

**AN ANALYSIS AND EVALUATION OF THE CHILD SURVIVAL PROJECT
IN THE uTHUKELA DISTRICT OF KWAZULU-NATAL**

By

JD PILLAY
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Department of Community Health
Nelson R Mandela School of Medicine
University of Kwazulu-Natal

Supervisor: Dr S Knight

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To my girlfriend Millidhashni

***for her special friendship, guidance and comfort in all the
time we have been together***

DECLARATION

This research has not been previously accepted for any degree and is not being currently submitted in candidature for any degree.



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JD Pillay

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SUPERVISED BY: Dr S Knight
Dept of Community Health
Nelson R Mandela School of Medicine
University of Natal
Durban

ABSTRACT

The uThukela District in the province of Kwazulu-Natal, Republic of South Africa, has been involved in improving Primary Health Care (PHC) in the district through evaluation surveys carried out at regular intervals during the past six years. World Vision's uThukela District Child Survival Project (TDCSP) began in November 16, 1999. This has been made possible by a Child Survival Grants Program from the United States Agency for International Development (USAID). In all previous surveys a 30-cluster sampling methodology was used to select individuals from the survey population. This time however, the Lot Quality Assurance Sampling (LQAS) methodology was used. The recent re-organisation of the District into municipalities enabled each municipality to function as one Supervision Area (SA) or Lot. Even with a small sample size (in this case 24 per SA), poor health service performance could be identified so that resources are appropriately distributed. Furthermore, people from the community such as Community Health Workers (CHW) were involved in all phases of the study, including the manual analysis of the results, upon being trained appropriately. However, it is questionable as to how accurate and reliable such a manual analysis was.

In this dissertation, the manual results of the study were evaluated by doing an electronic analysis. In addition, a more refined analysis of the data has been produced (e.g. population-weighted coverage, graphs and stratified analyses in some cases). From the comparisons made, it was concluded that the manual analysis was very similar to the electronic analysis and that differences obtained were not statistically significant. In addition, due to each municipality varying in population size, it was queried as to whether population-weighted results would produce a marked difference from the un-weighted, manual results. Again, the differences produced were in most cases not statistically significant.

This concluded that the manual analysis carried out by the TDCSP team was accurate and that it is appropriate to use such results in determining individual municipality performance and overall District performance so that responsive action can then be taken immediately, without necessarily having to wait for electronic results.

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infection
BCG	Bacille de Calmette Guérin Vaccine
CDD	Control of Diarrhoeal Disease
CHW	Community Health Worker
CI	Confidence Interval
CSP	Child Survival Project
DHS	District Health System
DDoH	District Department of Health
DoH	Department of Health
DPT	Diphtheria, Pertussis, Tetanus Vaccine
EPI	Expanded Program on Immunisation
HBV	Hepatitis B Virus
HIS	Health Information System
HIV	Human Immunodeficiency Virus
IMCI	Integrated Management of Childhood Illness
KPC	Knowledge, Practice and Coverage
KZN	Kwazulu-Natal
LQAS	Lot Quality Assurance Sampling
MCH	Maternal/Child Health
MTCT	Mother-To-Child-Transmission
NGO	Non-governmental Organisation
OPV	Oral Poliovirus Vaccine
ORS	Oral Re-hydration Solution
ORT	Oral Re-hydration Therapy
PHC	Primary Health care
PVO	Private Voluntary Organisation
REA	Rapid Epidemiological Assessment
RSA	Republic of South Africa
RTHC	Road To Health Card
SA	Supervision Area
SSS	Sugar Salt Solution
STI	Sexually Transmitted Infection
TDCSP	Thukela District Child Survival Project
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation
WVSA	World Vision South Africa

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CHAPTER 1

BACKGROUND TO THE STUDY

1.1 INTRODUCTION

The uThukela District of the Northern Drakensberg Region, in the province of KwaZulu-Natal, Republic of South Africa, has been involved in improving PHC for more than a decade. World Vision South Africa (WVSA) began the TDCSP on the 16th of November 1999, with the aim of improving the health status of the population of the area through improved PHC delivery (World Vision South Africa, 2000). The current project has been made possible by a grant from the USAID's Child Survival Grants Program (World Vision South Africa, 2000).

One of the unique features of health development work in the uThukela District has been the emphasis on measurement of health and health service delivery. The successful motivation for the TDCSP was partially the result of an extensive desktop survey of existing data and information, which highlighted poor health status and sub-optimal PHC in the area.

The two major aims of the evaluation process were to provide rapid, community-based results for health managers, and to provide a basis for operational research for future program interventions (World Vision South Africa, 2000).

The first formal evaluation of the TDCSP used a cluster sampling method to evaluate the coverage of health interventions. Using this sampling strategy limited the intervention indicators or health status indicators to the whole study population without being able to disaggregate information to the composite functional units (World Vision South Africa, 2000).

The LQAS methodology was proposed as an alternative sampling format so that coverage and health status indicators in functional areas or lots within the study population could be reliably

compared. The recent re-organisation of the uThukela district into five municipalities (World Vision South Africa, 2000) has meant that each newly demarcated municipality would serve, according to the LQAS methodology, as a lot/SA and be the responsible planning unit for service delivery in the future.

Using the LQAS methodology enabled program directors to identify those municipalities with inadequate services, and which therefore required special attention. With a relatively small sample size, LQAS was used to accurately detect extremes of performance between municipalities. In a health system, a municipality or SA that is equal to or below the average performance threshold are identified so that resources can be specifically invested in them (World Vision South Africa, 2000).

One of the advantages of the LQAS method of sampling is that the coverage or prevalence of a particular indicator can be determined for the study population, as well as supervision areas that are performing below average (Lanata and Black, 1991). This is an immense benefit of LQAS as people are able to analyse data for themselves relatively easily and quickly, without waiting for computer analyses (Lanata and Black, 1991). Responsive action can then be taken at the municipality (lot) level without delay.

In the primary survey, a hand tabulation method/procedure (manual collection and analysis) was conducted by the interview team within two days of completing the fieldwork. Information about Supervision Areas and coverage for the district was ready at the end of it.

The health district managers questioned the reliability of only doing hand tabulation of the results.

As each municipality had a different sized population, it was queried whether the results needed to be weighted according to population size, and whether more useful information could be obtained from the data with a more detailed electronic analysis.

An electronic analysis would allow for a more refined analysis and also weighting of the coverage where municipalities in the district had different sized populations. Due to the probable biases, such as human error, which may be expected from the manual analysis, an electronic analysis was necessary to test for accuracy of the manual analysis.

The study undertaken in this report looks at a secondary analysis of the data that was collected as part of the TDCSP mid-term evaluation.

1.2 OVERVIEW OF THE uTHUKELA DISTRICT CHILD SURVIVAL PROJECT

The uThukela District is home to approximately 585,000 people living in five municipalities. Ninety percent of the population are poor Africans living mainly in tribal areas (80.0%), but also on adjoining freehold land (10.0%) and white-owned farms (10.0%). (World Vision South Africa, 2000)

The TDCSP was started in this district because some of the key health status indicators measured were worse than national and provincial levels (World Vision South Africa, 2000).

1.2.1 Background statistical information of the uThukela District

The maternal/child morbidity and mortality rates of this mainly black, rural population was higher than the national average. Although information is not available on each of the municipalities, the following figures are taken from an Annual Statistical report prepared for the Okhahlamba/ Mtshezi sub-district (which now makes up two municipalities of the uThukela District). The information was derived from hospital records and the 1999 Knowledge, Practice and Coverage (KPC) Survey of this sub-district.

The *Neonatal mortality rate* was reported to be 22/1000 live births. In reality, this may be slightly higher as deaths of newborns delivered at home are often not registered. The Provincial average is 7/1000 live births in public hospitals. (Statistics South Africa, 2002)

The reported *Stillbirth rate* was 33/1000 deliveries. This was nearly double the reported provincial average of 19/1000 deliveries (Statistics South Africa, 2002).

The *low birth weight rate* for babies delivered in facilities was 10.7%, which was near the national level of 10.0% (Statistics South Africa, 2002). The actual rate may be higher, however, as this estimate does not include babies delivered at home.

The District Department of health (DDoH) demonstrated commitment to improving linkages with the community and strengthening PHC.

WVSA had a 15-year partnership with the community and clinics in this area with regard to nutrition, education and rehabilitation programs, CHW training, and several youth education programs related to health, sexuality and Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) education.

As a method of evaluating the effectiveness of these programs, a number of KPC surveys were carried out to gather information on current behavioral practices, so that further interventions could be put in place in areas of need. These surveys confirmed the need for further support. As a result, the project developed interventions in four technical areas namely Maternal Care; Integrated Management of Childhood Illness (IMCI); HIV/AIDS and Well-being; and Health Information Systems and the development of a learning site.

The area is both geographically and strategically suitable for scale-up of the original program. Since the implementation of the initial Bergville District Child Survival Project, a major reorganisation of the entire district has taken place. The 'old' Bergville District is now called the Okhahlamba Municipality, which is only one of 5 municipalities in the uThukela District. The 4 other municipalities are Mtshezi/Estcourt and Mbabazane, which were the 'old' Mtshezi sub district, and Mnambithi/Ladysmith and Ndaka municipalities, which were the 'old' Mnambithi sub district (World Vision South Africa, 2000). Since 2000, the TDCSP has reorganised its activities around the new municipal boundaries and operates in the whole health district.

1.2.2 The Role of Evaluation in the TDCSP

The increased growth in size and complexity of international health programs has been accompanied by a rising demand for information on a programs performance. This demand can be summarised under two broad headings: monitoring and evaluation.

1.2.2.1 Defining monitoring and evaluation activities

Monitoring determines whether a program has been implemented as planned and evaluation measures its results (Valadez, 1991).

In the TDCSP, the demand for program assessment came initially from national and international funding agencies requiring accountability. The purpose of evaluation in this case was to measure the results of a health intervention, namely whether the objectives have been achieved, particularly in terms of cost per program benefit (World Vision South Africa, 2000).

1.2.2.2 Baseline situational analysis

A KPC survey was carried out 10 years ago at the request of USAID in order to provide a uniform approach to baseline and final data collection in child survival programs. Its purpose was, to be a standardised, scientifically valid, reliable, low-cost management and evaluation tool.

Cluster sampling was proposed as a reliable and cost-efficient method to gather information required and has been the primary sampling method used in KPC surveys in the uThukela District over the last 10 years.

In September 1999, a baseline KPC survey was carried out to provide a general profile of the study population with regard to key indicators used. A cluster sampling method was adopted, as was used for all of the previous KPC surveys conducted in this district.

1.2.3 Mid-term Evaluation of the TDCSP

In February 2000, a mid-term evaluation was conducted.

1.2.3.1 Aim of the mid-term evaluation

The aim of the mid-term evaluation was to assess the achievements gained since the previous KPC survey and to determine further interventions for program planning and development.

1.2.3.2 Method of mid-term evaluation

Due to the limitations of the cluster sampling method, as discussed in the Literature Review (Chapter 2) of this report, the LQAS sampling methodology was used as an alternative. It is the secondary analysis of the data obtained, and comparison with the preliminary analysis that forms the basis of this report.

The LQAS methodology used for the survey involved taking small random samples in “lots” in the district. The “lots” chosen were each of the five municipalities, and 24 random samples were taken from each. This is a form of stratified random sampling and leads to a sample size of 120 for the whole district. In addition, to being able to calculate coverage for the district, values can be obtained for each municipality and assessed to determine if that municipality is meeting certain predetermined targets.

1.2.3.3 Type of study

The primary study was an observational cross-sectional descriptive study.

1.2.3.4 Study population

The total population of the uThukela District was 595 676 (World Vision South Africa, 2000), with each municipality comprising the following population:

Mbabazane:	117 044
Mtshezi:	52 967
Ndaka:	106 099

Mnambithi:	192 059
Okhahlamba:	127 507

The TDCSP mid-term evaluation used 3 parallel study populations. These were: Mothers of infants 0-11 months; Mothers of children 12-23 months of age; and Women 15-49 years of age. For each of these study populations, 24 questionnaires were administered per SA.

1.2.3.5 Sample size

The sample size was calculated to be 96. This assumes a coverage of 50% with a variability of 10% and 95% confidence limits and random sample selection. The sample of 96 was divided into 4 parts for each of the 4 municipalities. An additional sample of 24 was allocated to Okhahlamba in order to assess whether the gains of the Child Survival Project 1 (CSP1), carried out in 1999 were being maintained. Thus a total number of 120 questionnaires were administered to each of the 3 sample populations.

1.2.3.6 Sample selection

A random sample of 24 sampling units was selected for each municipality / lot. The sampling unit used was the Grade 1 population (children aged around 6-7 years/months) registered at junior schools in the district, as was used in previous surveys. (The following criteria were met: minimum of 75.0% enrollment of the Grade 1 population; complete listing of all schools available; and enrollment figures of all grade schools available). As the Department of Education was in the process of re-organising schools into municipalities while the survey was in progress, the school lists for 2001 were used.

In each municipality, a list of all the schools and their Grade 1 enrollment was compiled. The cumulative total of Grade 1's was calculated for each municipality. The sampling interval (total enrollment /24) was determined. A random number was chosen between 1 and the sampling interval.

The location of the first interview was the first school on the list with a cumulative population larger than that of the random number. The location of the second interview was the school with a cumulative population of the random number plus the sampling interval. The remaining schools were determined in this method. Twenty four Grade 1 pupils and the schools where they came from were then determined.

When the interviewer visited the schools, the Grade 1 children were lined up, a random number less than the Grade 1 enrollment chosen, and the child in that position in the row identified. Children who were absent were either represented by a space in the line or by another non-Grade 1 child representing him/her. If an absent child was selected, a sibling or friend was asked to indicate the absent child's home.

Permission was requested from the teacher to take the sibling or friend to the chosen child's home briefly where the interviewers were dropped off and the sibling or friend of the child returned by the driver to the school. During this procedure community health workers who were familiar with the areas concerned were used and they dealt with the children.

The house chosen for the interview was that closest to the child's house when standing in the front door (to eliminate bias in choosing only children who attend school). If a caretaker of a child 0-11 months was in the household, she was interviewed. She was not interviewed for the child 12-23 months if she also had a child of that age. However, another caretaker of a child 12-23 months present in the house could be interviewed. If the caretaker was of age 15-49 years, she was interviewed using that questionnaire as well. When 3 questionnaires could not be completed in 1 household, the next closest household was visited. This process was repeated until all 3 questionnaires were completed from that unit. The next randomly chosen school was then visited.

In the Okhahlamba municipality, only mothers of children 0-5 months were interviewed using the 0-11 month questionnaire in order to achieve a large enough sample of children to measure exclusive breastfeeding (exclusive breastfeeding is being promoted to 6 months).

1.2.3.7 Training of fieldworkers

Fieldworkers were trained over a period of one week. Training included the theory about LQAS, questionnaire development, planning of the survey and fieldwork practical exercises.

1.2.3.8 Data collection

The data was collected over five days, with interviewers returning to complete data sets where necessary. One-hundred and twenty randomly selected study units were identified and all 3 questionnaires completed from the 3 target groups in each unit. Each questionnaire was checked for completeness before the interviewers left the area, and the mother or caregiver was revisited where necessary to obtain missing data. A consent form was read to each mother/ caregiver before commencing with the questionnaire. Indemnity forms were also used for the randomly selected pupils being transported to and from school.

1.2.3.9 Data analysis

A hand tabulation method of entering the data, which was taught to the district staff LQAS team, was used to do the manual analysis. Hand tabulation was carried out by the interview team over 2 days.

However, computer analysis would allow for refined analysis and weighting by population, as well as assess the accuracy of the manual analysis, as is detailed in this dissertation.

1.2.3.10 Questionnaires:

In this survey/evaluation of the technical areas of the project, 3 separate questionnaires were developed, which were administered in parallel. The questionnaires were targeted at informants who would be able to give the most accurate answers to the questions.

Mothers of children 0-11 months

This questionnaire was targeted at mothers of newborn babies in order to obtain information about maternal care and also management of childhood illness. Information collected included:

questions about the Road to Health Card & growth monitoring, vitamin A for the mother, breastfeeding, supplementary feeding (also to determine if mother was exclusively breastfeeding), actions taken when neonate has diarrhea, action taken when neonate has a respiratory infection, maternal danger signs during pregnancy, maternal danger signs during delivery or post partum, neonatal danger signs, facility where help is sought and antenatal record.

Mothers of children 0-23 months

This questionnaire was targeted at mothers of children 0-23 months to identify issues around IMCI. Information collected included questions to identify the caretaker, possession of Road to Health Card and administration of vitamin A in the child, immunisation, knowledge of diarrhea, action taken when child has diarrhea, danger signs during diarrhea, action taken when child has a respiratory infection and growth monitoring

Women aged 15-49 years

This questionnaire was targeted at women between the ages of 15 and 49 years to gather information on their knowledge and practice regarding HIV/AIDS and well-being. Information collected included: knowledge of HIV mother to child transmission, HIV and breastfeeding, well-being for HIV positive person, Voluntary Counseling and Testing (VCT) for HIV patient, perception of risk of infection and condom use.

These questionnaires were developed by the IMCI, Maternal Health and HIV/AIDS and well-being teams, with each team designing their questions, then compiling them into appropriate questionnaires (Appendix E, F and G.) For example: questions on maternal health and child health were used in compiling the 0-11 month questionnaire. Some of the questions were the same as from the previous KPC survey carried out in the year 2000. Questionnaires were developed, translated into Zulu, back translated into English, and field-tested before being used during training sessions. The 3 questionnaires are included in Appendix E, F and G

1.2.3.11 Ethical considerations

Permission to conduct the study was obtained from the uThukela District Department of Health during the planning phase of the project and prior to the implementation of the project.

Permission was also obtained from the University of KwaZulu-Natal (UKZN) to do a secondary analysis of the data.

1.3. BACKGROUND INFORMATION ABOUT THE RESEARCH

One of the major limitations of the study carried out and evaluated by the TDCSP team centers around the reliability of the results obtained because the results were analysed over a very short period (4 days). In addition, the results were interpreted and analysed by community field-workers with minimal prior experience in data processing and analysis, even though they were appropriately trained and supervised.

The fact that this method of analysis was carried out for the first time further warrants the need for a secondary analysis, for comparability purposes and to ascertain whether the preliminary analysis done is adequate and reliable for future surveys of this nature. Hence, the current study was conducted and made use of a secondary electronic analysis for comparison and to provide a basis for future research.

1.4 PURPOSE OF THE SECONDARY STUDY

The purpose of this study was to critically review the results of the uThukela District Child Survival Project (TDCSP) evaluation and to provide the project and the District with more refined information with which to plan for future health interventions.

1.5 OBJECTIVES OF THE STUDY

The study objectives were as follows:

To perform a secondary electronic analysis of the data from each of the three questionnaires used in the Knowledge, Practice and Coverage (KPC) survey;

To compare the preliminary (manual) analysis of the LQAS indicators to the secondary (electronic) analysis FOR the same indicators;

To assess the accuracy of the manual analysis using the electronic analysis as a gold Standard.

To evaluate and generate information from the secondary electronic analysis which was not produced by the initial analysis, and

To critically evaluate the primary survey conducted and make appropriate recommendations regarding the general methodologies and principles in questionnaire design and analysis.

1.6 ASSUMPTIONS UNDERLYING THE STUDY

The secondary analysis undertaken assumes that the entire research process was fair and accurate during the planning phase and the execution phase of the research undertaken by the TDCSP team. This includes the assumption that:

The design and implementation of the survey was conducted according to plan, as ethically approved by the District Department of Health and supported by USAID and WVSA, and

The data collected was accurate and reliable and was accurately represented on questionnaires for analysis.

1.7 SIGNIFICANCE OF THE STUDY

Health Systems Research aims to assist health managers to obtain reliable, accurate and timely information on which to make management intervention decisions in order to improve the quality of the service. If immediate and rapid manual analysis of the data collected by an LQAS methodology does not provide reliable information for managers, then it may be worth recommending that detailed electronic analysis should still be done.

1.8 ORGANISATION OF THE REPORT

The report consists of six chapters.

Chapter 1 outlines the background of the project carried out by the TDCSP Team. It thereafter outlines the purpose of the secondary analysis undertaken as part of this dissertation under the following headings: Aims; Objectives; Assumptions underlying the study, and Significance of the study.

Chapter 2 provides a detailed literature review of the methodology used in the analysis of the results. These include:

1. Theoretical literature resources;
2. Empirical literature sources;
3. Current understanding of the question in the study;
4. Research findings already in use, and
5. Strengths and weaknesses of other studies.

Chapter 3 provides information on the methodology adopted.

Chapter 4 comprises *three* sections.

1. Comparison of the manual results of the LQAS indicators used to the electronic results

obtained, and

2. Comparison of the LQAS indicators of the un-weighted, electronic results to the weighted, electronic results.
3. Coverage values for knowledge and practices around child health, maternal health and HIV/AIDS and well-being;

Chapter 5 provides a detailed discussion of the results.

Chapter 6 concludes the report and outlines the limitations encountered in the study as well as providing appropriate recommendations for improvement of the service and for further studies.

1.9 SUMMARY

The TDCSP Team has been involved in improving maternal health, child health and reproductive health in the uThukela district through regular KPC surveys since 1991. Up until February 2000, all of these surveys adopted a cluster sampling methodology. However, due to the benefits learnt of the LQAS approach of sampling and its applicability to the uThukela District, this method was used as an alternative in the Mid-term evaluation of the TDCSP in February 2000. A secondary analysis of the results obtained from the Mid-term evaluation is thus necessary in evaluating the reliability of this new methodology used in sampling and analysis.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

In the past two decades, research has experienced a fundamental shift from pure, basic research towards research with a strong application orientation (Health Systems Trust, 1997). “Health managers and decision makers are faced daily with difficult decisions on how to use scarce resources” (Health Systems Trust, 1997).

