these clinics, we expect that the results would have shown a smaller proportion of the clinics were providing the recommended interventions.

In many instances, the researcher had to call the same clinic several times in order to make contact with the clinic manager who was not always available. While most of the research participants were happy to be interviewed (some were even grateful to have the opportunity to talk about their problems), many were reluctant and even fearful of answering questions related to HIV. The interviewers reported that many of the participants felt threatened by the questions relating to knowledge of the national guidelines. Once they were assured of the anonymity of the study however, they seemed more relaxed.

The interviews were conducted predominantly in English and, while this was not found to be a major problem, the fact that interviews were not conducted in the interviewee's first language is a limitation of the study.

In many instances, the responses given by clinic staff raised issues that required further questioning and clarification. The research was not able to explore each of these issues thoroughly. As a result, the researchers are unable to provide further insight into why certain patterns emerged eg. the referral of HIV+ children to hospital for treatment.

The fact that the results were not validated with follow up visits to the clinic is another shortcoming of the study. In a few instances where more than one member of staff from a particular clinic was interviewed, different responses were obtained for the same questions. However, due to the nature of the study (rapid appraisal), the decision was taken that the results would be presented on the basis of the telephonic interviews and that follow up studies could be conducted to look in more detail at each of the issues raised. These studies could include site visits to clinics.

9. CONCLUSION

In summary, the rapid appraisal found that interventions known to improve quality of life in HIV+ children are not being adequately implemented in clinics around South Africa. The main reasons for this are lack of training on how to implement recommendations and sporadic / non-existent supplies of the necessary medication and supplements.

The Department of Health has made it a priority to support children with HIV infection and have taken several steps to improve on health sector service delivery in this regard. It is hoped that this study and its recommendations will assist the Department in its efforts.

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