“Health Systems Research (HSR) aims to provide information, which will improve the function of the health system, and ultimately lead to improved health status. It provides policy options and practical information to role players in the health system, ranging from policy makers at a national level to clinic managers at the primary care level” (Health Systems Trust, 1997).

2.2 PURPOSE OF THE LITERATURE REVIEW

The purpose of this chapter is to provide a brief classification of HSR and thereafter to describe the type of HSR adopted in the TDCSP. In doing this, it is also important to outline the development of research methodologies that can speed up the time it takes to get results of the research so that action can be taken soon. A justification for the use of the LQAS approach in this study will be made.

2.3 CLASSIFICATION OF HEALTH RESEARCH

“Different types of health research vary in their focus. Biomedical and clinical research focuses on the individual. Biomedical research focuses on how the body works. It considers the biological processes, structures, functions and mechanisms within an organism. Clinical research focuses on the response of the body to various preventative, diagnostic and therapeutic

interventions” (Health systems Trust, 1997).

Public health research focuses on groups of people (populations). It has two main components; epidemiological research, which considers the frequency, distribution and causes of ill health; and HSR, which focuses on the organised response to health and disease. “HSR considers the functioning of the health system, the costs and quality of the service provided, and the distribution of resources within the system” (Health Systems Trust, 1997).

An interdependency and overlap often exists between various types of research. Epidemiological research however, determines the causes of ill health and indicates which services are needed and this in turn leads into HSR (Health Systems Trust, 1997).

HSR exists in order to improve the quality of health service delivery. The key feature of HSR is its link to decision-making. It must inform a decision within the health system to achieve its goal. Some strategies which may be used to influence decision making include finding out who the appropriate decision makers are and getting to know them; making sure the right questions are being asked including health service managers/policy-makers in the project from the outset; meeting with the decision makers regularly to keep them informed of progress and providing them with interim results as often as possible; presenting results in as accessible a form as possible; and disseminating results widely including all stakeholder groups (Health Systems Trust, 1997).

2.3.1 Health Systems Research

All health systems research can be used to inform policy. However, it is useful to consider health systems research in two broad categories according to the level at which it is carried out (Health Systems Trust, 1997).

2.3.1.1 Health policy research

Health Policy Research is a type of HSR which is not carried out at service delivery level and which is more explicitly aimed at informing higher levels of health policy choices. An example

of this is research into resource allocation between levels of care or geographical areas, such as the funding formula for the division of the health care budget between provinces or between sectors (Health Systems Trust, 1997).

2.3.1.2 Operational research

“Operational research looks at the actual delivery of health services. It examines the resources and processes used by the health services and the outputs they attain. Operational research aims to improve health service delivery by providing practical answers to the questions asked by managers of the health services. In addition, the findings or recommendations of operational research may be drawn upon by policy makers or policy researchers to assist them in formulating and evaluating health policy” (Health Systems Trust, 1997).

2.4 EVALUATION TOOLS THAT CAN BE USED IN ASSESSING HEALTH PROGRAMS THROUGH OPERATIONAL RESEARCH

Two important tools that can be used in assessing health programs are KPC surveys and Rapid Epidemiological Assessment (REA).

2.4.1 Knowledge, Practice and Coverage Surveys

“A KPC survey can take place at three points in a project:

1. At baseline (beginning) of the project,
2. At the end of the project,
3. During the life of the project, somewhere around the mid-point of the project” (Valadez *et al.*, 2001).

The baseline survey provides a general profile of the population of intervention with regards to key indicators such as vaccine coverage, incidence of diarrhoeal disease and respiratory illnesses, and contraceptive usage. Uncertainty and subjectivity in the determination of priorities and objectives are reduced by the survey data (Aubel, 1999).

In the TDCSP, the mid-term evaluation was based on a KPC survey using the LQAS method of

sampling and analysis. However, a mid-term evaluation does not always include a KPC survey. It may rely on the monitoring of service level data, and vary in the depth of the analysis. There is a broad range of questions that monitoring can try to answer, from specifying exactly what services are being delivered, to assessing the quality of the services delivered and finally, measuring the results at the community level. Mid-term evaluations focus on providing a general sense of what the programs accomplishments are, and answering key qualitative questions about the services delivered (Valadez, 1991).

A final evaluation can be conducted at the end of the intervention. Managers will try to assess the results of the program and possibly to answer different questions through this final or summative evaluation about whether the program objectives were reached. Furthermore, a final evaluation will also determine whether the program can demonstrate an improvement over time in knowledge, practices, or coverage, from the baseline surveys (Valadez, 1991). These questions make sense only if the program activities have been conducted and planned.

“Monitoring records, process evaluation, and mid-term evaluation data, if they are available, will provide information about the basic question of the delivery of services” (Valadez, 1991).

2.4.2 Rapid Epidemiological Assessment

“REAs are a collection of methods which provide reliable health information (at the local level) more rapidly and easily” (Murthy *et al.*, 1999).

LQAS and 30-cluster sampling are types of REAs.

Since the LQAS method of sampling and analysis, which is an REA, was the method used in the collection and analysis of data in the TDCSP, an explanation on the use, strengths and weaknesses of this methodology is included in the literature review.

2.4.2.1 What are REA methods?

REA is a quick, cost efficient method to gather data systematically in support of managers' information needs, especially questions about performance. REA methods fall on a continuum between very informal methods, such as casual conversations or short site visits, and highly formal methods, such as censuses, surveys, or experiments. “Informal methods are cheap, "quick

and dirty," and susceptible to bias" (Sandiford, 1993). "REA methods are neither very informal nor fully formal. In sharing both of these properties, this characteristic provides both strengths as well as weaknesses to this method" (Murthy *et al.*, 1999).

Small area survey and sampling methods are the major application of REA. This process has opened channels for local people to participate in both collection and use of health information. As a result, programs have the capacity to be controlled at the local level by a wide range of people including service providers and beneficiaries (Murthy *et al.*, 1999).

2.4.2.2 Contribution of REA to the health field

REA has begun to make important contributions to the field of health policy and planning both in developed and developing countries. In addition, to its attraction as a quick and inexpensive method of data collection, it can be used under routine conditions to evaluate health service functioning where time and financial constraints are a critical factor (Singh, 1996).

The methods used are goal orientated to health service and community needs as opposed to complex epidemiological methods. REA methods emphasise the need for professionals to develop good communication and listening skills and to recognise the value of experiences for those they are to serve. In this respect, it makes an important contribution to re-orientating health in PHC crises (Singh, 1996).

2.4.2.3 Strengths of REA (Katzenellenbogen *et al.*, 1997)

Strengths of REA methods include:

Cost-effectiveness

REA studies are usually low-cost in comparison to formal studies. REA studies typically have a smaller sample size and a narrower focus, and often require less technical and statistical expertise than formal methods.

Quick completion

REA methods can gather, analyse, and report relevant information to decision-makers within days or weeks.

Provide flexibility

REA methods allow evaluators to explore relevant, new ideas and issues that may not have been anticipated in planning the study.

Allows for community participation

REA studies have developed techniques which have generated participation from lay people, particularly among the poorer communities, as a means to initiate their participation in planning processes and supporting their confidence in order to become subjects, not objects of health programs.

2.4.2.4 Limitations of REA (Katzenellenbogen *et al.*, 1997)

Limitations of REA methods include:

Limited reliability and validity

Information generated may lack reliability and validity because of informal sampling techniques, individual biases of the evaluators or interviewers, and difficulties in recording, coding, and analysing qualitative data. This justifies the probable need for a secondary analysis to verify the preliminary results obtained.

Lack of quantitative data

There is a lack of quantitative data from which generalisations can be made for a whole population. Most rapid appraisal methods generate qualitative information. Even those that generate quantitative data cannot be generalised with precision, because they are almost always based on non-representative samples. While a rapid appraisal method can give a picture of the prevalence of a situation, behaviour, or attitude, it cannot tell the extent or pervasiveness.

Low credibility with decision-makers

Most decision-makers are more impressed with precise figures than qualitative descriptive statements. The need for population-weighted results, as produced by a secondary analysis, thus becomes apparent.

2.4.2.5 When are REA methods appropriate?

Choosing between informal, rapid appraisal and formal methods of data collection should depend on balancing several potentially conflicting factors including (Horwitz, 1986):

Purpose of the study (importance and nature of the decision hinging on it);

Time frame within which it is needed (when decision must be made);

Resource constraints (budget, expertise), and

Nature of information required.

With regards to the nature of the information required, REA methods are especially useful and appropriate when:

Qualitative, descriptive information is sufficient for decision-making;

There is no great need for precise or representative quantitative data, and

An understanding is required of the motivations and attitudes that may affect behavior. (Health Systems Trust, 1997)

REA methods are successful in answering the "why" and "how" questions when available quantitative data must be interpreted (Sandiford *et al.*, 1992).

2.4.2.6 Future role of REA

REA is likely to continue to be of growing interest, both because of its focus on rapid information gathering and on community participation. In addition, as a training process, REA facilitates the promotion of attitudes and skills which professionals need to practice in order to promote solid and productive community work. REAs draw on well-known methods in epidemiological research with speed and simplicity and adaptation to the local condition. Central

to the concept of REA is the belief that improved information will lead to improved decision-making, which in turn will lead to a better distribution of resources to priority areas/interventions. However, it has the potential to be a misused tool, to collect unreliable information for supporting poor decisions and planning outcomes (Marsh *et al.*, 1995).

2.4.3 Lot Quality Assurance Sampling

LQAS is an example of a REA. It is a sampling method that is used to obtain reliable information on a small geographic or administrative unit using a small sample (Galvao and Kaye, 1994).

LQAS can be used to accurately detect the extremes of performance; those that are exceeding an “upper threshold” of performance and those failing to meet a “lower threshold” of performance. LQAS cannot detect performance levels between those arbitrarily set upper and lower thresholds (Valadez *et al.*, 2001).

LQAS uses a quantitative methodology. (Murthy *et al.*, 2000)

It is a sampling method that can be used to identify and evaluate priority areas or indicators that are not reaching average coverage or an established standard (Sandiford, 1993).

Experience with analysis of the LQAS survey showed that it is easy and does not require a sophisticated statistical package. Due to the small sample size in each lot, the analysis can be done using a simple spreadsheet. “LQAS uses small samples, the most frequently used size being 19, which provides an acceptable level of error for making management decisions at least 92 % of the time; it identifies whether a coverage benchmark has been reached or whether an SA is substantially below the average coverage of a program area. Samples larger than 19 have practically the same statistical precision as 19” (Valadez *et al.*, 2001).

2.4.3.1 A detailed look at the LQAS methodology

LQAS is a method for collecting data that uses small samples or lots. LQAS has been used for about 75 years for industrial quality control purposes since the 1920's, and has been adapted and used for community health programs for the last 15 years (Reinke, 1991). It is used all over the

world to assess coverage in communities that have programs in maternal health, child health and HIV/AIDS for example, and also to assess the quality of health worker performance. Besides being able to generate data for coverage estimates for a whole project, LQAS is also able to distinguish differences between geographical areas/subdivisions/SAs of a project. (Lanata and Black, 1991)

What does LQAS offer?

It is able to determine whether an acceptable level of coverage has been reached in each area, but not what the actual coverage is.

LQAS is orientated toward practical action. In PHC, managers at the local level have few tools available for determining the extent of service coverage. Due to resource limitation, any realistic strategy for collecting information on health services coverage must carefully avoid excess precision. LQAS offers this attribute by identifying areas to focus scarce supervisory resources. (Lanata *et al.*, 1990)

“Rather than seeking to obtain precise estimates, this technique aims to facilitate the decision-making process regarding the quality levels of the indicators examined” (Corbella and Grima, 1999).

The hallmark of LQAS is the division of the target population into smaller, administratively meaningful units/lots/SAs, and the selection of small random samples from each of these units. The theory of LQAS is based on binomials: data is coded into 'yes' or 'no' answers to the questions in the survey (Valadez *et al.*, 1996).

Decision Rule

In child survival projects, targets can be set for indicators such as immunisation, knowledge of diarrhea management, and knowledge of danger signs during pregnancy. Then, using the LQAS table in Appendix A (Aubel, 1999), which has been developed statistically, one can work out the number of responses from a small batch of questionnaires that must have a particular answer for a particular indicator in an SA, to be able to say that the SA is meeting its target. This is called

the “decision rule”. One can also use the table to work out whether a SA is meeting the district average. (Lemeshow and Taber, 1991)

Comparison Between LQAS and 30- Cluster Sampling Surveys

In LQAS, when 19 samples from 5 supervision areas are added together, or 24 from 4 supervision areas, what is achieved is a stratified random sample of 95 or 96 samples respectively.

This gives a narrowed confidence interval when compared with the equivalent 30- cluster sample method, thus a better result

In a 30- cluster sampling frame, 30 randomly chosen units are visited in a project area, as a starting point for sampling, and 10 samples collected around each sampling point.

In the LQAS sampling frame, 96 randomly chosen units are selected as starting points, and one sample taken from around each starting point.

This means that three times more starting points are used during an LQAS than during a 30 cluster sampling, thus increasing the extent of randomisation. (Kerry, 2002)

Data analyses for cluster samples are for around 300 samples, whereas for LQAS it is around 96. Cluster samples can only be used for calculating coverage proportions, while the LQAS generates data that can be looked at in lots or supervision areas, and used for many purposes, as well as generating coverage data for the whole project area.

With sub-samples such as exclusive breast-feeding and children with recent ARI (acute respiratory infections), the analysis is not done in lots/SAs, as the samples are very small within each SA. (Kerry, 2002)

Confidence Intervals

Statistics show that for a stratified random sample of 96 (sub-divided into four SAs of 24), the 95% confidence interval is 10% or less. This means that one can be 95% sure that the true value of what we are trying to measure lies within 10% on either side of the coverage value (Valadez

et al., 2001).

Within each SA, no confidence levels are calculated as the samples of 19 (if 5 SAs are used) or 24 (if 4 SAs are used) are small, and the information is used for decision making rather than as coverage values.



In LQAS, What a Sample of 19 or 24 Can Tell Us

LQAS is meant to assist local managers to monitor the performance of the coverage of health services in their catchment areas. The survey points out to managers, areas with obviously low service coverage and areas with obviously high service coverage. Due to resource limitations, managers are interested in finding out where supervision should be focused. Instead of spreading scarce supervision resources equally to all catchment areas, LQAS enables managers to identify low performing areas according to an upper threshold and a lower threshold of performance specified before the survey.

Lots which perform above the upper threshold are “acceptable” and attempts can be made to maintain this level of performance, whereas lots performing below the lower threshold are “rejected” and need focused attention (Valadez *et al.*, 2001).

What a Sample of 19 or 24 Cannot Tell Us

This evaluation tool cannot calculate exact coverage in a supervision area as the sample size is too small. In addition, the LQAS method cannot set priorities among supervision areas that have little difference in coverage among them (Valadez *et al.*, 2001).

2.4.4 Previous Studies Conducted, Using the LQAS Approach

“The World Health Organisation (WHO) uses this (LQAS) method to assess immunization coverage” (Robertson *et al.*, 1997). LQAS is an efficient, simple and time-efficient procedure for quality assurance and under certain conditions, efficiency can be improved with double sampling (Lemeshow and Stroh, 1989).

A study conducted in Madras, India with an objective to explore the usefulness of LQAS to identify division in a city that had an immunisation coverage level of 80% for all of the four Expanded Programme of Immunisation (EPI) vaccines. The conclusion was that the study demonstrated the utility of the LQAS technique in identifying unsatisfactory pockets in Madras City when the overall coverage was satisfactory. The technique will have greater application with an increase in the number of large units (cities/districts) having an overall coverage of 90% or more (Singh *et al.*, 1996).

LQAS was used to evaluate the technical competence of two cohorts of family planning service providers trained with a new six-week curriculum developed by the Kenyan Ministry of Health Family Planning Training Program. This study, using an LQAS methodology helped to identify task categories in which the new curriculum needed strengthening (Valadez *et al.*, 1997). The WHO EPI compared the LQAS methodology to the 30-cluster sampling methodology more usually advocated by the WHO as a rapid epidemiological assessment method to evaluate immunisation coverage. It showed that data collection took longer to complete in the LQAS survey than the EPI cluster survey. Likewise, travel and cost was higher in the LQAS than EPI. However it may be useful for routine monitoring of immunisation programs in small areas where local staff are used and a very heterogeneous coverage exists in the area being evaluated. (Sandiford, 1993)

In a study in Mali, the LQAS methodology was used to determine the overall coverage and quality of the data in the HIS, to identify specific health diseases that needed improvements in data collection methods, and to determine particular areas of weakness in data collection (Stewart *et al.*, 2001).

United Nations Children's Fund (UNICEF) has used this method to estimate measles vaccination, using a good performance to be 80% coverage and a "poor performance" to be 50% coverage to demonstrate the strength and limitation of the LQAS method. The exercise revealed that LQAS is very good at detecting poor performances. Its sensitivity is almost 99%

and its community risk is less than 2%. On the other hand the LQAS method is not specific and its positive predicted value tends to be low in most settings. Thus, the LQAS method is not necessarily good at predicting when a programme is doing a good job. (Singh *et al.*, 1996)

2.4.6 The Use of LQAS in the TDCSP

Due to the fact that it is almost impossible to survey an entire population, survey evaluation methods have to rely on extracting a sample from the entire population to conduct the analysis. Cluster sampling was proposed as a reliable and cost-efficient way to gather the information needed, and has been the primary sampling method used in KPC surveys over the last 10 years. This sampling method was selected assuming that the data collected would be used for the purposes of decision-making and program management. The KPC survey was never expected to be a tool to address research issues or gather in-depth social and demographic data, which would require different sampling approaches. (World Vision South Africa, 2000).

During the last 10 years KPC cluster-surveys have considerably improved the ability of Child Survival Projects to identify priorities, define objectives based on data, and measure progress towards these objectives. KPC cluster-surveys were never expected to measure change between two periods of time, or to compare different groups of population in order to demonstrate that a specific intervention was the cause of an observed change. (Valadez, 1991)

LQAS has come to the fore as a method of sampling for surveys, for being able to assess performance in each SA of a project district, and for routine monitoring during child survival activities (Valadez *et al.*, 2001). It was decided that a survey would be undertaken to fill in the data gaps from the KPC in 2000, and to teach the LQAS methodology to a broad range of role-players who would be able to use it in their work in the District. In the process, the indicators for the project would be refined (World Vision South Africa, 2000).

In addition, by using the LQAS method, it would be possible to compare SAs (municipalities in the case) to decide on health priorities and interventions in municipalities. LQAS could be used

to find Health District area coverage for chosen indicators and to monitor whether the gains made in previous projects are being maintained. (Valadez, 1991)

2.5 SUMMARY

The KPC survey was developed 10 years ago, at the request of USAID, in order to provide a uniform approach to baseline and final data in child survival programs. Before its development, the prevailing situation was that few projects had conducted any type of survey. Those who did used samples of varying sizes, measured different variables and had different purposes for the survey they conducted. The KPC survey became a requirement for all baseline and final assessments for some years after 1991 as part of a REA. (World Vision South Africa, 2000)

In this study, LQAS, being a type of REA was the sampling method adopted. Its purpose was from the start, to be a standardised, scientifically valid and reliable, low-cost management and evaluation tool. Although rapid appraisals have some limitations as aforementioned, they are appropriate for health service evaluation where resources are limited. LQAS can be used to accurately detect the performance of health service indicators and to identify areas that are performing below average.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

A description of the methodology is outlined, with details included in appropriate appendices. The research design, sample population, data capturing techniques utilised, data analysis (including statistical tests) are presented in this chapter. The methodology of the primary manual analysis is presented in Chapter 1: Background to the study (Section 1.2).

3.2 RESEARCH DESIGN

The preliminary study was a community-based health systems research project that involved the administration of structured questionnaires, to caregivers and key informants. This study was a secondary analysis of the data produced by the primary study. It was a comparative study where results obtained from the primary manual analysis were compared to results derived from a secondary computerised analysis of the data.

3.3 SAMPLING DESIGN

Questionnaires were developed and based on a standardised survey format recommended and provided by USAID's Child Survival Technical Support program. The project management of TDCSP customised the standard survey questionnaire to reflect the project's choice of interventions as well as local culture, language and practices (World Vision South Africa, 2000).

The project team was sub-divided into the Integrated Management of Childhood Infections (IMCI), Maternal Health and HIV/AIDS teams to assess knowledge of:

Mothers/caretakers of children 0-11 months of age;

Mothers/caretakers of children 12-23 months of age, and

Women aged 15-49 years.

3.4 STUDY POPULATION

The sample population included all respondents in the initial Child Survival Project in the uThukela district of KwaZulu-Natal.

All questionnaires, including the LQAS tables from the manual analysis (Appendix B) were forwarded by the uThukela District Child Survival Project team to the Department of Community Health at the Nelson R Mandela School of Medicine, University of KwaZulu-Natal.

3.5 ETHICAL APPROVAL

Permission to undertake this study was obtained from the Research Ethics Committee at the University of KwaZulu-Natal (Appendix I). Permission to undertake the initial study was obtained by the District DoH, in collaboration with USAID's and WVSA.

3.6 PATIENT CONFIDENTIALITY

Names of patients included in the study were included on the questionnaires. However, patient confidentiality was maintained at all times. In addition, the questionnaires were available only for a period of two weeks for data capturing purposes.

3.7 DATA CAPTURING

The measurement instrument was pre-coded to enable input of data directly from the questionnaires onto the EPI INFO[®] program. This simplified the data entry process. The following data on child health, maternal health and HIV/AIDS extracted from the questionnaires was captured onto the EPI INFO[®] program for electronic analysis, by a data

capturer in the Department of Community Health, University of Kwa-Zulu Natal:

Child health: including mothers' knowledge of immunisations, breast feeding, complimentary feeding, diarrhoea and acute respiratory infections.

Maternal health: e.g. signs and symptoms indicating an emergency situation in pregnancy, danger signs during delivery, danger signs post-partum and danger signs in newborns, and

HIV/AIDS: including well-being: e.g. mother -to- child -transmission of HIV, HIV testing, voluntary counseling and testing (VCT) and perception of the risk of contracting HIV/AIDS.

These indicators and the results obtained are represented in Appendix C.

3.8 FREQUENCY GENERATION

With the use of an appropriate electronic program (Myatt, 1994), frequency distributions were generated for each question on the questionnaire. A frequency distribution reports the number of responses that each question received. In addition, the number of responses in each question per SA (municipality) has been represented in the LQAS tables (Appendix C).

The indicators were then compared between the manual analysis and the electronic analysis.

3.9 STATISTICAL ANALYSIS

Since a direct comparison was made between the manual analysis and the electronic analysis in each question, the paired two sample t-test was decided on as the most accurate measure for comparability by the statistician consulted. The t-test is a test used for independent samples and is used to test the difference in means for two groups (Fisher and Lloyd, 1993). P values obtained for these tests indicate statistical significance if $p < 0.05$.

3.10 WEIGHTING OF RESULTS

Weighting of results was not possible in the primary analysis as this was a manual analysis.

Furthermore, certain indicators were not measured in the manual analysis and some results were incomplete. Using the electronic analysis the results were weighted according to the population in each municipality and the relevant information generated.

A detailed description of how weighting was calculated is presented below.

The actual weighted results are presented in Section 3 of the Results Chapter.

Because the sampling was stratified according to SA/ municipality, the results from each SA were weighted according to the relative representation of that SA, as the populations of each SA vary considerably in size.

The most recent population figures for each municipality were used to calculate the weighting factor for each municipality.

Size of the population in each of the five municipalities:

Mbabazane: 117 044

Mtshezi: 52 967

Indaka: 106 099

Mnambithi: 192 059

Okhahlamba: 127 507

Total population of uThukela District: 595 676

Weighting was carried out using a Microsoft Excel[®] spreadsheet and was conducted as indicated in the table:

Table 3.1 Illustration of weighting calculation for each supervision area						
SA is the municipality, n is the sample size used in each Supervision Area, N is the size of the population in the SA, wt is the weighting factor, and p is the mini coverage proportion. Adding the results of the last column gives the overall coverage for the District, represented as a fraction. Multiplied by 100, this can be reflected as a percentage.						
SA	SA sample size=n	Number correct=a	P=a/n	N	wt=N/sum of N	wt x p
1 (Mbabazane)						
2 (Emtshezi)						
3 (Ndaka)						
4 (Mnambithi)						
5 (Okhahlamba)						
						Coverage=

The Confidence Interval for a coverage proportion was calculated as follows:

Table 3.2 Illustration of the calculation of the confidence interval for a coverage proportion			
The weight calculated for each SA in the weighting exercise is used, p is the mini coverage proportion from the previous calculations and q=1-p. When the values of the last column are added together, a total value is reached. The CI is calculated using			
SA	wt squared	p x (1-p)	wt squared x (pq)/n
1 (Mbabazane)			
2 (Emtshezi)			
3 (Ndaka)			
4 (Mnambithi)			
5 (Okhahlamba)			
			Sum of the values for each SA
CI=(1.96 x SQRT (Total))			

3.11 SUMMARY

This study involved the capture of data on child health, maternal health and HIV/AIDS information from questionnaires developed by the Integrated Management of Childhood Infections (IMCI), Maternal Health and HIV/AIDS teams participating in the uThukela District Child Survival Project onto the EPI INFO[®] program for analysis. The sample population included all respondents from the initial Child Survival Project in the uThukela district of KwaZulu- Natal. Results obtained from the initial manual analysis were then compared to the results obtained from the computerised analysis produced in the present study to determine if any significant discrepancies were evident. In addition, the results from the electronic analysis were weighted, a procedure that was not possible during the preliminary study.

CHAPTER 4

RESULTS

4.1 INTRODUCTION

The results of the questions analysed were expressed as a percentage of the sample of 120, stratified through the district. The results of the district coverage for each of the health indicators (which were selected questions from the survey) measured were population weighted and 95% Confidence Intervals calculated. A complete list of the population-weighted electronic results of the LQAS indicators has been included in Appendix D. In addition, from the table of indicators used (Appendix C), based on the average coverage obtained by the District for a particular indicator, an average coverage decision rule was established. Supervision Areas (municipalities) that fell below this average coverage as calculated from the LQAS table (Appendix A) were underlined in the respective table of indicators (Appendix C). This value indicates municipalities performing below average. If problems in these poorly performing areas are addressed, then the entire District would perform better, which would make it easier for the district as a whole to achieve a pre-set target.

As these results were not population weighted in the manual analysis, it was appropriate for the electronic results to remain un-weighted for initial comparative purposes.

The un-weighted manual results were thereafter compared to the weighted electronic results to show significant differences between the two and to assess whether population weighting has produced a marked difference in results.

The results have been presented in three sections:

1. Comparison of the manual results of the LQAS indicators used (Appendix B) to the electronic results obtained (Appendix C);
2. Comparison of the LQAS indicators of the un-weighted, electronic results to the weighted, electronic results; and
3. Coverage values for knowledge and practices around child health, maternal health and HIV/AIDS and well-being.

4.2 COMPARISON OF MANUAL ANALYSIS TO ELECTRONIC ANALYSIS

A comparison of the un-weighted coverage calculated by the manual analysis and electronic analysis was done to determine how accurate the manual analysis was. In the electronic analysis the survey results were double- entered, thus increasing the accuracy and reliability of the results obtained. It is therefore appropriate to use the electronic results obtained as the “Gold Standard”. This comparison would enable program managers to assess the accuracy and reliability of manual analysis.

4.2.1 Maternal Health (0-11 months)

Table 4.1: Statistical comparison of the un-weighted coverage calculated by the manual analysis and electronic analysis of the Maternal Health (0-11 month's questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	50.82083	47.1625
Variance	777.3209	818.4077
Observations	24	24
Pearson Correlation	0.976333	
Hypothesised Mean Difference	0	
Df	23	
T Stat	2.8966	
P (T<=t) one tail	0.004068	
t Critical one-tail	1.71387	
P (T<=t) two tail	0.008136	
T Critical two tail	2.068655	
Correlation		
	Column 1	Column 2
Column 1	1	
Column 2	0.976333	1

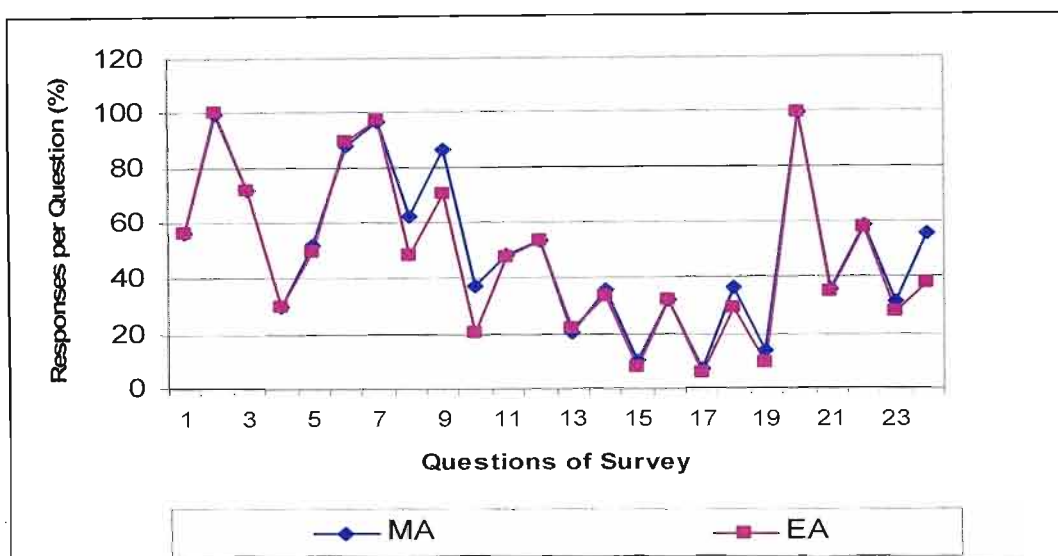


Figure 4.1 Graphical comparison of un-weighted coverage calculated by the manual analysis and electronic analysis for the 0-11 month questionnaire in the uThukela District in 2002.

The overall comparison of the 24 coverage indicators in the maternal care questionnaire showed few marked differences between the manual and electronic analysis. A Pearson's correlation of 0.976333 obtained implied little difference between the two as it was very close to 1. However, the Two-tail p-value of 0.008136 suggested a significant difference, as it was less than 0.05. Hence, using a 95% Confidence Interval cut-off, the value suggested a difference that was statistically significant. Of the 24 indicators assessed, only 4 showed marked differences (questions 8, 9, 10 and 24). However, the differences obtained were large in value (greater than 13.0%). This is the reason why the overall comparison reflected a statistically significant difference. In these 4 questions, the percentage obtained in the manual analysis was higher than that obtained in the electronic analysis.

4.2.2 Diarrhoeal Disease and Acute Respiratory Infection (0-23 months)

Table 4.2: Statistical comparison of the un-weighted coverage calculated by the manual analysis and electronic analysis of the Diarrhoeal Disease and ARI (0-23 month's questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	52.20909	52.74545
Variance	864.0809	1018.679
Observations	11	11
Pearson Correlation	0.885415	
Hypothesised Mean Difference	0	
Df	10	
T Stat	-0.119564	
P (T<=t) one tail	0.453598	
t Critical one-tail	1.812462	
P (T<=t) two tail	0.907196	
T Critical two tail	2.228139	
Correlation		
	Column 1	Column 2
Column 1	1	
Column 2	0.885415	1

A Pearson's correlation of 0.88415 suggested little difference between the two forms of analysis overall and a p-value of 0.907196 obtained in the Two-tail t test indicated no statistically significant difference between the manual analysis and the electronic analysis as this value was greater than 0.05. As seen in the graphical representation (Figure. 4.1), there were differences between the two in several questions. Questions 3, 4 and 5 all related to diarrhoea. The manual result was significantly higher in all 3 of these questions.

Question 11 related to respiratory illness: “from whom did you seek treatment?” Here, the electronic result was significantly higher than the manual result. However, the number of children suffering from respiratory illness was very small (12.5%; n=15; N=120). Even though the difference (in the actual number of responses) between the manual and electronic analysis was very small (difference of 5), it is because of the small sample size that the overall percentage difference obtained was very high. This needs to be noted, particularly when looking at the graphical representation of the comparison, as major deviations in percentage responses between the manual and electronic analysis were evident.

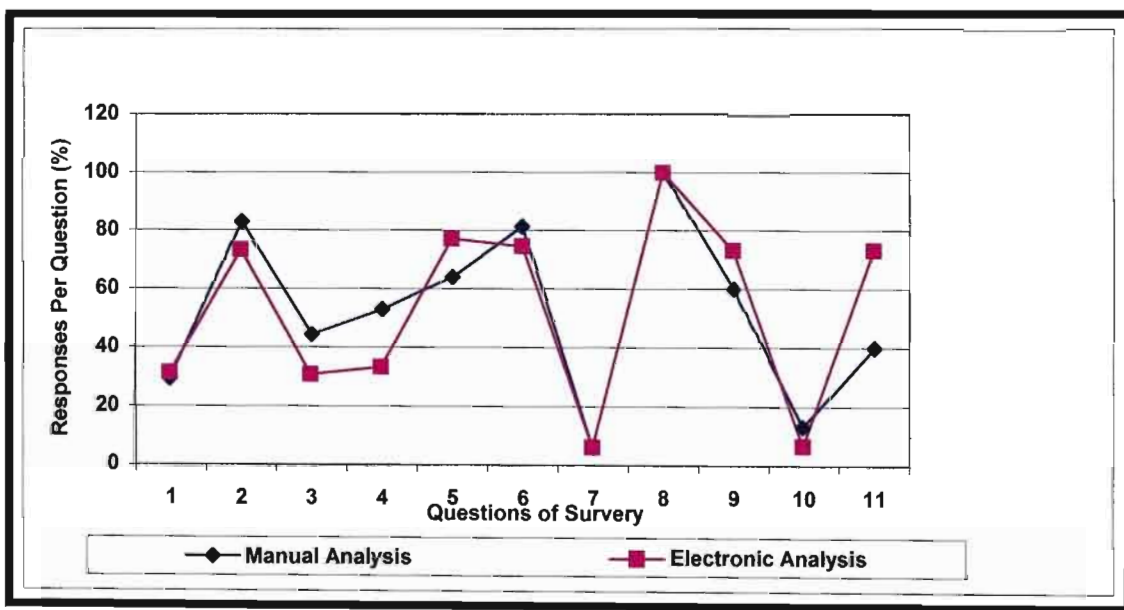


Figure 4.2 Graphical comparison of un-weighted coverage calculated by the manual analysis and electronic analysis for the 0-23 month’s questionnaire in the uThukela District in 2002.

4.2.3 Integrated Management of Childhood Illnesses (12-23 months)

Table 4.3 Statistical comparison of the un-weighted coverage calculated by the manual analysis and electronic analysis of the IMCI (12-23 months questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	68.53333	68.25833
Variance	498.0406	686.5172
Observations	12	12
Pearson Correlation	0.983261	
Hypothesised Mean Difference	0	
Df	11	
T Stat	0.161798	
P (T<=t) one tail	0.437199	
t Critical one-tail	1.795884	
P (T<=t) two tail	0.874398	
T Critical two tail	2.200986	
Correlation		
	Column 1	Column 2
Column 1	1	
Column 2	0.983261	1

In this questionnaire, the comparison between the electronic analysis and the manual analysis appeared different in almost all of the twelve indicators compared. However, the difference between the two in each was very small. Hence the appropriate statistical tests concluded no statistically significant difference between the electronic analysis and manual analysis. Pearson’s correlation of 0.983261 (very close to 1), and Two-tail test indicating a p-value of 0.874398 (greater than 0.05). The graphical representation of the comparison (Fig. 4.3) also showed very little difference between the two analytical methods.

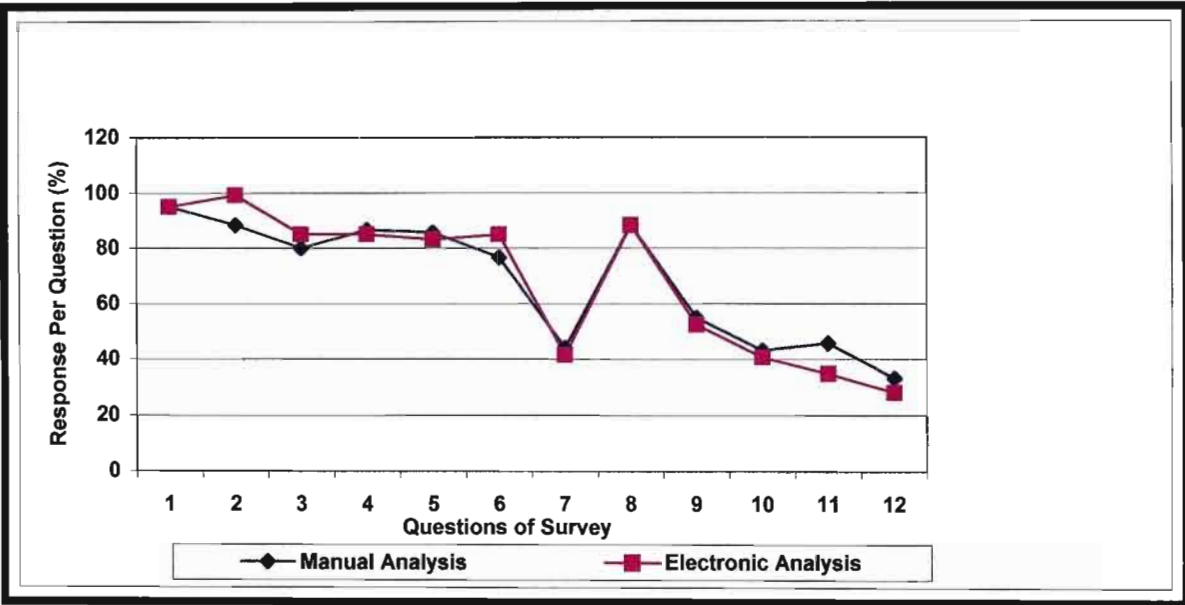


Figure 4.3 Graphical comparison of un-weighted coverage calculated by the manual analysis and electronic analysis for the 12-23 month questionnaire in the uThukela District in 2002.

4.2.4 HIV/AIDS and Well-being (Women 15-49 years)

Table 4.4 Statistical comparison of the un-weighted coverage calculated by the manual analysis and electronic analysis of the HIV/AIDS and well-being (Women 15-49 years questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	60.08824	60.02353
Variance	1084.617	1082.234
Observations	17	17
Pearson Correlation	0.994428	
Hypothesised Mean Difference	0	
Df	16	
T Stat	0.076776	
P (T<=t) one tail	0.469877	
t Critical one-tail	1.745884	
P (T<=t) two tail	0.939754	
T Critical two tail	2.119905	
Correlation		
	Column 1	Column 2
Column 1	1	
Column 2	0.994428	1

In this questionnaire, the comparison between the manual analysis and electronic analysis appeared identical in almost all of the indicators compared. As expected from such a similarity, the Pearson's correlation of 0.994428 and the p-value in the Two-tail t test of 0.939754 confirmed that the difference between the two results obtained was not statistically significant. As illustrated in the graphical representation of the comparison (Fig. 4.4), question 17 showed a marked difference (difference of 11.0%) between the manual analysis and electronic analysis. The electronic analysis was 11.0% higher than that of the manual analysis. The question: "Did you use a condom during your last sexual intercourse?" related only to people that were sexually active at the time. Hence a small sample size was expected i.e. less than 120. It is possible that

during the manual analysis, these results were not stratified according to whether women were sexually active or not. Hence, an incorrect sample size of 120 may still have been used. The fact that the percentage obtained in the manual analysis was smaller than that of the electronic analysis, creates the impression that this could be the error that was made.

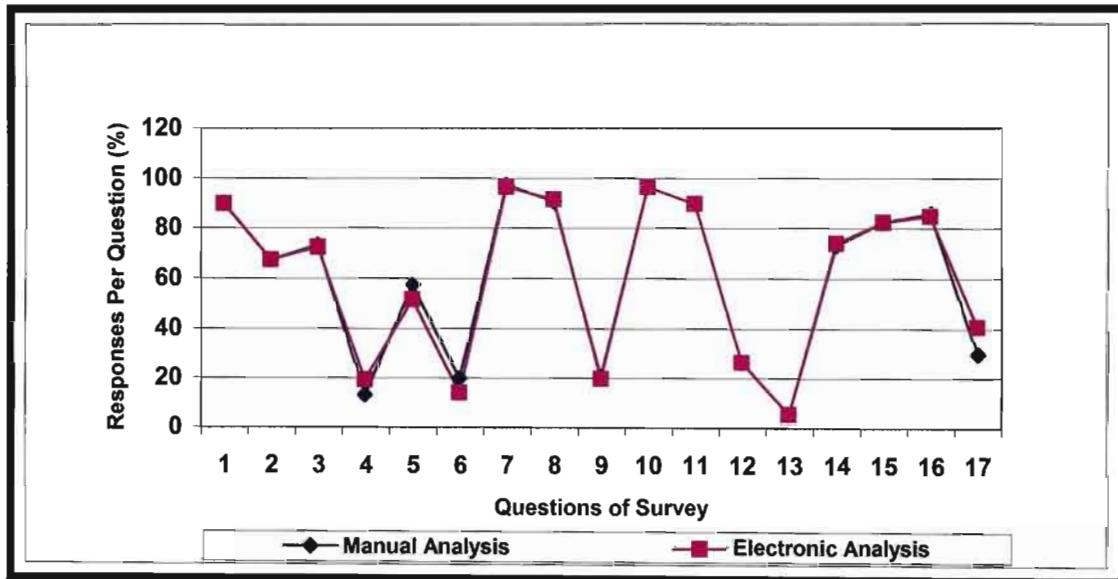


Figure 4.4 Graphical comparison of un-weighted coverage calculated by the manual analysis and electronic analysis for the women 15-49 years questionnaire in the uThukela District in 2002.

4.3 COMPARISON OF UNWEIGHTED ELECTRONIC RESULTS AND WEIGHTED ANALYSIS

Each municipality was allocated a sample of 24 units. The sample size was not proportional to the population size in each municipality. In order to standardise the study according to population size, each coverage indicator was weighted. (Chapter 3, Research Methodology, Section 3.10, Weighting of Results) to give a more accurate result for the district as a whole. The population in the district municipalities ranged from 52, 967 to 192, 059 people.

Weighting could not be done in the manual analysis but was carried out in the electronic analysis. However, in addition to having the results weighted, it was useful to compare the weighted, electronic results to the un-weighted, electronic results to establish whether weighting in this district produced differences that were statistically significant, from the un-weighted results.

Tables 4.33 to 4.36 compare the un-weighted electronic results to the weighted results in 4 categories namely, children 0-11 months; children 0-23 months; children 12-23 months; and women 15-49 years. The formula used to calculate weighted percentages and confidence intervals have been described in the Methodology, with weighted results of indicators for each questionnaire, represented in Appendix D. For each comparison, a graph was used to illustrate the differences that occurred between the weighted and un-weighted results, and a statistical test to determine whether the differences obtained were statistically significant.

4.3.1 Maternal Health (0-11 months)

Table 4.5 Statistical comparison of un-weighted electronic results to weighted electronic results for Maternal Health (0-11 months questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	47.17083	49.19167
Variance	818.5752	858.073
Observations	24	24
Pearson Correlation	0.989801	
Hypothesised Mean Difference	0	
Df	23	
T Stat	-2.362512	
P (T<=t) one tail	0.013494	
t Critical one-tail	1.71387	
P (T<=t) two tail	0.026987	
T Critical two tail	2.068655	

In most comparisons, there was a very small difference between the weighted and un-weighted result. The most significant difference obtained was 6.2% (question 1).

The Pearson’s correlation of 0.989801 suggested no statistically significant difference as this value was very close to 1. However, the p-value obtained in the Two-tail test was 0.026987 (i.e. less than 0.05). Although this implied a statistically significant difference between the weighted result and the un-weighted result, the graphical comparison (Fig. 4.5) showed that the weighted results were consistently higher than the un-weighted results. This consistent difference has contributed to producing an overall difference that was statistically significant. However, what is most important is the fact that the difference between the two comparisons in each indicator was generally very small.

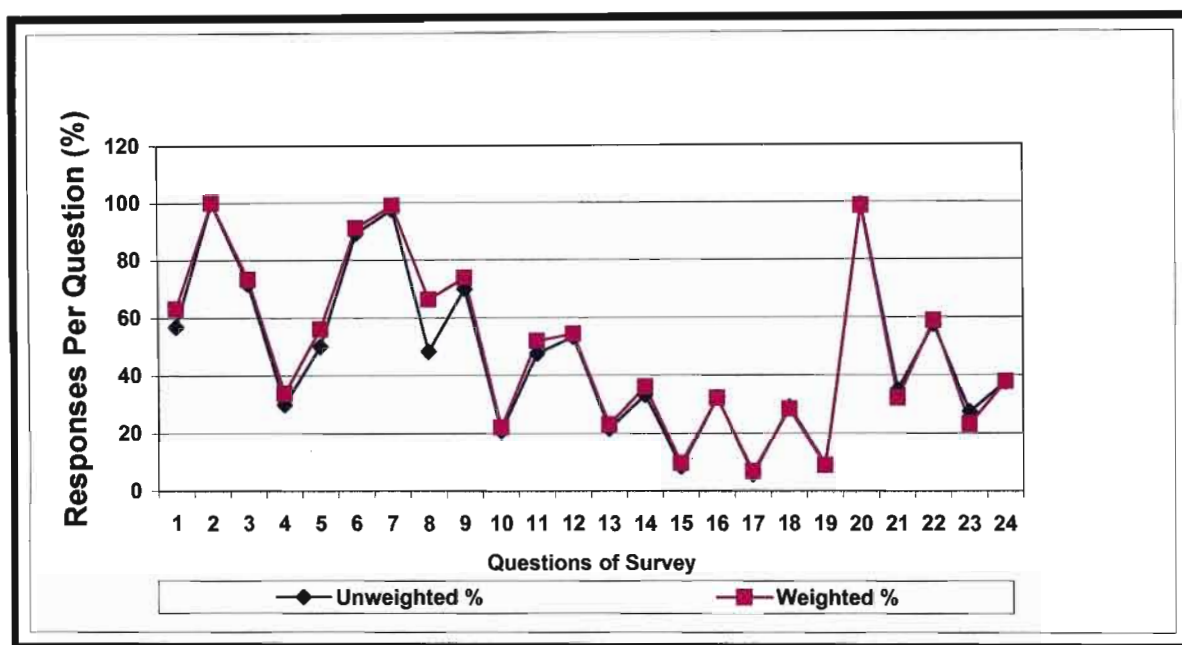


Figure 4.5 Comparison of un-weighted results to weighted results for Maternal Health (0-11 months questionnaire) in the uThukela District in 2002

Diarrhoeal Disease and Acute Respiratory Infections (0-23 Months Questionnaire)

Table 4.6 Statistical comparison of un-weighted electronic results to weighted electronic results for Diarrhoeal Disease and ARI (0-23 months questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	51.53636	51.4
Variance	969.4445	987.948
Observations	11	11
Pearson Correlation	0.99752	
Hypothesised Mean Difference	0	
Df	10	
T Stat	0.203432	
P (T<=t) one tail	0.421439	
t Critical one-tail	1.812362	
P (T<=t) two tail	0.842877	
T Critical two tail	2.228139	

There was a very small difference between the weighted result and the un-weighted result. The most significant difference obtained was a difference of 3.9% (question 11)

The Pearson’s correlation of 0.99752 and p-value of 0.842877 in the Two-tail test confirmed no statistically significant difference between the weighted result and the un-weighted result. A graphical comparison of un-weighted results to weighted results for Diarrhoeal Disease and Acute Respiratory Infections (0-23 Months Questionnaire) is represented in Figure 4.6.

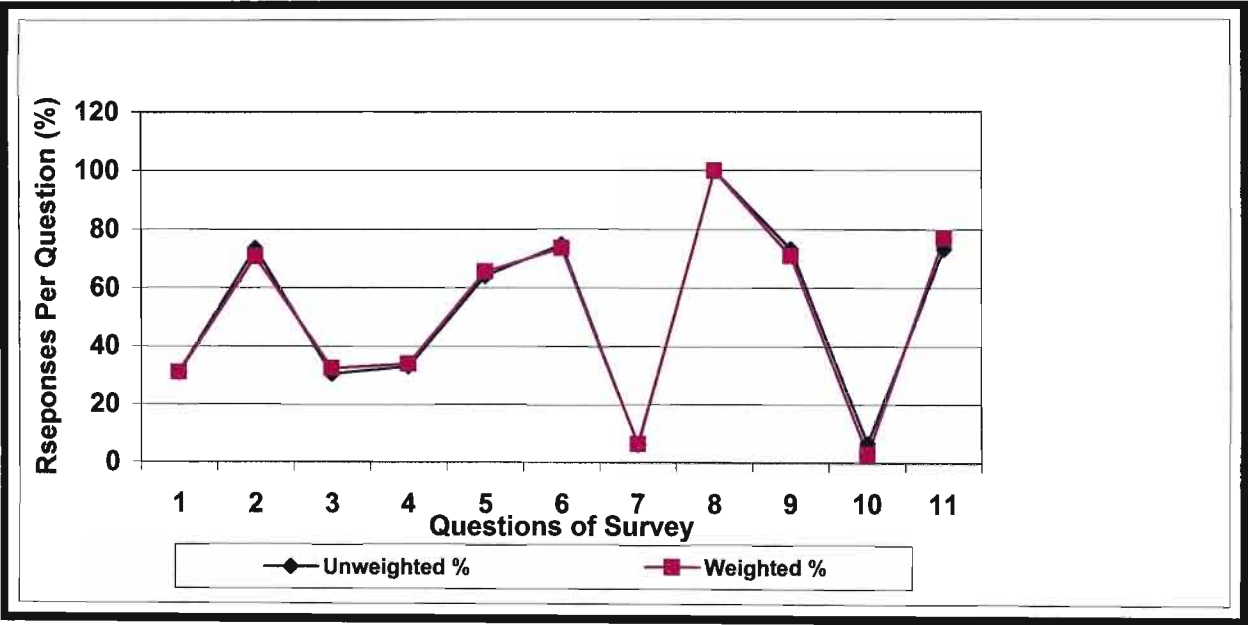


Figure 4.6 Comparison of un-weighted results to weighted results for Diarrhoeal Disease and Acute Respiratory Infections (0-23 months questionnaire) in the uThukela District in 2002.

4.3.3 Integrated Management of Childhood Illnesses (12-23 months questionnaire)

Table 4.7 Statistical comparison of un-weighted electronic results to weighted electronic results for IMCI (12-23 months questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means

	Variable 1	Variable 2
Mean	68.25833	68.775
Variance	686.5172	639.913
Observations	12	12
Pearson Correlation	0.995218	
Hypothesised Mean Difference	0	
df	11	
T Stat	-0.668973	
P (T<=t) one tail	0.258653	
T Critical one-tail	1.795884	
P (T<=t) two tail	0.517306	
T Critical two tail	2.200986	

There was a very small difference between the weighted result and the un-weighted results. The most significant difference obtained was 6.7% (question 10). The Pearson's correlation of 0.995218 and p-value of 0.5173606 in the Two-tail test confirmed no statistically significant difference (Fig 4.7).

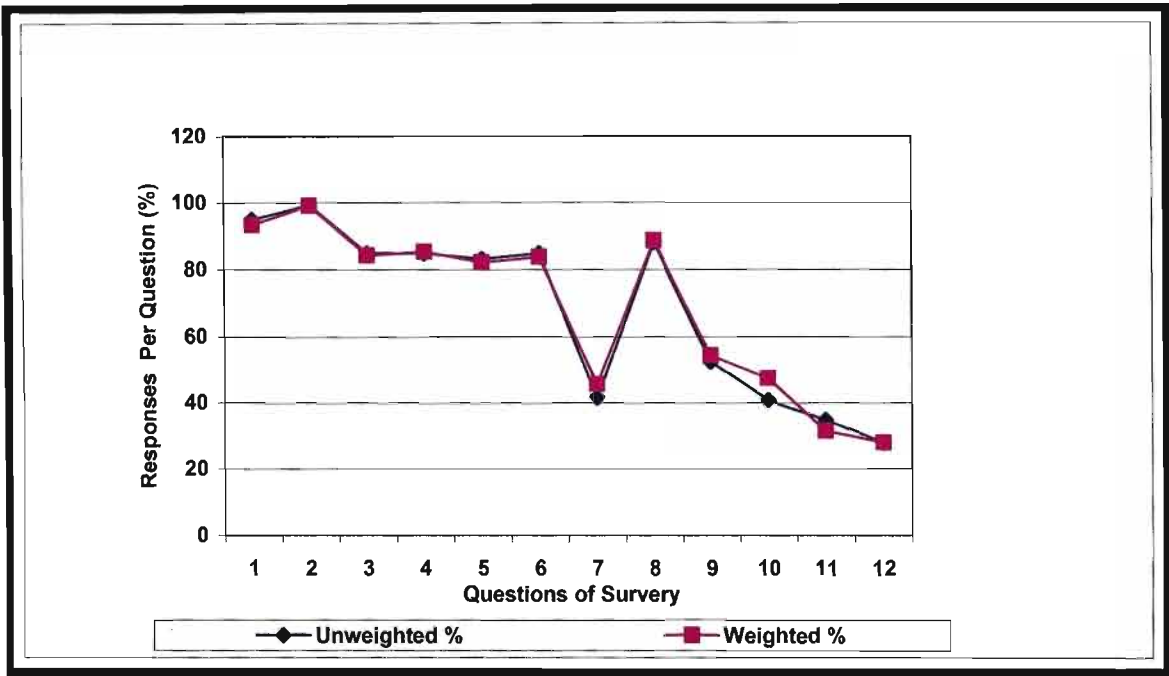


Figure 4.7 Comparison of un-weighted results to weighted results for IMCI (0-23 months questionnaire) in the uThukela District in 2002.

4.3.4 HIV/AIDS and Well-being (women 15-49 years)

Table 4.8 Statistical comparison of un-weighted electronic results to weighted electronic results for HIV/AIDS and well-being (women 15-49 years questionnaire) in the uThukela District in 2002

t-Test: Paired Two Sample for Means		
	Variable 1	Variable 2
Mean	60.67222	60.86667
Variance	1026.148	1016.318
Observations	18	18
Pearson Correlation	0.995104	
Hypothesised Mean Difference	0	
df	17	
T Stat	-0.260561	
P (T<=t) one tail	0.39878	
t Critical one-tail	1.739606	
P (T<=t) two tail	0.797561	
T Critical two tail	2.109819	

In most comparisons, there was a very small difference between the weighted result and the un-weighted result. The most significant difference obtained was 3.1% (Question 18). The Pearson's correlation of 0.995104 suggested no statistically significant difference as this value is very close to 1. The p-value obtained in the Two-tail t test was 0.797561 (i.e. greater than 0.05). This implied no statistically significant difference between the un-weighted result and the weighted result. A graphical representation is provided in figure 4.8.

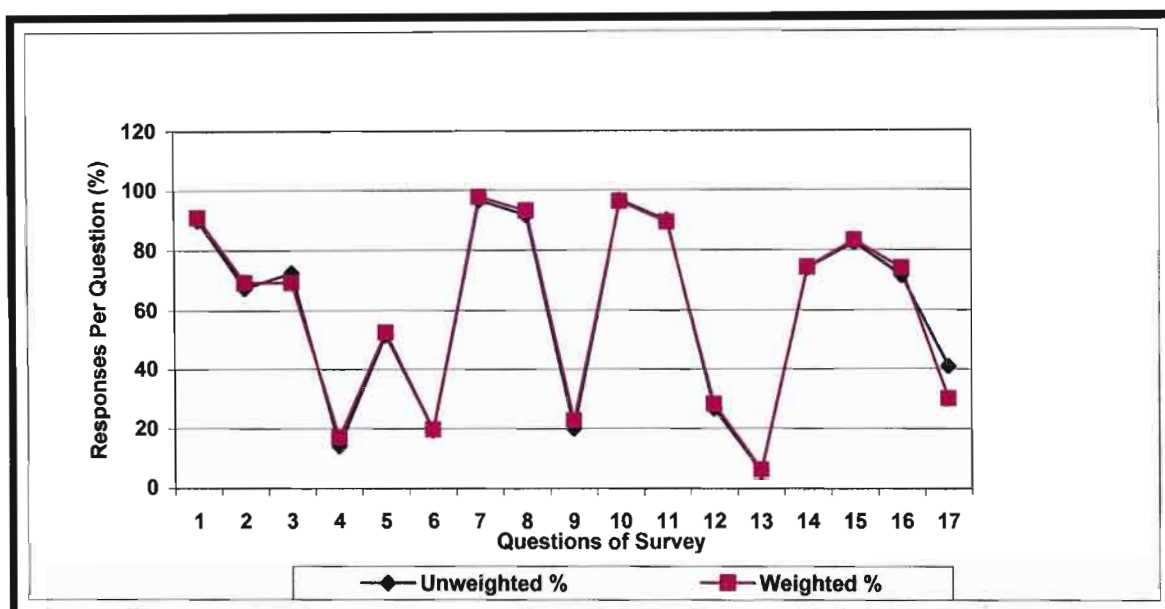


Figure 4.8 Comparison of un-weighted results to weighted results for HIV/AIDS and well-being (women 15-49 years questionnaire) in the uThukela District in 2002.

4.4 COVERAGE VALUES FOR KNOWLEDGE AND PRACTICES AROUND CHILD HEALTH, MATERNAL HEALTH AND HIV/AIDS AND WELL-BEING.

The information presented in this section of the results provides information on Child Health including the mother's age and the presence of care-givers; knowledge of mothers and care-givers of children below two years of age about breastfeeding/infant feeding practices; management of diarrhoeal episodes and acute respiratory illness and the immunisation schedule. The Maternal Health survey captured information on knowledge of mothers about: Mother-To-Child-Transmission (MTCT) of HIV; transmission and prevention of HIV/AIDS; and attitudes towards HIV testing; actual practices of mothers and care-givers with regard to breastfeeding; nutrition; growth monitoring; immunization; treatment of diarrhoea and acute respiratory infection; high risk sexual behaviour; the use of antenatal and post-partum services; immunisation rates of BCG, DPT-3, OPV-3, HBV and measles vaccines including drop-out rates for children aged 12-23 months.

The results presented were taken from the secondary (electronic) analysis. Wherever the population-weighted results were used, 95% Confidence Intervals have been indicated, and hence the percentage values reflected may be slightly different from those reflected in the table of results in Appendix C.

In many instances, un-weighted results were also shown, as there were sub-categories/options within an indicator where it was meaningful to show the exact number and percentage response to each option. In such cases, the un-weighted percentage coverage was reflected so that the sum of the number or percentage response tallied with the total number surveyed or the total percentage coverage for the indicator respectively. This could only be achieved if the un-weighted result were used, as weighting was not done for sub-categories or options within indicators.

4.4.1 Child Health

In this section on child health, questions were asked of the mother/caregiver regarding vitamin A supplementation, immunisation, breastfeeding and complementary feeding practices, diarrhoeal disease and respiratory illnesses. Most questions were specific to either the 0-11 month questionnaire or the 12-23 month questionnaire. However, in some cases the same question was asked in both questionnaires. For these questions a combined analysis was done for both the 0-11 months age group and the 12-23 months age group giving a sample of twice the size (N=240).

4.4.1.1 Identifying the caretaker

These results are from the 120 caretakers of children aged 12-23 months old that were sampled. One hundred and four children (86.7%) were cared for by their mother. When this indicator was weighted, this result was 86.5% (95% CI: 80.1-92.9). Of those infants whose mothers were not present, 9.2% were reported to be at work, 2.5% at school, and 1.6% had absconded. No mothers were deceased. Of the 16 informants (13.3%) that were not the mother, 14 (11.6%) were the grandmother and 2 (1.7%) a relative. There were no older children, maids/nannies, crèches, neighbours, friends or husbands/fathers of the child taking care of the children.

4.4.1.2 Age of the mother

A total of 240 mothers from children 0-23 months was used to analyse maternal age. The mean age of the mothers was 26 years and ranged from 15 to 41 years of age. There were 11 mothers less than 18 years old (4.5%), and 22 mothers older than 35 years (9.2%). The remaining 207 mothers (86.3%) were between the ages of 18 and 35. The 18-35 years age category was used as this was established by the TDCSP Team as an acceptable age for mothers to be and the age category used in earlier surveys in the area.

4.4.1.3 Road to health card

Immunisation records for the age group 0-11 months and 12-23 months are analysed.

a) Children 0-11 Months:

All 120 children (100%) had a RTHC and 88 (73.3%) [(95% CI: 66.0-80.6)] had been recorded on the RTHC as having been weighed once in the last 2 months. Only 33.9% (95% CI: 25.1-42.7) had been weighed twice in this period.

b) Children 12-23 Months:

In this age group 93.4% (95% CI: 88.3-98.5) had a RTHC and only 25.2% (95% CI: 16.8-58.5) had been weighed once in the last 2 months and 9.6% (95% CI: 4.1-15.1) had been weighed twice.

4.4.1.4 Vitamin A for Mothers and Children

The 120 mothers of children 0-11 months were asked whether they had received a Vitamin A capsule shortly after delivery to which 63.1% (95% CI: 55.8-70.4) had answered yes. However, only 56.1% (95% CI: 48.5-63.7) had this marked on their child's RTHC. Of the children in the age category 12-23 months, 45.9% (95% CI: 37.1-54.7) had received a Vitamin A capsule as reported by the mother.

4.4.1.5 Immunisations

Immunisation coverage was measured by recording the immunisations administered in the first year of life and recorded in the RTHC of 12-23 month old children. Those with no RTHC were taken as not having been vaccinated. The immunisation status of the children was as follows.

a) Bacille de Calmette Guerin (BCG) Coverage

One-hundred and nineteen children (99.1% (95% CI: 97.4-100.0)) had been given BCG vaccines at birth.

b) Oral Polio Vaccine (OPV) Coverage

Table 4.9 Coverage of OPV Doses administered in the First Year of Life in the uThukela District in 2002

OPV0	OPV1	OPV1, 2	OPV1, 2, 3
89.2%	89.2%	89.2%	85.0%

The weighted coverage of those that were fully immunised against OPV was 84.4% (95% CI: 77.7-91.1).

c) Diphtheria, Pertussis and Tetanus (DPT) Coverage

Table 4.10 Coverage of DPT Vaccine in the First Year of Life in the uThukela District in 2002

DPT1	DPT1, 2	DPT1, 2, 3
86.7%	87.5%	85.0%

The weighted percentage of those that were fully immunised against DPT was 85.4% (95% CI: 78.7-92.1).

d) Hepatitis B Vaccine Coverage

Table 4.11 Coverage of Hepatitis B Vaccine (HBV) in the First Year of Life for the uThukela District in 2002

HBV1	HBV1, 2	HBV1, 2, 3
87.5%	87.5%	83.3%

The weighted percentage of those that were fully immunised against HBV was 82.3% (95% CI: 74.9-89.7)

e) Measles Coverage

One-hundred out of 120 children (83.3%) in the 0-11 months age group had been given their first

dose of measles vaccine in the uThukela District in 2001. When weighted this value was 83.9% (95% CI: 76.8-91.0).

4.4.1.6 Breast-feeding

Of the 120 children in the age category 0-11 months, 98.9% (95% CI: 97.7-100.0) had ever been breastfed, and 91.2 % (95% CI: 86.3-96.1) were currently being breastfed. When asked within how many hours (of birth) the mothers had put the baby to the breast, the mothers reported that 70.8% had been put to the breast within one hour, 5.0% within two hours, 6.7% within three hours and 5.8% after three hours. The weighted coverage of women putting the baby to the breast within one hour was 66.3% (95% CI: 57.9-74.7

Of the 69 children (57.5%) aged 0-5 months, 19 (27.5%) were being exclusively breast-fed. The weighted result of this was 23.2% (95% CI: 16.3-30.1).

4.4.1.7 Knowledge on the age of the child when foods or liquids in addition to breast milk should be given or introduced

Table 4.12 illustrates the mothers/care-givers knowledge, based on the responses for each of the options given in the questionnaire.

Table 4.12 Age categories that caregivers reported adding foods/liquids other than breast milk		
Age to introduce food/liquids in addition to breast milk	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Earlier than 4 months	35	29.2
At 4 months	17	14.2
Between 4 and 6 months	14	11.7
At 6 months	25	20.8
After 6 months	19	15.8
Don't know	10	8.3

These results were un-weighted as they looked at a variety of options. However, the correct answer sought was that supplementation should start at 6 months. When this question was re-coded as a binomial, the weighted coverage of children given supplementary feeding at 6 months was 22.1% (95% CI: 14.1-30.1).

4.4.1.8 The age when mothers had given anything other than breast milk (practice)

Mothers were asked the age they had given anything other than breast milk to their babies.

Table 4.13 Age categories of children when mothers had given anything other than breast milk		
Age of child in months when anything other than breast milk was offered	Number of mothers giving the response (N=120)	Percentage of mothers giving the response
0-1 month	20	16.9
> 1-2 months	20	16.9
> 2-3 months	8	6.7
> 3-4 months	32	27.0
> 4-5 months	26	21.3
> 5-6 months	7	5.6
After 6 months	7	5.6

It is evident that many mothers introduced fluids/foods when their children were much younger than 6 months (Table 4.14), some even before the baby was a month old. Nearly half (41%) had introduced solids by the age of the three months. Only 5.6% reported starting solids after 6 months. When recoded as a binomial, the weighted result for this option was 5.8% (95% CI: 1.4-10.2).

4.4.1.9 Knowledge of age to stop breastfeeding

Mothers were asked the age of the child at which they would stop breastfeeding.

Table 4.14 Mothers knowledge of age to stop breastfeeding child.		
Age of child when breastfeeding would stop	Number of mothers giving this response	Percentage of mothers giving this response
Earlier than 6 months	3	2.5
Earlier than 12 months	9	7.5
Earlier than 24 months	28	23.3
At 24 months	28	23.3
After 24 months	29	24.2
As long as possible	10	8.3
Don't know	13	10.8
Total	120	100

More than half (52%) of the mothers knew that breastfeeding should be continued for 24 months or longer. This is reflected in the LQAS tables (Appendix C- Table 1B). The weighted result of these two options combined was 52.0% (95% CI: 43.0-59.0).

4.4.1.10 Complementary feeding:

Mothers of children in the 0-11 months age group were asked what types of complementary feeding was given to the child most frequently.

Table 4.15 Type of complementary foods reported to be given to 0-11 month old babies.		
Types of food	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Porridge	77	64.2
Anything added to meals	61	50.8
Plain water given in the last 24 hours	56	46.7
Margarine, peanut butter, oil, sugar	55	45.8
Teas/juices given in the last 24 hours	49	40.8
Fruit	48	40.0
Eggs	46	38.3
Infant formula given in the last 24 hours	44	36.7
Meat, chicken, soya, fish, beans	41	34.2
Yellow vegetables	39	32.5
Other milk (tinned/powdered/fresh animal) given in the last 24 hours	32	26.7
Maas (sour milk)	26	21.7
Dark green leafy vegetables	24	20.0

Of the complementary foods, porridge was given most commonly, followed by margarine/peanut butter/oil/sugar and fruit.

These percentages added up to more than 100% as more than one option was chosen by several mothers, and was therefore not weighted.

4.4.1.11 Diarrhoeal disease

Information is provided here on the knowledge and practice of mothers/caregivers when a child has diarrhoea as well as danger signs that would prompt a mother or caregiver to seek medical help.

a) Mothers Knowledge of Diarrhoea

These questions were asked of the 120 mothers/caretakers of children 12-23 months old, whether their children had been ill with diarrhoea recently. The mothers were asked what steps a mother would normally take when a child has diarrhoea.

Table 4.16 Steps reported to be taken by the mother/caregiver when a child had diarrhoea.		
Knowledge of action to take when child has diarrhea	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Proper mixing and administration of oral re-hydration solution (ORS) sachet/sugar salt solution (SSS)	99	82.5
Take the child to hospital or health facility	58	48.3
Anti-diarrhoea medicine from doctor or chemist	13	10.8
Initiate fluids rapidly	10	8.3
Enemas	9	7.5
Continue to feed/breastfeed the child	2	1.7
Give home available fluids (tea, juice, etc)	2	1.7
Withhold food	1	0.8
Give the child more to drink than usual	1	0.8
Nothing	0	0
Withhold fluids	0	0
Castor oil	0	0
Don't know	4	3.3
Other	10	8.3

Of the respondents, 88.8% (95% CI: 82.9-94.7) knew 2 or more of the correct options.

b) Signs and Symptoms of Diarrhoea

Mothers were asked what signs and symptoms would prompt mothers/ caregivers to seek advice or treatment immediately for diarrhea.

Table 4.17 Signs and symptoms of diarrhoea that would cause a mother/caretaker to seek medical help		
Knowledge of signs and symptoms	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Child lethargic or unconscious	55	45.8
Child vomits everything	49	40.8
Other (including persistent diarrhoea)	36	30.0
Signs of dehydration (e.g. sunken eyes, sunken fontanelle, thirsty)	28	23.3
Diarrhoea with blood	24	20.0
Child is unable to drink or breastfeed	22	18.3
Convulsions in this illness	0	0
Don't know	11	9.2

More than half of the caregivers 54.4% (95% CI: 45.1-63.7) knew 2 or more danger signs or symptoms of diarrhoea. Only 11 mothers/caregivers (9.2%) did not know any danger signs in the uThukela District in 2001.

Using the LQAS decision rule table, it was concluded that only Municipality 1 (Mbabazane) fell below the district average for knowing 2 or more danger signs or symptoms of diarrhoea. All municipalities fell below the targets set by the program management for this indicator (Table 3B of Appendix C- indicator 9).

c) Knowledge of how to Feed a Child Recovering from Diarrhoea

The following were the responses of the mothers/caregivers arranged from highest to lowest percentage response, unprompted, and more than one answer possible, hence the total percentage adds up to more than 100%:

Table 4.18 Knowledge of how to feed a child recovering from diarrhoea.		
Knowledge of how to feed the recovering child	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Feed the child the same (as before)	34	28.3
Give the child smaller, more frequent feeds	32	26.7
Feed the child less	31	25.8
Feed more after the diarrhoea episode	18	15.0
Don't know	7	5.8
Other	5	4.2

The “feed more” and the “smaller, more frequent feeds” options were taken as correct responses and when weighted, 47.5% (95% CI: 39.1-55.9) had chosen either one of these options. Only Municipality 1 (Mbabazane) fell below the district average for this indicator (Table 3B of Appendix C- indicator 10).

d) Diarrhoea Practice

All children 0-23 months were included to determine the incidence of diarrhoea in the previous 2 weeks in the uThukela District. Seventy five of the 240 children surveyed reported diarrhoea in the previous 2 weeks. The incidence of diarrhoea was 313 episodes of diarrhoea per 1000 children 0-23 months in 2 weeks of February 2002 (summer) in the uThukela District (95% CI: 25.3-37.3). Of these 75 mothers/caregivers of children with diarrhoea, 70.6% (95% CI: 62.0-79.2) had given something orally at home to treat the diarrhoea, whilst 29.4% (n=22) had not

given anything or did not know. Altogether, 89.7% (n=67) reported they had given SSS or ORS to the child.

Table 4.19 Different home treatments given to children 0-24 months who had diarrhoea in the previous 2 weeks in the uThukela District in 2002.		
Different home treatments given to children 0-24 months who had had diarrhoea in the previous 2 weeks	Number of mothers who gave this treatment to their sick child (N=240)	Percentage of mothers who gave this treatment to their sick child
SSS	37	63.8
ORS	15	25.9
Anti-diarrhoeal medicine	12	20.7
Other	8	13.8
Enemas	4	6.9
Any home fluids	4	6.9
Breast milk	1	1.7
Castor oil	0	0
Antibiotics	0	0
Don't know	0	0

e) Fluids and Feeding During Diarrhoea (Practice)

The 75 mothers (31.3%; N=240) whose children had been ill were asked whether they had given the same amount, more or less of fluids (including breast milk) to her child when her child was ill with diarrhoea. Thirty one (41.3%) of these mothers said they gave the child the same amount, 30.7% fed their child more fluids, 26.7% fed their child less and only 1 mother fed the child nothing to drink. The correct answer to this question was that more fluid intake was required. The weighted results of this response were 32.6% (95% CI: 23.6-41.6). None of the

municipalities were below the average for the district (Appendix A). It is evident that less than one-third of the mothers practiced the correct option (Appendix C- Table 2A, Question 5).

4.4.1.12 Respiratory infections

The information provided here shows the mother/caretakers knowledge and practice when a child has an Acute Respiratory Infection.

a) Caregivers knowledge pertaining to Acute Respiratory Infections and General Danger signs

These questions were asked of the 120 mothers or caretakers of 12-23 month old children. The mothers/caretakers were asked which danger signs would cause them to take their child immediately to a health facility (Table 4.20).

Table 4.20 Caregivers unprompted knowledge of danger signs of ARI.		
Danger signs	Number of mothers giving the response (N=120)	Percentage of mothers giving the response
Fast or difficult breathing	41	34.2
Wheezing	32	26.7
Grunting/groaning	13	10.8
Chest in-drawing	1	0.8

Table 4.21 Caregivers knowledge of other danger signs of acute respiratory infections.		
Knowledge of other danger signs	Number of mothers giving the response (N=120)	Percentage of mothers giving the response
Child unable to drink or breastfeed	8	6.7
Child vomits everything	16	13.3
Child lethargic or unconscious	11	9.2
Convulsions in this illness	3	2.5
Don't know (Were Unaware)	17	14.2
Other	42	35.0

The above percentages add up to more than 100% as some mothers/caretakers chose more than one option. From the weighted results, 31.8% (95% CI: 23.4-40.2) knew 2 or more danger signs. Mothers in Mbabazane had a poorer knowledge of ARI danger signs than average for the district. Both Mbabazane and Mnambithi fell below the target set by the program managers (Table 3C of Appendix C- indicator 11).

Only 28.4% (95% CI: 19.9-36.9) knew 3 or more of these signs. Municipality 1 (Mbabazane) was the only municipality that fell below the district average (Table 3C of Appendix C- indicator 12).

The “don’t know” and “other” options were not taken as acceptable responses in this analysis. It must also be noted that although only Municipality 1 fell below the district average, the overall percentage coverage for the respective indicator was very low.

b) Acute Respiratory Infections (Practice)

All 240 mothers were asked whether their child had, an ARI during the previous two weeks. Seventy five reported the child being ill presenting with a cough or difficulty in breathing during the previous two weeks. Following this fifteen (6.3% of the total children, or 20.0% of those who had been ill with cough or difficult breathing) had experienced fast breathing or difficulty in breathing. The weighted incidence of acute respiratory infection was 65 episodes of acute respiratory infection per 1000 children per 2 weeks in February 2002 (summer) in the uThukela District. Eleven of the 15 children (73.3%) who had experienced chest in-drawing, help had been sought for this. When weighted according to the district population, this figure was 71.0% (95% CI: 64.5-77.5).

4.4.2 Maternal Health

Questions on maternal health were asked of caregivers of 120 children 0-11 months of age.

The “don’t know” and “other” options are reflected at the bottom of the table as it is not categorised as an acceptable option. All other responses are represented from highest to lowest percentage and number of responses.

4.4.2.1 Danger signs associated with pregnancy

Mothers were asked what problems or danger signs would make them seek medical attention.

Table 4.22 Knowledge of danger signs associated with pregnancy that would prompt mothers to seek medical help.		
Danger signs associated with pregnancy	Number of responses (N=120)	Percentage response
Vaginal bleeding	41	34.2
Swelling of body/hands/face	27	22.5
Persistent or severe abdominal pains	24	20.0
Decrease in fetal movement	21	17.5
Premature labour	14	11.7
Vulval sores or offensive vaginal discharge	12	10.0
Rupture of membranes	11	9.2
Persistent or severe headache	11	9.2
Dizziness or vomiting in late pregnancy	10	8.3
Fever	7	5.8
In labour and has had previous caesarean	4	3.3
Difficult breathing	3	2.5
Convulsions	3	2.5
Burning urine	3	2.5
Don't know	27	22.5
Other	24	20.0

When weighted, 54.4% (95% CI: 45.1-63.8) of mothers/caregivers knew 2 or more correct danger signs and 23.1% (95% CI: 15.0-31.2) knew 3 or more correct danger signs.

In both instances, none of the municipalities fell below the district average. This should not be taken as a positive outcome as the percentage coverage of these indicators are very low as shown in Table 1C of Appendix C- indicators 12 and 13. Nearly a quarter of informants (22.5%) did not know any danger signs.

4.4.2.2 Danger signs during delivery

Mothers were asked what problems or danger signs would make them seek medical attention during delivery (Table 4.23).

Table 4.23 Danger signs during delivery that would prompt mothers to seek medical help.		
Danger signs during delivery	Number of mothers giving this responses (N=120)	Percentage of mothers giving this response
Haemorrhage	38	31.7
Sun sets at least once during labour (prolonged labour)	26	21.7
Baby in poor position	20	16.7
Water breaks	19	15.8
Abdominal pain	17	14.2
Baby does not move	7	5.8
Severe headache	4	3.3
Fever	3	2.5
Sweating of body/hands/face	3	2.5
Retained placenta	2	1.7
Symptoms of an abortion	2	1.7
Baby has excessive movement	1	0.8
Swelling of body/hands/face	0	0
Liquor is green	0	0
Convulsions	0	0
Don't know	22	18.3
Other	17	14.2

Of the mother/caregivers responses 36.1% (95% CI: 26.9-45.3) knew 2 or more danger signs and 9.6% (95% CI: 3.8-15.4) knew 3 or more danger signs. With regard to the knowledge of “2 or more danger signs” indicator, none of the municipalities fell below the average decision rule. However, the overall percentage coverage was much lower than the target percentage coverage of 60.0% (or a target decision rule of 11) as set by the TDCSP. This criterion was only met by Municipality 4 (Mnambithi). For the “knowledge of 3 or more danger signs” indicator, no average decision rule could be determined as the percentage coverage was too small. In addition, no percentage target was set by the TDCSP (Table 1C of Appendix C- indicators 14 and 15).

4.4.2.3 Danger signs for mother after delivery

This question asked what problems or danger signs would cause the mother to seek medical attention after delivery. Table 4.16 summarises this information.

Table 4.24 Danger signs after delivery that would prompt mothers to seek medical help.		
Danger signs for mother after delivery	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Haemorrhage	43	35.8
Weakness/debility	20	16.7
Severe headache	14	11.7
Abdominal pain	13	10.8
Tear of perineum and bleeding	8	6.7
Swelling of body/hands/face	5	4.2
Abnormal behaviour/severe depression	4	3.3
Fever	3	2.5
Difficult breathing	2	1.7
Severe sweating of body/hands/face	1	0.8
Offensive vaginal discharge	0	0
Convulsions	0	0
Don't know	42	35.0
Other	23	19.2

When weighted, 32.3% (95% CI: 23.5-41.1) of mothers/caregivers had known 2 or more correct danger signs and 6.7% (95% CI: 1.8-11.6) knew 3 or more danger signs. The percentage coverage of the “2 or more correct danger signs” indicator was very low in comparison to the target percentage coverage of 80.0% to which all of the municipalities fell below. The percentage coverage of the “3 or more correct danger signs” indicator was so low that an average decision

rule could not be determined from the LQAS table. No target was set by the TDCSP for this indicator. (Table 1C of Appendix C- indicators 16 and 17).

4.4.2.4 Danger signs for newborns

The mother was asked what signs to watch for within the first seven days that might indicate that the newborn was sick and prompt her to seek medical attention immediately (Table 4.17).

Table 4.25 Danger signs for newborns within the first seven days that would prompt a mother/ caretaker to seek medical help.

Newborn danger signs	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Failure to suck or breastfeed	49	40.8
Fever	19	15.8
Failure to pass stool or urine	18	15.0
Yellow discolouration of skin and eyes	16	13.3
Not active, lethargic, or unconscious	16	13.3
Fast breathing	10	8.3
Discharging eyes	8	6.7
Grunting	6	5.0
Bleeding from umbilical cord	6	5.0
Chest in-drawing	6	5.0
Baby feels cold	3	2.5
Convulsions	0	0
Bulging fontanelle	0	0
Don't know	22	18.3
Other	31	25.8

According to the TDCSP Team, it was acceptable for a mother to know 2 or more correct danger signs, hence indicators for the “2 or more correct danger signs” and the “3 or more correct danger signs” were calculated. Weighting the data indicated that 28.53% (95% CI: 20.1-36.9) of mothers/caregivers knew 2 or more danger signs and 8.9% (95% CI: 3.8-14.0) knew 3 or more danger signs. The percentage coverage of the “2 or more correct danger signs” indicator was very low in comparison to the target percentage coverage of 60.0% to which all of the municipalities fell below. The percentage coverage of the “3 or more correct danger signs” indicator was so low that an average decision rule could not be determined from the LQAS table (Appendix A). No target was set for this indicator. (Table 1C of Appendix C- indicators 18 and 19).

Table 4.18 summarises the responses obtained to the question “who decides that the mother of the child should visit a clinic, hospital or doctor if symptoms and signs dictate that such a referral is required?”

Table 4.26 Who decides that a mother needs medical help?		
Decision maker	Number of mothers giving this response (N=120)	Percentage of mothers giving this response
Woman herself	80	66.7
Own mother	23	19.2
Husband	10	8.3
Mother-in-law	7	5.8
Father-in-law	0	0
Other	0	0
Total	120	100

4.4.2.5 Antenatal visits

With regard to antenatal visits, of the 120 mothers, 35.0% (n=42) had antenatal cards, while 51.7%

(n=62) said they had lost their cards and 13.3% (n=16) said they had never had a card. The weighted percentage of those who had antenatal cards was 32.2% (95% CI: 24.4-40.0).

4.4.3 HIV/AIDS and Well-being

The primary purpose of this survey was to establish current knowledge and practices regarding HIV/AIDS and well-being in the uThukela District in 2002. It served also to establish womens' knowledge of HIV transmission, particularly from mother to child. In addition, the questionnaire assessed womens' perceptions of HIV testing, and the appropriate access to health care.

The questionnaire went a step further in linking womens' knowledge of safe-sex practices to the actual practicing safer sex.

4.4.3.1 Transmission of HIV from mother to child

Table 4.27 Womens' knowledge of the periods of HIV transmission from mother to child, in the uThukela District in 2002 (N=120).					
Stages of child development	No. of women responding yes	Percentage of women responding yes	Weighted %, with 95% CI, of women responding yes	Percentage of women responding no	Percentage of women unaware
During pregnancy	108	90.0	90.9% (95% CI: 85.5-96.3)	3.3	6.7
During delivery	81	67.5	69.3% (95% CI: 60.9-77.7)	8.3	24.2
During breastfeeding	87	72.5	72.7% (95% CI: 64.3-81.1)	8.3	19.2

4.4.3.2 Breastfeeding and HIV

Most women, 90.9% (95% CI: 85.3-96.3) knew that HIV was transmitted to the baby during pregnancy, 69.3% (95% CI: 60.9-77.7) knew that HIV was transmitted during delivery and 72.7% (95% CI: 64.3-81.1) knew that HIV was transmitted during breast-feeding (Table 4.19). In addition, the women who knew that HIV could be transmitted by breastfeeding were asked how an HIV positive mother who chooses to breastfeed her baby could decrease the risk of her baby contracting HIV through breastmilk. Out of 87 respondents, 17 (19.5%) of women said exclusive breastfeeding and abrupt weaning, 3 (3.5%) said heat the breastmilk, and 67 (77.0%)

did not know.

4.4.3.3 Healthy living in the HIV positive patient

With regard to healthy living in the HIV patient, a variety of factors contribute to maintaining healthy living. Responses to the question “How can an HIV positive mother stay as healthy as possible” are presented in Table 4.20.

Table 4.28 Caregivers knowledge of factors that contribute to healthy living in the HIV positive patient.		
Factors stated that contribute to healthy living in the HIV positive patient	Number of women giving this response (N=120)	Percentage women giving this response
Use a condom to prevent re-infection through sexual intercourse	75	62.5
Good nutrition	74	62.0
Exercise	28	23.3
Reduce stress	15	12.5
Treat opportunistic infections as soon as possible	14	11.7
Get enough rest	7	5.8
Where desired, seek spiritual wisdom	3	2.5
Healthy habits (no excessive drinking or smoking)	3	2.5
Plan his/her future	1	0.8
Don't know	9	7.5
Other	36	30.0

Of the responses attained, 52.5% (95% CI: 43.1-61.9) knew 2 or more factors contributing to positive living, and 17.1% (95% CI: 9.7-24.5) knew 3 or more reasons.

4.4.3.4 Places where treatment was sought

The following were chosen by women as places where an HIV positive person could seek treatment if they were not well: 95.0% chose a clinic/hospital, 46.7% preferred a private doctor and 9.2% chose a traditional healer.

4.4.3.5 Voluntary Counseling and Testing (VCT)

All except 4 of the 120 women were able to suggest ways that someone could find out if they were HIV positive. Of the 110 women (91.7%) that said that they would go for a test, 11.7% suggested going to the health facility, and 3.3% chose a counseling and testing service. Only 22.7% (95% CI: 15.0-30.4) said they had heard of a VCT service. .

4.4.3.6 Reason for testing

The reasons given for having an HIV test were investigated.

Table 4.29 Reasons for having an HIV test.		
Reason for testing	Number of women giving this response (N=120)	% of women giving this response
To know your status	74	61.7
If I'm sick	43	35.8
If I have an STI	5	4.2
Pregnancy	5	4.2
Family planning	5	4.2
Protect child	4	3.3
Protect partner	4	3.3
Plan for future	2	1.7
Marriage	2	1.7
Insurance	0	0
Don't know	11	9.2
Other	19	15.8

Of the women interviewed, 89.4% (95% CI: 81.1-97.7) knew 1 reason to be tested, 28.2% (95% CI: 19.9-36.5) knew 2 reasons and 6.3% (95% CI: 1.5-11.1) knew 3 or more reasons.

4.4.3.7 Perception of the Risk of Contracting HIV/AIDS

In response to the question: “Do you think you are personally at risk of getting HIV/AIDS?” 86 out of 120 women (71.7%) said they felt personally at risk of contracting HIV. The weighted result was 74.1% (95% CI: 66.4-82.4). Of those that felt they were not personally at risk of contracting HIV, the reasons that were given were as follows:

Abstaining (4 out of 33 women)

Having a faithful partner (15 out of 33 women)

Using a condom every time (8 out of 33 women)

Don't know (2 out of 33 women)

Other reasons (4 out of 33 women)

One woman did not answer this question.

4.4.3.8 Condom use

Of the 109 women (90.8%, N=120) who were sexually active, 32 respondents (29.4%, N=109) had reported that their partner had used a condom during their last sexual intercourse.

Among those sexually active women whose partners had not used a condom during their last sexual intercourse, the reasons given are outlined in Table 4.30.

Table 4.30 Reasons for not using a condom in sexually active women.		
Reasons for not using a condom	Number of women giving this response (N=77)	Percentage of women giving this response
Partner refused	40	51.9
Don't like to use them	14	18.2
Less satisfaction	10	1.3
Don't know where to get them	3	3.9
Not available	2	2.6
They break	0	0
Too expensive	0	0
Don't know	6	7.8
Other	17	22.1

4.4.4 Individual Municipality Performance.

Each indicator where district coverage was measured can also be used to identify which municipalities were performing below average. This is one of the strengths of the LQAS methodology and is very useful for health service managers. All indicators where a municipality was below the district average were underlined in the appropriate appendices (Appendix B and Appendix C). These have been collated into summary tables (Tables 4.31 to 4.34).

4.4.4.1 Maternal Health indicators (0-11 months)

The maternal health indicators for each municipality where the coverage was below average is summarised in Tables 4.31 to Table 4.34.

Table 4.31 List of maternal health indicators where the Mbabazane municipality has performed below the average coverage, in the uThukela District in 2002.

Question	Indicator
1	Mother reports she received Vitamin A shortly after delivery
3	The child has been weighed once in the last two months
5	Card indicates mother received Vitamin A after delivery
9	Did you give [NAME] the first milk that came from your breast?

Table 4.32 List of maternal health indicators where the Mtshezi municipality has performed below the average coverage, in the uThukela District in 2002.

Question	Indicator
1	Mother reports she received Vitamin A shortly after delivery
9	Did you give [NAME] the first milk that came from your breast?
11	At what age should a mother stop breastfeeding altogether?

Table 4.33 List of maternal health indicators where the Ndaka municipality has performed below the average coverage rule, in the uThukela District in 2002.	
Question	Indicator
3	The child has been weighed once in the last two months
11	At what age should a mother stop breastfeeding altogether?

Table 4.34 List of maternal health indicators where the Mnambithi municipality has performed below the average coverage, in the uThukela District in 2002.	
Question	Indicator
21	Antenatal record: Ask mother to bring you her antenatal record.

No indicator was below the district average coverage in the Okhahlamba municipality (Municipality 5).

4.4.4.2 Integrated Management of Childhood Illnesses (12-23 Months)

Only municipality 1 (Mbabazane), had indicators that fell below the average coverage as shown in Table 4.35.

Table 4.35 List of IMCI health indicators where the Mbabazane municipality has performed below the average coverage, in the uThukela District in 2002.	
Question	Indicator
7	Has [NAME] ever received a Vitamin capsule like this one?
9	What signs and symptoms would cause you to seek advice/treatment for child's diarrhoea? 2 or more options
10	After a bout of diarrhoea, how should a mother feed a child when recovering?
11	Which danger signs of respiratory infections would cause you to take your child for medical help? 2 or more options
12	Which danger signs of respiratory infections would cause you to take your child for medical help? 3 or more options

4.4.4.3 Diarrhoeal Disease and Acute Respiratory Infection (0-23 Months)

None of the municipalities had indicators for diarrhoeal disease and acute respiratory infection that fell below the average coverage in the uThukela District in 2002.

4.4.4.4 HIV/AIDS and Well-being (Women 15-49 years)

Only Mbabazane and Mtshezi had indicators that fell below the average coverage in the HIV/AIDS and Well-being Technical areas. The HIV/AIDS and well-being indicators for each municipality where the coverage was below average is summarised in Tables 4.36 to Table 4.37.

Table 4.36 List of HIV/AIDS and well-being indicators where the Mbabazane municipality has performed below the average coverage, in the uThukela District in 2002.

Question	Indicator
2	Can the virus that causes HIV be transmitted from mother to child during delivery?
5	How can an HIV positive person stay as healthy as possible? 2 or more options
11	What do you think are the reasons to get an HIV test? 1 reason
12	What do you think are the reasons to get an HIV test? 2 reasons

Table 4.37 List of HIV/AIDS and well-being indicators where the Mtshezi municipality has performed below the average coverage, in the uThukela District in 2002.

Question	Indicator
8	How could a person find out whether she has HIV?
17	Do you think you are personally at risk of getting HIV/AIDS?

4.5 SUMMARY

Only 1 out of the 4 comparisons showed a statistically significant difference between the manual analysis and the electronic analysis namely the Questionnaire on Maternal Care (0-11 months). Looking specifically at this questionnaire, 4 questions (questions 8, 9, 10 and 24) showed large differences between the manual analysis and the electronic analysis. These differences contributed to producing an overall difference that was statistically significant. The remaining 3 comparisons showed no statistically significant difference between the manual analysis and the electronic analysis.

In 2 of the 4 overall comparisons made between the un-weighted results and the population-weighted results, statistically significant differences were obtained (questionnaire relating to Maternal Health and questionnaire relating to HIV/AIDS and well-being).

Looking specifically at the comparisons where statistically significant differences were obtained, it was noted that the weighted results were consistently higher than the un-weighted result.

However, the percentage difference obtained per indicator was very small.

Municipalities 1 (Mbabazane) and 2 (Mtshezi) have the most number of indicators that fell below the district average (or coverage) based on the LQAS methodology and using the LQAS Decision Rule table. In addition, this was most evident in the 0-11 months questionnaire as there were several indicators here that fell below the district average. Mbabazane had 13 of the total coverage indicators that were below the district average, Mtshezi had 5, Ndaka 2, Mnambithi 1 and Okhahlamba had none below the district average.

A greater proportion of the maternal health indicators (10 out of 18) were below average for the district. HIV/AIDS and well-being had 6 indicators below the district average and IMCI had 5 indicators below the district average.

None of the diarrhoeal and ARI indicators were below the district average.

CHAPTER 5

DISCUSSION

5.1 INTRODUCTION

The study carried out by the uThukela District of KZN, in collaboration with WVSA, has provided extensive data on Maternal and Child Health as well as the HIV/AIDS knowledge of women in the district (World Vision South Africa, 2000).

Since one of the key objectives of this dissertation was to provide a secondary, more refined analysis of the survey carried out by the TDCSP Team, it is important that the questionnaire design and interpretation of results by the TDCSP Team also be looked at, in order to provide appropriate and meaningful feedback. In addition, it is important to evaluate the principles and methodological issues around this study as well as assess the reliability of the data analysed.

A summation of the overall district coverage is presented in this chapter.

5.2 EVALUATION OF OVERALL DISTRICT COVERAGE

In this section, an overall summary of the results of the study is discussed.

This includes information regarding the caretaker of the child, RTHC of child, vitamin A supplementation, immunisation coverage, breastfeeding and nutrition practices, diarrhoeal disease and respiratory illnesses and Maternal health and HIV/AIDS knowledge and practice.

5.2.1 Identifying the Caretaker

It was positive to find that in the majority of cases (86.7% of the 120 samples surveyed in the 12-23 months questionnaire) the mother was the care-taker of the child and when this was not the case, the grandmother was the caretaker of the child in 14 out of 16 cases. This indicator was, however, not used as an LQAS indicator in the analysis, hence no average decision rule or target decision rule was established.

5.2.2 Age Distribution of Mothers/Care-givers

From a combined analysis of the age distribution of mothers in the 0-11 months and the 12-23 months questionnaires, it was positive to note that 86.3% of mothers were between the ages of 18 and 35. It is questionable as to why a cut off of 18 years and 35 years were used. However, as stated in the World Vision South Africa Survey Report, 2000, women outside this category are at greater risk for complications during pregnancy and delivery, and are a special target group for MCH interventions.

Of the mothers surveyed, 4.5% were under 18 years and 9.2% were over 35 years. Although the percentage of mothers under 18 years in the survey was only 4.5%, there ought to be concern over such pregnancies in the District, for reasons stated in the paragraph above. Although this is an important indicator, it was not included as one of the LQAS indicators. If it has been established that pregnancies between the ages of 18 years and 35 years have limited risks, then perhaps this can be a useful indicator to identify possible supervision areas that have higher pregnancy rates outside the “acceptable” age category.

5.2.3 Road To Health Card

In both the 0-11 months questionnaire and the 12-23 months questionnaire, possession of a RTHC, as seen by the interviewer was very high. The average coverage of children weighed once in the last 2 months, as recorded in the RTHC for the 0-11 month questionnaire was 71.7% (un-weighted), which is 9.3% below the established target of 80.0%. In addition, municipality 1 (Mbabazane) and Municipality 3 (Ndaka) fell slightly below the average coverage decision rule of 15 and target decision rule of 16 (Appendix C1 a- indicator 3) respectively. With regard to the

child having been weighed and recorded on the RTHC twice in the last two months, an average coverage of 30.0% was achieved, 50.0% below the established target of 80.0%. None of the municipalities fell below the average decision rule, but this is due to the percentage coverage being so low. With a target as high as 80.0%, all of the municipalities fell below the target decision rule of 16 (Appendix C1 a- indicator 4).

5.2.4 Vitamin A for Mothers and Children

In reference to indicators 1 and 5 of the 0-11 months category (regarding *reported* and *indicated* Vitamin A supplementation), as shown in Table C1a of Appendix C, it is evident that more mothers *reported* to have been given Vitamin A shortly after delivery (indicator 1) than that was *indicated* on the RTHC (indicator 5). There is only a 6.7% average difference between the two, but such a difference must not be ignored, as it is important for program managers to make certain that record-keeping is accurate and reliable. Although only Municipality 2 (Mtshezi) fell below the average coverage decision rule for indicator 1, Municipality 1 (Mbabazane) fell below the average coverage decision rule for both indicator 1 and indicator 5. In addition, for both of these indicators, all of the municipalities other than municipality 4 (Mnambithi), were performing below the target decision rule.

5.2.5 Immunisation

The results obtained shows good vaccination coverage, ranging from 82.3% for Hepatitis B to 99.1% for BCG. Even with the established target of 90.0%, as reflected in the LQAS Table (Table C3a of Appendix C), none of the municipalities fell below the target decision rule.

5.2.6 Breast-feeding and Nutrition

Of all the children surveyed in the 0-11 month age group, 89.2% were currently being breast-fed, and 97.5% had been breast-fed at some time. Of the children currently being breast-fed, 27.5% were being exclusively breast-fed, but this sub-group was too small (n=19; N=69) for further analysis. However, based on findings from this study, and on the low knowledge levels about weaning ages and exclusive breast-feeding (only 7.5% of respondents knew when a child should be receiving solid foods), one can conclude that exclusive breast-feeding rates are low among the

survey population. Further research needs to be done in each municipality for purposes of target-setting and program planning.

5.2.7 Diarrhoeal Disease

The main concerns shown by this survey with regard to a mother's response to her child being afflicted with diarrhoea seems to be a lack of understanding of dehydration and the necessity to initiate fluids, and the lack of knowledge of danger signs of severe illnesses such as respiratory infections.

The incidence of diarrhoea was 31.3% (95% CI: 25.3-37.3) or 313 episodes per 1000 children (0-23 months) in the first two weeks of February 2002 in the uThukela District of Kwazulu-Natal.

Provincial figures of the incidence of diarrhoea was not available. However, deaths due to diarrhoeal disease in children under the age of five (in KZN) was 14.7% (Statistics South Africa, 2002). The survey also focused on the knowledge of mothers/care-givers regarding their usual response to diarrhoeal episodes in their children, and their hygiene and sanitation practices. Only 30.7% of women said they would give their child more to drink than usual. This would seem to indicate that although many women are familiar with ORS as a response to diarrhoea (82.5%), they do not understand the principle of dehydration/re-hydration. ORS is most likely still seen as a "cure" for diarrhoea, rather than as a method to replace fluids. Mothers/care-givers may still see diarrhoea as the body's way of purging, and do not understand that fluid lost must be replaced (World Vision South Africa, 2000). Thus, messages must be developed to communicate the concept of "fluid out, fluid in" to mothers and care-givers.

5.2.8 Respiratory Illness

Of the children surveyed, 31.3% had been ill with cough or difficult breathing in the two weeks prior to the survey. Of those children, 20.0% experienced rapid breathing or chest in-drawing. Data regarding care-seeking and decision-making are not usable, unfortunately, as this subset is too small (N=15). Further surveys targeted at ARI should be done in winter when ARI is most common among children. It may, however be more appropriate to administer a case-control study for such a condition so that a statistically valid sample size is established.

All respondents to the survey were asked to name danger signs of respiratory illness that would lead them to seek medical attention for their child. Of the mothers/care-givers, 28.3% could name two or more danger signs while only 5.8% knew three or more danger signs. In addition, 22.5% did not know any danger signs. Recognition of danger signs should be a focus of future projects.

Although no target has been set by the District Health Team, the objective that 60% of mothers will be able to name at least two danger signs of pneumonia by the end of the next project seems reasonable. Facility workers, through the IMCI curriculum must also be trained on the danger signs of respiratory disease.

5.2.9 Maternal Health

From the information gained in this survey, it is evident that knowledge about danger signs during pregnancy, delivery and after delivery is suboptimal. This indicates that the quality of prenatal care needs attention, particularly in terms of counseling and health care of mothers. What is critically important is that in all of the Maternal Health indicators, the “Don’t Know” option always featured amongst the three largest percentage responses obtained.

5.2.10 Knowledge and Practices Regarding HIV/AIDS

Knowledge about HIV transmission was fairly high: 90.9% (95% CI: 85.5-96.3) knew that HIV could be transmitted from mother to child during pregnancy; 69.3% (95% CI: 60.9-77.7) knew that HIV could be transmitted from mother to child during delivery and 72.7% (95% CI: 64.3-81.1) knew that HIV could be transmitted from mother to child during breast-feeding. However, only 19.7% (95% CI: 15.7-23.8) or 19.5% (un-weighted) knew how a breast-feeding mother could decrease the risk of transmitting HIV through breast-milk. Thus, most women have knowledge about MTCT of HIV but few knew how to prevent it. In addition, of the women interviewed, 74.1% (95% CI: 66.4-82.4) felt they were personally at risk of contracting HIV/AIDS.

Knowledge of modes of transmission and methods of prevention were fairly high, yet high risk behaviours had not changed. Clearly, an important element in behavioural change is missing. Based on the lack of change in risky sexual behaviour seen among women, a new approach should be adopted that includes, but goes beyond knowledge and skills.

“Up until now, AIDS messages have been mainly negative and have focused on avoiding the disease for example through condom use or abstinence. However, a positive, more powerful reason for behavioural change is needed in order to fulfill one’s life dreams; to be present to care for and guide one’s children; stay healthy in order to contribute to one’s community. This requires not only a strong self-image, personal empowerment and life-skills, but articulated and achievable life goals. This could be defined as an individual’s context or mind-set.” (World Vision South Africa, 2000)

Future projects must therefore add to its knowledge and skills component a motivation component, which will help individuals to develop a sense of personal value, a feeling of empowerment (through skills to accomplish their goals), and an articulated, achievable vision for their lives and their children’s lives.

This will target both the uninfected and the infected, with the goal in the case of the latter to stay healthy as long as possible and plan for their families’ futures, and to live responsibly by not transmitting the virus to others. As seen in the mother’s questionnaire, knowledge of modes of transmission was high, and 74.1% (95% CI: 66.4-82.4) of mothers were aware that they were at risk. However, most of these women were not doing anything to protect themselves from infection. Only 44.1% (95% CI: 35.1-53.1) of women interviewed used a condom during their last sexual intercourse. This “denial” of the disease is in large part due to women’s perceived helplessness to take action to protect themselves.

5.3 COMPARISON OF MANUAL ANALYSIS TO ELECTRONIC ANALYSIS

One of the advantages of the LQAS method of sampling is that, using the results of a survey, it is fairly straightforward to establish overall coverage of the District for a particular indicator, and determine Supervision Areas (municipalities) that are performing below average. This is a benefit of LQAS as Health Care Workers in the community are able to analyse data for themselves relatively easily and quickly, without waiting for computer analysis. Responsive action can then be taken without delay. (Valadez, 1991)

An electronic analysis allows for a more refined analysis (Rosero *et al.*, 1990). However, from the results obtained in the electronic analysis, compared with that of the manual analysis, it is clear that the manual analysis in this study has been fairly accurate. Although there have been differences in the results obtained between the two forms of analysis, these differences have been very small and overall, these differences were concluded to be statistically insignificant. In those instances where there was a significant difference between the manual and electronic analysis (e.g. Questions 9, 10, and 11 of the 0-11 months questionnaire), it may be appropriate for the District Project Team to look more specifically at the way such questions were analysed manually. As this is likely to be the source of discrepancy, more insight into the manual analysis of these specific questions may be required, rather than simply concluding the entire manual analysis to be inaccurate. This principle may also be applied to the other questionnaires surveyed where there were marked discrepancies, even though the overall comparative result showed no statistically significant difference.

The un-weighted results calculated a coverage assuming equal population sizes in each of the SAs. However, the SAs do not all have the same population size. Although the SAs have population sizes very similar, SA 2 (Mtshezi) and SA 4 (Mnambithi) have a comparatively small and large population size respectively, relative to the other SAs. If the responses to a particular question was significantly different in one of these SAs, compared to the other SAs, the overall

percentage coverage would be somewhat different once population weighting is taken into account.

In general, the weighted results were very similar to the un-weighted results. The weighted results usually appeared slightly higher than the un-weighted results. In most cases, there was no significant difference between the weighted and the un-weighted results. In addition, the un-weighted percentage coverage obtained for a particular indicator was always within the 95% Confidence Interval limit of the weighted percentage coverage. This further indicates that statistically, the un-weighted results were reliable.

Where a statistically significant difference was evident, this was because the weighted results were consistently higher than the un-weighted results. However, in terms of percentage difference between the two per indicator, the difference was very small. This is a significant conclusion, as it confirms that population weighting, in this study population, is not critical, since the differences between weighted and un-weighted results were very small. Hence, there is no absolute necessity for such an electronic measure.

Another advantage of an electronic analysis is that confidence intervals can be determined. Although this is a very useful statistical estimate showing the reliability of values obtained, as explained in Chapter 3 (LQAS Sampling Method), a sample size as small as 96 assumes a 95% Confidence Interval of $\pm 10\%$. It is therefore not critical to determine precise Confidence Intervals, particularly when information gathered needs to be analysed for quick intervention purposes.

This comes back to the fact that the LQAS methodology only attempts determining overall coverage rates for the district and not percentage coverage of individual supervision areas. Rather, it shows whether Supervision Areas fall into an upper threshold or lower threshold limit, in terms of meeting coverage targets for sample size. As a way forward, such areas can be targeted as part of the strategic plan to improve health care in the district, particularly in the 0-11 months questionnaire. Although the remaining municipalities have very few indicators that fall below the average decision rule, it is valuable to attempt looking at ways in which such

indicators can be improved as well, particularly if financial, physical and human resources permit.

The average decision rule is determined by using the overall percentage coverage of an indicator. Hence, if an indicator has a very low overall percentage coverage, the average decision rule will consequently be very low, and municipalities may reflect as performing above the average decision rule. Yet, this may not be acceptable according to set targets or even National standards. It is thus important to ensure that targets are set so that target decision rules can be determined and municipalities can be assessed on this basis. However, it is still important to identify the average decision rule for an indicator so that prioritization is possible.

5.4 EVALUATION OF THE LQAS METHODOLOGY

LQAS has traditionally been used for one of two purposes: 1) to provide **area-specific** information relative to the supervision of health workers or 2) to obtain a highly accurate measure of **program-wide** coverage (Valadez *et al.*, 2000).

The hallmark of LQAS is the division of the target population into smaller, administratively meaningful units (lots) and the selection of small, random samples from each of those units. Data obtained from these stratified random samples provide supervisors and program managers with a sufficient amount of information on which they can base management decisions. In addition to enabling managers to monitor sub-divisions within their project area, LQAS also offers the flexibility of aggregating data across sub-divisions to obtain a coverage estimate for the entire project.

LQAS has a number of advantages over cluster sampling. A few important advantages are presented.

5.4.1 Coverage estimates

Cluster sampling, unlike LQAS, only yields overall coverage estimates. Because of this it hides differences in coverage between sub-divisions of a project area. While LQAS does not yield specific coverage estimates for sub-divisions, it does identify which sub-divisions have

acceptable levels of coverage as well as those that are performing below expectation. In this regard, it is possible to target areas that require additional resources in order to achieve project objectives.

5.4.2 Precision

LQAS coverage estimates tend to be more precise than estimates obtained using cluster sampling techniques. This greater precision is due to the fact that LQAS is rooted in principles of stratified sampling, which generally yields estimates with narrower confidence intervals than estimates derived from cluster samples of the same size.

5.4.3 Loss of Power in the analysis of dichotomous indicators

Due to the small sample size used in LQAS, the ability to further disaggregate data based on dichotomous variables results in a loss of power statistically. An appropriate example of this is the analysis of data relating to respiratory infections and diarrhoeal disease. Due to the fact that fewer samples were available with this information, it was not statistically feasible to analyse this data as the sample size was very small in each age category. To minimize this effect, the 0-11 months age group and the 12-23 months age group were combined for the analysis of these indicators.

5.4.4 Cost-effectiveness

There is evidence to suggest that studies using LQAS are less expensive than studies using cluster sampling (Robertson *et al.*, 1997).

Some of the disadvantages of LQAS are presented in Section 5.5.1: Limitations of study- LQAS Methodology.

Within the context of CSPs, LQAS is simply a technique used to select respondents and analyse data. It can be used in conjunction with a variety of tools, under a variety of circumstances. In this study, LQAS has enabled the CSP to make routine assessments during the life of the project and modify project activities to achieve objectives. This method can be further adapted to build capacity, strengthen partnerships, improve project efficiency, and ultimately translate these changes into favourable outcomes at the beneficiary level.

5.5 LIMITATIONS OF STUDY

During the course of the study and upon completion, the following limitations were identified:-

5.5.1 LQAS Methodology

One of the major limitations of the LQAS methodology is that overall coverage of an indicator or health intervention is determined and the average coverage decision rule is established using the LQAS table (Appendix A). Municipalities that fall below the “lower threshold limit” are identified as municipalities that need to be addressed, solely because they fall below the average coverage of the district. However, the overall district coverage for that indicator may fall below national targets or pre-set district targets and would hence implicate most, if not all of the municipalities as poorly performing areas relative to national or pre-set district targets. Hence, LQAS can only be useful in getting a district to have an overall equal level of performance across sub-districts (municipalities/SAs).

5.5.2 Comparison Between the Manual Analysis and the Electronic Analysis

The comparison between the manual and electronic analysis was an overall comparison. The statistical tests used measured the overall difference that existed between the manual analysis and the electronic analysis for the different questionnaires, and determined whether the overall difference obtained was statistically significant. However, there may be significant differences between the manual analysis and the electronic analysis within a questionnaire, between individual indicators which negate each other in the overall summation. This can be explained using an example from table 33. In this questionnaire, Question 3 obtained a coverage of 44.3% in the manual analysis and 30.7 in the electronic analysis, whilst Question 9 obtained a coverage of 60.0% in the manual analysis and 73.3% in the electronic analysis. In both cases, the difference obtained between the manual analysis and electronic analysis was large. However, when the statistical analysis was done, these values would have cancelled each other and the overall comparison would not show a statistically significant difference

5.5.3 Identifying poorly performing municipalities

It is difficult to pin-point a particular municipality performing poorly overall as different indicators show different performance levels across the five municipalities. In order to improve these performance areas, PHC managers would need to target specific indicators which may be difficult to accomplish in isolation.

5.5.4 Grouping of Categorical Questions

There also appears to be overlap in some of the categorical questions asked e.g. frequency distribution of age of child (in months) when anything other than breast milk was offered (Table 7). In these indicators, there was overlap between categories, for example, 0-1 month; 1-2 months and 2-3 months categories were used.

5.5.5 Summation of Correct Options in Specific Questions of the Questionnaire

Questions that had a number of correct options aimed at determining how many correct options the informant chose (eg. Table 16) were grouped into “2 or more correct options” and “3 or more correct options.” This overlap implies that informants who knew 3 options would fit into the “3 or more correct options” category as well as the “2 or more correct options” category. Hence, in the “2 or more correct options” category it is not known how many informants knew only 2 options.

5.5.6 District targets

For several of the indicators and performance outcomes measured, no district coverage targets have been set. As this is one of the most reliable sources to measure performance outcomes, in light of some of the limitations already discussed, it would be valuable for coverage targets to be set.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

Chapter 6 presents the conclusion and recommendations.

6.2 CONCLUSION

In this dissertation, the manual results of a study already carried out has been evaluated using an electronic analysis as the “Gold Standard” for comparative purposes. In addition, a more refined analysis of the data has been produced (e.g. population-weighted percentage coverages, graphs and stratified analyses in some cases).

From the comparisons made, it can be concluded that the manual analysis was very similar to the electronic analysis and that differences obtained in the results were not statistically significant. In addition, it was determined whether population-weighted results were markedly different from the un-weighted, manual results already produced, to determine whether population weighting in this District was necessary. Again, the differences produced were very small, and in most cases not statistically significant.

This concludes that the manual analysis carried out by the TDCSP team was generally accurate and that it is appropriate to use such results in determining individual municipality and overall District performance so that responsive action can then be taken immediately, without necessarily having to wait for electronic results.

One of the benefits of the LQAS methodology is that people from the community (e.g. CHWs), can be trained and involved directly in all phases of the study. The conclusion drawn from this dissertation is meaningful as it confirms that such a methodology adopted by the TDCSP team was accurate and reliable.

6.3 RECOMMENDATIONS

Municipalities 1 and 2 (Mbabazane and Mtshezi respectively) have the most number of indicators below the average coverage. As a way forward, these municipalities can be targeted as part of the strategic plan to improve health care in the district and in so doing bring all municipalities to a common level of performance, as LQAS attempts to achieve. Although the remaining municipalities have very few indicators that fall below the average coverage, it is still important for program managers to attempt identifying ways in which the coverage of such indicators or interventions can be improved.

Furthermore, although municipalities may fall within the “upper threshold” of the district coverage, it is still important to assess municipality coverage by national standards or pre-set district targets. These indicators may not require prioritising at this stage (as determined by LQAS), but it may still be valuable to attempt improving the overall coverage, particularly when significantly lower than national standards or pre-set district targets.

With regard to municipalities performing below the average coverage decision rule, it may be more appropriate to establish the indicators that require prioritising based on the target decision rule as municipalities may fall within the acceptable coverage decision rule but still be performing poorly according to pre-set district coverage targets or national standards.

Categorised data which overlap one another should be re-grouped accordingly: the “0-1 month; 1-2 months; 2-3 months and 3-4 months” categories can be re-grouped into “less than 1 month; 1-2 months; greater than 2 months but less than 3 months and 3-4 months, so that no overlap between categories exists.

In addition, those questions that required a number of options to be chosen and were grouped into “2 or more correct options” and “3 or more correct options” should be re-grouped into “2 correct options” and “3 or more correct options.”

In comparing the manual analysis and the electronic analysis, rather than simply relying on the overall statistical evaluation, it may be more useful to identify specific indicators where marked differences have occurred using the graphical representations provided in the results (Fig. 4.1-4.4). These indicators in the manual analysis can then be re-examined to establish possible reasons as to why a marked difference of the manual analysis from the electronic analysis resulted.

With regard to setting targets for indicators or performance outcomes that do not have district coverage targets, the most appropriate source of targets would be from previous KPC surveys in the district, or from national targets.

6.3 RECOMMENDATIONS

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In addition, those questions that required a number of options to be chosen and were grouped into “2 or more correct options” and “3 or more correct options” should be re-grouped into “2 correct options” and “3 or more correct options.”

APPENDIX A

LQAS Table: Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%																		
(N)	Average Coverage (Baseline)/Annual Coverage Target (Monitoring and Evaluation)																	
	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12
15	N/A	N/A	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13
16	N/A	N/A	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14
17	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	N/A	N/A	1	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16
19	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	N/A	N/A	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
21	N/A	N/A	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18
22	N/A	N/A	1	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19
23	N/A	N/A	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20
24	N/A	N/A	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26

In comparing the manual analysis and the electronic analysis, rather than simply relying on the overall statistical evaluation, it may be more useful to identify specific indicators where marked differences have occurred using the graphical representations provided in the results (Fig. 4.1-4.4). These indicators in the manual analysis can then be re-examined to establish possible reasons as to why a marked difference of the manual analysis from the electronic analysis resulted.

With regard to setting targets for indicators or performance outcomes that do not have district coverage targets, the most appropriate source of targets would be from previous KPC surveys in the district, or from national targets.

APPENDIX B

TABLE 1 A MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Road to health card + Vit A	Number correct (or %) in each municipality/decision rule					Total no correct (%)	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage (%)	Average coverage decision rule	Target for the assessment (%)	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Mother reports she received Vitamin A shortly after delivery	5	9	16	22	16	68	24	24	24	24	24	120	56.7	11	90.0	19
		11	11	11	11	11											
2	Does (name of child) have a road to health card?	23	24	24	24	24	119	24	24	24	24	24	120	99.2	N/A	80.0	16
		N/A	N/A	N/A	N/A	N/A											
3	The child been weighed once in the last 2 mnths	13	17	14	20	22	86	24	24	24	24	24	120	71.7	15	80.0	16
		15	15	15	15	15											
4	The child been weighed at least twice in the last 2 mnths	3	4	6	11	12	36	24	24	24	24	24	120	30.0	3	80.0	16
		3	3	3	3	3											
5	Card indicates mother received Vit A after delivery	3	9	14	21	15	62	24	23	24	24	24	119	51.7	10	90.0	19
		10	10	10	10	10											

APPENDIX A

LQAS Table: Decision Rules for Sample Sizes of 12-30 and Coverage Targets/Average of 10%-95%																		
(N)	Average Coverage (Baseline)/Annual Coverage Target (Monitoring and Evaluation)																	
	10 %	15 %	20 %	25 %	30 %	35 %	40 %	45 %	50 %	55 %	60 %	65 %	70 %	75 %	80 %	85 %	90 %	95 %
12	N/A	N/A	1	1	2	2	3	4	5	5	6	7	7	8	8	9	10	11
13	N/A	N/A	1	1	2	3	3	4	5	6	6	7	8	8	9	10	11	11
14	N/A	N/A	1	1	2	3	4	4	5	6	7	8	8	9	10	11	11	12
15	N/A	N/A	1	2	2	3	4	5	6	6	7	8	9	10	10	11	12	13
16	N/A	N/A	1	2	2	3	4	5	6	7	8	9	9	10	11	12	13	14
17	N/A	N/A	1	2	2	3	4	5	6	7	8	9	10	11	12	13	14	15
18	N/A	N/A	1	2	2	3	5	6	7	8	9	10	11	11	12	13	14	16
19	N/A	N/A	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
20	N/A	N/A	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	17
21	N/A	N/A	1	2	3	4	5	6	8	9	10	11	12	13	14	16	17	18
22	N/A	N/A	1	2	3	4	5	7	8	9	10	12	13	14	15	16	18	19
23	N/A	N/A	1	2	3	4	6	7	8	10	11	12	13	14	16	17	18	20
24	N/A	N/A	1	2	3	4	6	7	9	10	11	13	14	15	16	18	19	21
25	N/A	1	2	2	4	5	6	8	9	10	12	13	14	16	17	18	20	21
26	N/A	1	2	3	4	5	6	8	9	11	12	14	15	16	18	19	21	22
27	N/A	1	2	3	4	5	7	8	10	11	13	14	15	17	18	20	21	23
28	N/A	1	2	3	4	5	7	8	10	12	13	15	16	18	19	21	22	24
29	N/A	1	2	3	4	5	7	9	10	12	13	15	17	18	20	21	23	25
30	N/A	1	2	3	4	5	7	9	11	12	14	16	17	19	20	22	24	26

TABLE 1 B MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Breastfeeding	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule					
		1	2	3	4	5		1	2	3	4	5										
6	Are you breastfeeding?	23	<u>17</u>	20	23	22	105	24	24	24	24	24	120	87.5	19	N/A	N/A					
		19	19	19	19	19																
7	Did you ever breastfeed?	23	21	24	24	24	116	24	24	24	24	24	120	96.7	N/A	No target set	N/A					
		N/A	N/A	N/A	N/A	N/A																
8	How long after birth did you put [NAME] to breast?	20	15	<u>10</u>	<u>8</u>	22	75	24	24	24	24	24	120	62.5	13	No target set	N/A					
		13	13	13	13	13																
9	Did you give [NAME] the first milk that came from breast?	23	<u>17</u>	22	20	22	104	24	24	24	24	24	120	86.7	19	No target set	N/A					
		19	19	19	19	19																
10	At what age should mother give her child fluids/liquids in addition to breast milk?	6	7	7	7	18	45	24	24	24	24	24	120	37.5	6	40.0	6					
		6	6	6	6	6																
11	At what age should mother stop breastfeeding altogether?	18	<u>6</u>	<u>5</u>	14	15	58	24	24	24	24	24	120	48.3	9	No target set	N/A					
		9	9	9	9	9																

APPENDIX B

TABLE 1 A MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Road to health card + Vit A	Number correct (or %) in each municipality/decision rule					Total no correct (%)	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage (%)	Average coverage decision rule	Target for the assessment (%)	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Mother reports she received Vitamin A shortly after delivery	5	9	16	22	16	68	24	24	24	24	24	120	56.7	11	90.0	19
		11	11	11	11	11											
2	Does (name of child) have a road to health card?	23	24	24	24	24	119	24	24	24	24	24	120	99.2	N/A	80.0	16
		N/A	N/A	N/A	N/A	N/A											
3	The child been weighed once in the last 2 mnths	13	17	14	20	22	86	24	24	24	24	24	120	71.7	15	80.0	16
		15	15	15	15	15											
4	The child been weighed at least twice in the last 2 mnths	3	4	6	11	12	36	24	24	24	24	24	120	30.0	3	80.0	16
		3	3	3	3	3											
5	Card indicates mother received Vit A after delivery	3	9	14	21	15	62	24	23	24	24	24	119	51.7	10	90.0	19
		10	10	10	10	10											

TABLE 1 C MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator Maternal Health	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
12	During pregnancy, what problems or danger signs would make you look for medical attention: 2/mor	16	11	11	13	13	64	24	24	24	24	24	120	53.3	10	80.0	16
		10	10	10	10	10											
13	During pregnancy, what problems or danger signs would make you look for medical attention: 3/mor	5	4	5	7	4	25	24	24	24	24	24	120	20.8	2	No target set	N/A
		2	2	2	2	2											
14	During delivery, what problems or danger signs would make you look for medical attention: 2/more	7	6	10	11	9	43	24	24	24	24	24	120	35.8	6	60.0	11
		6	6	6	6	6											
15	During delivery, what problems or danger signs would make you look for medical attention: 3/more	1	1	4	4	2	12	24	24	24	24	24	120	10.0	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
16	After delivery, what problems or danger signs would make you look for medical attention: 2/more	6	7	7	7	12	39	24	24	24	24	24	120	32.5	4	80.0	16
		4	4	4	4	4											
17	After delivery, what problems or danger signs would make you look for medical attention: 3/more	2	1	2	2	2	9	24	24	24	24	24	120	7.5	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											

TABLE 1 B MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane		Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator Breastfeeding	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
6	Are you breastfeeding?	23	<u>17</u>	20	23	22	105	24	24	24	24	24	120	87.5	19	N/A	N/A
		19	19	19	19	19											
7	Did you ever breastfeed?	23	21	24	24	24	116	24	24	24	24	24	120	96.7	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
8	How long after birth did you put [NAME] to breast?	20	15	<u>10</u>	<u>8</u>	22	75	24	24	24	24	24	120	62.5	13	No target set	N/A
		13	13	13	13	13											
9	Did you give [NAME] the first milk that came from breast?	23	<u>17</u>	22	20	22	104	24	24	24	24	24	120	86.7	19	No target set	N/A
		19	19	19	19	19											
10	At what age should mother give her child fluids/liquids in addition to breast milk?	6	7	7	7	18	45	24	24	24	24	24	120	37.5	6	40.0	6
		6	6	6	6	6											
11	At what age should mother stop breastfeeding altogether?	18	<u>6</u>	<u>5</u>	14	15	58	24	24	24	24	24	120	48.3	9	No target set	N/A
		9	9	9	9	9											

TABLE 1 D MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane					Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba		
No	Indicator Maternal Health & Antenatal Record	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Averag e covera ge decisio n rule	Target for the assessment	Target decision rule	
		1	2	3	4	5		1	2	3	4	5						
18	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 2/more	8	8	10	8	10	44	24	24	24	24	24	120	36.7	6	60.0	11	
		6	6	6	6	6												
19	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 3/more	2	3	4	3	5	17	24	24	24	24	24	120	14.2	N/A	No target set	N/A	
		N/A	N/A	N/A	N/A	N/A												
20	If you had danger signs during pregn. or post partum,, where would you seek medical attention	24	24	24	23	24	119	24	24	24	24	24	120	99.2	N/A	No taeget set	N/A	
		N/A	N/A	N/A	N/A	N/A												
21	Antenatal record: Ask mother to bring you her antenatal record	10	10	5	3	15	43	24	24	24	24	24	120	35.8	6	No target set	N/A	
		6	6	6	6	6												

TABLE 1 C MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator Maternal Health	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
12	During pregnancy, what problems or danger signs would make you look for medical attention: 2/mor	16	11	11	13	13	64	24	24	24	24	24	120	53.3	10	80.0	16
		10	10	10	10	10											
13	During pregnancy, what problems or danger signs would make you look for medical attention: 3/mor	5	4	5	7	4	25	24	24	24	24	24	120	20.8	2	No target set	N/A
		2	2	2	2	2											
14	During delivery, what problems or danger signs would make you look for medical attention: 2/more	7	6	10	11	9	43	24	24	24	24	24	120	35.8	6	60.0	11
		6	6	6	6	6											
15	During delivery, what problems or danger signs would make you look for medical attention: 3/more	1	1	4	4	2	12	24	24	24	24	24	120	10.0	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
16	After delivery, what problems or danger signs would make you look for medical attention: 2/more	6	7	7	7	12	39	24	24	24	24	24	120	32.5	4	80.0	16
		4	4	4	4	4											
17	After delivery, what problems or danger signs would make you look for medical attention: 3/more	2	1	2	2	2	9	24	24	24	24	24	120	7.5	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											

TABLE 1 E MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Exclusive Breast-feeding	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
22	No of children 0- 5 months	13	11	11	11	24	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/a
		N/A	N/A	N/A	N/A	N/A											
23	No. of children 0-5 months exclusively breastfed	8	2	0	1	11	22	13	11	11	11	24	70	31.4	N/A	40.0	N/A
		3	N/A	N/A	N/A	4											
24	Have you given [NAME] commercially produced infant formula in the last 24 hrs	9	2	5	6	17	39	13	11	11	11	24	70	55.7	N/A	No target set	N/A
		3	N/A	N/A	N/A	4											

TABLE 1 D MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane						Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Maternal Health & Antenatal Record	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Averag e covera ge decisio n rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
18	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 2/more	8	8	10	8	10	44	24	24	24	24	24	120	36.7	6	60.0	11			
		6	6	6	6	6														
19	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 3/more	2	3	4	3	5	17	24	24	24	24	24	120	14.2	N/A	No target set	N/A			
		N/A	N/A	N/A	N/A	N/A														
20	If you had danger signs during pregn. or post partum,, where would you seek medical attention	24	24	24	23	24	119	24	24	24	24	24	120	99.2	N/A	No taeget set	N/A			
		N/A	N/A	N/A	N/A	N/A														
21	Antenatal record: Ask mother to bring you her antenatal record	10	10	5	3	15	43	24	24	24	24	24	120	35.8	6	No target set	N/A			
		6	6	6	6	6														

TABE 2 A MANUAL ANALYSIS: 0-23 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi			Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba				
No	Indicator Diarrhoea	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Child 0-23mths with diarrhoea	N/A	N/A	N/A	N/A	N/A	N/A	11	17	13	17	12	70	N/A	N/A	N/A	N/A
		N/A	N/A	N/a	N/A	N/A											
2	What did you give to treat diarrhoea?	11	16	12	<u>12</u>	<u>7</u>	58	11	17	13	17	12	70	82.9	N/A	No target set	N/A
		N/A	13	10	13	9											
3	Quantity of liquid, same, <i>more</i> or less during diarrhoea	13	<u>4</u>	<u>3</u>	7	4	31	11	17	13	17	12	70	44.3	N/A	No target set	N/A
		N/A	5	4	5	4											
4	Quantity of food, <i>same</i> , more or less during diarrhoea	13	12	<u>2</u>	<u>4</u>	7	37	11	17	13	17	12	70	52.9	N/A	No target set	N/A
		N/A	7	5	7	5											
5	Quantity of food, same, <i>more</i> or less during diarrhoea	13	7	<u>1</u>	6	5	32	11	17	13	17	12	70	45.7	N/A	No target set	N/A
		N/A	6	5	6	5											
6	Where did you go first for treatment of diarrhoea?	12	14	10	<u>12</u>	9	57	11	17	13	17	12	70	81.4	N/A	No target set	N/A
		N/A	13	10	13	9											

TABLE 1 E MANUAL ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Exclusive Breast-feeding	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
22	No of children 0- 5 months	13	11	11	11	24	70	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/a
		N/A	N/A	N/A	N/A	N/A											
23	No. of children 0-5 months exclusively breastfed	8	2	0	1	11	22	13	11	11	11	24	70	31.4	N/A	40.0	N/A
		3	N/A	N/A	N/A	4											
24	Have you given [NAME] commercially produced infant formula in the last 24 hrs	9	2	5	6	17	39	13	11	11	11	24	70	55.7	N/A	No target set	N/A
		3	N/A	N/A	N/A	4											

TABLE 2 B MANUAL ANALYSIS: 0 - 23 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka				Municipality 4 Mnambithi			Municipality 5 Okhahlamba			
No	Indicator Respiratory Infections	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage (%)	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
7	Children to be assessed for adequate treatment	N/A	N/A	N/A	N/A	N/A	N/A	4	3	2	4	2	15	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A											
8	Total number of 0-23 mths sampled	N/A	N/A	N/A	N/A	N/A	N/A	48	48	48	48	48	240	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A											
9	Did you seek treatment when child was ill with fast/difficult breathing?	1	2	2	2	2	9	4	3	2	4	2	15	60.0	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
10	How long after you noticed cough or fast breathing did you seek treatment?	1	1	0	0	0	2	4	3	2	4	2	15	13.3	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
11	From whom did you seek treatment?	1	2	0	1	2	6	4	3	2	4	2	15	40.0	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											

TABE 2 A MANUAL ANALYSIS: 0-23 MONTHS

Municipality 1 Mbabazane		Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator Diarrhoea	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Child 0-23mths with diarrhoea	N/A	N/A	N/A	N/A	N/A	N/A	11	17	13	17	12	70	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A											
2	What did you give to treat diarrhoea?	11	16	12	12	7	58	11	17	13	17	12	70	82.9	N/A	No target set	N/A
		N/A	13	10	13	9											
3	Quantity of liquid, same, <i>more</i> or less during diarrhoea	13	4	3	7	4	31	11	17	13	17	12	70	44.3	N/A	No target set	N/A
		N/A	5	4	5	4											
4	Quantity of food, <i>same</i> , <i>more</i> or less during diarrhoea	13	12	2	4	7	37	11	17	13	17	12	70	52.9	N/A	No target set	N/A
		N/A	7	5	7	5											
5	Quantity of food, same, <i>more</i> or less during diarrhoea	13	7	1	6	5	32	11	17	13	17	12	70	45.7	N/A	No target set	N/A
		N/A	6	5	6	5											
6	Where did you go first for treatment of diarrhoea?	12	14	10	12	9	57	11	17	13	17	12	70	81.4	N/A	No target set	N/A
		N/A	13	10	13	9											

TABLE 3 A MANUAL ANALYSIS: 12 –23 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba		
No	Indicator Immunisation	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Do you have a card where [NAME] vaccinations are written down?	23	24	24	21	22	114	24	24	24	24	24	120	95	21	No target set	N/A
		21	21	21	21	21											
2	Has BCG vaccination	18	23	24	19	20	106	24	24	24	24	24	120	88.3	19	90.0	19
		19	19	19	19	19											
3	Has child polio 1, 2 & 3 vaccination	17	19	22	18	20	96	24	24	24	24	24	120	80.0	16	90.0	19
		16	16	16	16	16											
4	Has DPT1, 2 & 3 vaccination	20	21	22	21	20	104	24	24	24	24	24	120	86.7	19	90.0	19
		19	19	19	19	19											
5	Has HepB1, HepB2 & HepB3 vaccination	19	22	22	20	20	103	24	24	24	24	24	120	85.8	19	90.0	19
		19	19	19	19	19											
6	Has measles vaccination	17	18	17	20	20	92	24	24	24	24	24	120	76.7	16	90.0	19
		16	16	16	16	16											

TABLE 2 B MANUAL ANALYSIS: 0 - 23 MONTHS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Respiratory Infections	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage (%)	Average coverage decision rule	Target for the assessment	Target decision rule					
		1	2	3	4	5		1	2	3	4	5										
7	Children to be assessed for adequate treatment	N/A	N/A	N/A	N/A	N/A	N/A	4	3	2	4	2	15	N/A	N/A	N/A	N/A					
		N/A	N/A	N/A	N/A	N/A																
8	Total number of 0-23 mths sampled	N/A	N/A	N/A	N/A	N/A	N/A	48	48	48	48	48	240	N/A	N/A	N/A	N/A					
		N/A	N/A	N/A	N/A	N/A																
9	Did you seek treatment when child was ill with fast/difficult breathing?	1	2	2	2	2	9	4	3	2	4	2	15	60.0	N/A	No target set	N/A					
		N/A	N/A	N/A	N/A	N/A																
10	How long after you noticed cough or fast breathing did you seek treatment?	1	1	0	0	0	2	4	3	2	4	2	15	13.3	N/A	No target set	N/A					
		N/A	N/A	N/A	N/A	N/A																
11	From whom did you seek treatment?	1	2	0	1	2	6	4	3	2	4	2	15	40.0	N/A	No target set	N/A					
		N/A	N/A	N/A	N/A	N/A																

TABLE 3 B MANUAL ANALYSIS : 12-23 MONTHS

Municipality 1 Mbabazane					Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Vit A & Diarrhea Knowledge	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
7	Has [NAME] ever received a Vitamin capsule like this one?	9	9	8	17	10	53	24	24	24	24	24	120	44.2	7	80.0	16			
		7	7	7	7	7														
8	What steps does mother normally take when child has diarrhoea?	21	21	21	22	21	106	24	24	24	24	24	120	88.3	19	80.0	16			
		19	19	19	19	19														
9	What signs & symptoms would cause you to seek advice / treatment immediately for childs diarrhoea:? 2/more	8	12	15	17	14	66	24	24	24	24	24	120	55.0	10	80.0	16			
		10	10	10	10	10														
10	After a bout of diarrhoea, how should a mother feed a child when recovering?	6	9	7	20	10	52	24	24	24	24	24	120	43.3	7	No target set	N/A			
		7	7	7	7	7														

TABLE 3 A MANUAL ANALYSIS: 12 –23 MONTHS

Municipality 1 Mbabazane				Municipality 2 Mtshezi				Municipality 3 Indaka				Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Immunisation	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
1	Do you have a card where [NAME] vaccinations are written down?	23	24	24	21	22	114	24	24	24	24	24	120	95	21	No target set	N/A
		21	21	21	21	21											
2	Has BCG vaccination	18	23	24	19	20	106	24	24	24	24	24	120	88.3	19	90.0	19
		19	19	19	19	19											
3	Has child polio 1, 2 & 3 vaccination	17	19	22	18	20	96	24	24	24	24	24	120	80.0	16	90.0	19
		16	16	16	16	16											
4	Has DPT1, 2 & 3 vaccination	20	21	22	21	20	104	24	24	24	24	24	120	86.7	19	90.0	19
		19	19	19	19	19											
5	Has HepB1, HepB2 & HepB3 vaccination	19	22	22	20	20	103	24	24	24	24	24	120	85.8	19	90.0	19
		19	19	19	19	19											
6	Has measles vaccination	17	18	17	20	20	92	24	24	24	24	24	120	76.7	16	90.0	19
		16	16	16	16	16											

TABLE 3 C MANUAL ANALYSIS : 12-23 MONTHS

Municipality 1 Mbabazane					Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Respiratory Infections & General danger signs	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
11	Which danger signs-respiratory infections would cause you to take your child for medical help? 2/more	3	15	10	14	13	55	24	24	24	24	24	120	45.8	9	50.0	9			
		9	9	9	9	9														
12	Which danger signs-respiratory infections would cause you to take your child for medical help:3/more	2	8	7	13	10	40	24	24	24	24	24	120	33.3	4	No target set	N/A			
		4	4	4	4	4														

TABLE 3 B MANUAL ANALYSIS : 12-23 MONTHS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba	
No	Indicator Vit A & Diarrhea Knowledge	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment	Target decision rule				
		1	2	3	4	5		1	2	3	4	5									
7	Has [NAME] ever received a Vitamin capsule like this one?	9	9	8	17	10	53	24	24	24	24	24	120	44.2	7	80.0	16				
		7	7	7	7	7															
8	What steps does mother normally take when child has diarrhoea?	21	21	21	22	21	106	24	24	24	24	24	120	88.3	19	80.0	16				
		19	19	19	19	19															
9	What signs & symptoms would cause you to seek advice / treatment immediately for childs diarrhoea:? 2/more	8	12	15	17	14	66	24	24	24	24	24	120	55.0	10	80.0	16				
		10	10	10	10	10															
10	After a bout of diarrhoea, how should a mother feed a child when recovering?	6	9	7	20	10	52	24	24	24	24	24	120	43.3	7	No target set	N/A				
		7	7	7	7	7															

TABLE 4 A MANUAL ANALYSIS : WOMEN AGED 15-49 YEARS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator HIV/AIDS	Number correct (or %) in each municipality/decision rule					Total no correc t	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment %	Target decision rule					
		1	2	3	4	5		1	2	3	4	5										
1	Can the virus that causes HIV be transmitted from mother to child during pregnancy?	21	20	23	22	22	108	24	24	24	24	24	120	90.0	19	90.0	19					
		19	19	19	19	19																
2	Can the virus that causes HIV be transmitted from mother to child during delivery?	<u>11</u>	14	20	18	18	81	24	24	24	24	24	120	67.5	14	90.0	19					
		14	14	14	14	14																
3	Can the virus that causes HIV be transmitted from mother to child during breastfeeding?	18	17	19	18	16	88	24	24	24	24	24	120	73.3	15	90.0	19					
		15	15	15	15	15																
4	If an HIV +ve women chooses to breastfeed her baby, how can she decrease the risk of the baby contracting HIV through breastmilk?	0	0	6	6	4	16	24	24	24	24	24	120	13.3	N/A	40.0	6					
		N/A	N/A	N/A	N/A	N/A																
5	How can an HIV +ve person stay as healthy as possible: 2/more	<u>8</u>	14	16	15	16	69	24	24	24	24	24	120	57.5	N/A	No target set	N/A					
		11	11	11	11	11																
6	How can an HIV +ve person stay as healthy as possible: 3/more	1	2	5	9	7	24	24	24	24	24	24	120	20.0	1	No target set	N/A					
		1	1	1	1	1																

TABLE 4 B MANUAL ANALYSIS : WOMEN AGED 15-49 YRS

Municipality 1 Mbabazane						Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba	
No	Indicator Maternal Health	Number correct (or %) in each municipality/decision rule)					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment	Target decision rule		
		1	2	3	4	5		1	2	3	4	5							
7	Where would an HIV +ver person go for treatment if they are not well?	24	24	24	23	22	117	24	24	24	24	24	120	97.5	N/A	No target set	N/A		
		N/A	N/A	N/A	N/A	N/A													
8	How could a person find out whether she has HIV?	22	21	21	23	22	109	24	24	24	24	24	120	90.8	21	No target set	N/A		
		21	21	21	21	21													
9	Have you heard of voluntary counseling & testing service (VCT)	2	6	3	12	2	25	24	24	24	24	24	120	20.8	2	No target set	N/A		
		2	2	2	2	2													
10	If you want to be tested for HIV, where would you go?	22	24	23	23	24	116	24	24	24	24	24	120	96.7	N/A	No target set	N/A		
		N/A	N/A	N/A	N/A	N/A													
11	What do you think are the reasons to get an HIV test ?1 reason	17	23	24	22	22	108	24	24	24	24	24	120	90.0	19	No target set	N/A		
		19	19	19	19	19													
12	What do you think are the reasons to get an HIV test?:2 reasons	1	4	12	8	7	32	24	24	24	24	24	120	26.7	3	50.0	9		
		3	3	3	3	3													

TABLE 4 C MANUAL ANALYSIS : WOMEN AGED 15-49 YEARS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator HIV/AIDS	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment %	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
13	What do you think are the reasons to get an HIV test ?3 reasons	0	1	2	2	2	7	24	24	24	24	24	120	5.8	N/A	30.0	3
		N/A	N/A	N/A	N/A	N/A											
14	Would you go for an HIV test yourself?	18	20	15	20	15	88	24	24	24	24	24	120	73.3	15	70.0	14
		15	15	15	15	15											
15	Would you talk to your partner or spouse before having an HIV test?	19	20	18	21	21	99	24	24	24	24	24	120	82.5	18	No target set	N/A
		18	18	18	18	18											
16	Would you tell your partner or spouse of results of HIV test?	20	21	20	18	24	103	24	24	24	24	24	120	85.8	19	No target set	N/A
		19	19	19	19	19											
17	Do you think you are personally at risk of getting HIV AIDS?																
18	Did you use a condom at your last sexual intercourse?	9	6	5	6	7	33	24	24	24	24	24	120	30.0	3	No target set	N/A
		3	3	3	3	3											

APPENDIX C

TABLE 1 A ELECTRONIC ANALYSIS: 0-11 MNTHS

Municipality 1 Mbabazane						Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba	
No	Indicator Road to Health card + Vit A	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
1	Mother reports she received Vitamin A shortly after delivery	<u>5</u>	<u>9</u>	<u>16</u>	22	<u>16</u>	68	24	24	24	24	24	120	56.7	11	90.0	19			
		11	11	11	11	11														
2	Does (name of child) have a road to health card?	24	24	24	24	24	120	24	24	24	24	24	120	100.0	N/A	80.0	16			
		N/A	N/A	N/A	N/A	N/A														
3	The child been weighed once in the last 2 mnths	<u>13</u>	18	<u>14</u>	20	21	86	24	24	24	24	24	120	71.7	15	80.0	16			
		15	15	15	15	15														
4	The child been weighed at least twice in the last 2 mnths	<u>3</u>	<u>4</u>	<u>6</u>	<u>11</u>	<u>12</u>	36	24	24	24	24	24	120	30.0	3	80.0	16			
		3	3	3	3	3														
5	Card indicates mother received Vit A after delivery	<u>3</u>	<u>9</u>	<u>13</u>	21	<u>14</u>	60	24	24	24	24	24	120	50.0	9	90.0	19			
		9	9	9	9	9														

TABLE 1 B ELECTRONIC ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba	
No	Indicator Breastfeeding	Number correct (or %) in each municipality/decision rule (circle the indicators) below SA's standard)					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
6	Are you breastfeeding?	23	<u>19</u>	20	23	22	105	24	24	24	24	24	120	89.2	19	N/A	N/A			
		19	19	19	19	19														
7	Did you ever breastfeed?	24	21	24	24	24	116	24	24	24	24	24	120	97.5	N/A	No target set	N/A			
		N/A	N/A	N/A	N/A	N/A														
8	How long after birth did you put [NAME] to breast?	22	20	<u>13</u>	<u>10</u>	20	75	24	24	24	24	24	120	70.8	15	No target set	N/A			
		15	15	15	15	15														
9	Did you give [NAME] the first milk that came from breast?	<u>12</u>	<u>11</u>	23	20	18	104	24	24	24	24	24	120	70.0	14	No target set	6			
		14	14	14	14	14														
10	At what age should mother give her child fluids/liquids in addition to breast milk?	4	3	7	6	5	45	24	24	24	24	24	120	20.8	2	40.0	N/A			
		2	2	2	2	2														
11	At what age should mother stop breastfeeding altogether?	17	<u>6</u>	<u>5</u>	14	15	58	24	24	24	24	24	120	47.5	9	No target set	N/A			
		9	9	9	9	9														

TABLE 1 C ELECTRONIC ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator Maternal Health	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch-ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
12	During pregnancy, what problems or danger signs would make you look for medical attention? 2/mor	16	11	11	13	13	64	24	24	24	24	24	120	53.3	10	80.0	16
		10	10	10	10	10											
13	During pregnancy, what problems or danger signs would make you look for medical attention: ?3/mor	6	4	5	7	4	26	24	24	24	24	24	120	21.7	2	No target set	N/A
		2	2	2	2	2											
14	During delivery, what problems or danger signs would make you look for medical attention: ?2/mor	6	5	10	11	8	40	24	24	24	24	24	120	33.3	4	60.0	11
		4	4	4	4	4											
15	During delivery, what problems or danger signs would make you look for medical attention: ?3/more	0	1	4	4	1	10	24	24	24	24	24	120	8.3	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
16	After delivery, what problems or danger signs would make you look for medical attention: ?2/mor	6	8	7	7	11	39	24	24	24	24	24	120	32.5	4	80.0	16
		4	4	4	4	4											
17	After delivery, what problems or danger signs would make you look for medical attention: ?3/moe	2	0	2	2	1	7	24	24	24	24	24	120	5.8	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											

TABLE 1 D ELECTRONIC ANALYSIS : 0-11 MONTHS

			Municipality 2 Mtshezi				Total no correct	Municipality 3 Indaka					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
No	Indicator Maternal Health & Antenatal Record	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
18	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 2/more	8	7	5	5	10	35	24	24	24	24	24	120	29.2	3	60.0	11
		3	3	3	3	3											
19	What are signs to watch for within 1 st 7 days that may indicate that newborn is sick & needs medical attention: 3/more	1	2	2	1	5	11	24	24	24	24	24	120	9.2	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
20	If ypu had danger signs during pregn. or post partum,, where would you seek medical attention	24	24	24	23	24	119	24	24	24	24	24	120	99.2	N/A	No target set	N/A
		N/A	N/A	N/A	N/A	N/A											
21	Antenatal record: Ask mother to bring you her antenatal record	9	10	5	3	15	42	24	24	24	24	24	120	35.0	4	No target set	N/A
		4	4	4	4	4											

TABLE 1 E ELECTRONIC ANALYSIS : 0-11 MONTHS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Exclusive Breastfeeding	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
22	No. of children 0-5 months	13	11	10	11	24	69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
		N/A	N/A	N/A	N/A	N/A											
23	No. of children 0-5 months exclusively breastfed	7	2	0	1	9	19	13	11	10	11	24	69	27.5	N/A	40.0	N/A
		2	N/A	N/A	N/A	3											
24	Have you given [commercially produced infant formula in the last 24 hrs	4	6	5	4	7	26	13	11	10	11	24	69	37.7	N/A	No target set	N/A
		3	N/A	N/A	N/A	6											

TABLE 2 A ELECTRONIC ANALYSIS: 0-23 mnths

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Diarrhoea	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule					
		1	2	3	4	5		1	2	3	4	5										
1	Child 0-23mths with diarrhoea	16	16	14	17	12	75	48	48	48	48	48	240	N/A	N/A	N/A	N/A					
		N/A	N/A	N/A	N/A	N/A																
2	What did you give to treat diarrhoea?	10	14	12	12	7	55	16	16	14	17	12	75	73.3	N/A	N/A	No target set					
		10	10	9	11	8																
3	Quantity of liquid, same, <i>more</i> or less during diarrhoea?	5	4	3	7	4	23	16	16	14	17	12	75	30.7	N/A	N/A	No target set					
		3	3	3	3	3																
4	Quantity of food, <i>same</i> , more or less during diarrhoea?	6	5	3	5	6	25	16	16	14	17	12	75	33.3	N/A	N/A	No target set					
		3	3	3	3	2																
5	Quantity of food, same, <i>more</i> or less during diarrhoea?	8	10	9	11	10	48	16	16	14	17	12	75	64.0	N/A	N/A	No target set					
		9	9	8	9	7																
6	Where did you go first for treatment of diarrhoea?	11	13	11	12	9	56	16	16	14	17	12	75	74.3	N/A	N/A	No target set					
		10	10	9	11	8																

TABLE 2 B ELECTRONIC ANALYSIS: 0-23 mnths

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba	
No	Indicator Respiratory Infections	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule				
		1	2	3	4	5		1	2	3	4	5									
7	Children to be assessed for adequate treatment	N/A	N/A	N/A	N/A	N/A	N/A	4	3	2	4	2	15	N/A	N/A	N/A	N/A				
		N/A	N/A	N/A	N/A	N/A															
8	Total number of 0-23 mths sampled	N/A	N/A	N/A	N/A	N/A	N/A	48	48	48	48	48	N/A	N/A	N/A	N/A	N/A				
		N/A	N/A	N/A	N/A	N/A															
9	Did you seek treatment when child was ill with fast/difficult breathing?	3	3	2	1	2	11	4	3	2	4	2	15	73.3	N/A	No target set	N/A				
		N/A	N/A	N/A	N/A	N/A															
10	How long after you noticed cough or fast breathing did you seek treatment?	0	1	0	0	0	1	4	3	2	4	2	15	6.7	N/A	No target set	N/A				
		N/A	N/A	N/A	N/A	N/A															
11	From whom did you seek treatment?	1	3	2	3	2	11	4	3	2	4	2	15	73.3	N/A	No target set	N/A				
		N/A	N/A	N/A	N/A	N/A															

TABLE 3 A ELECTRONIC ANALYSIS: 12-23 mnths

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba		
No	Indicator Immunisation	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average Coverage %	Average coverage decision rule	Target for the assessment %	Target decision rule				
		1	2	3	4	5		1	2	3	4	5									
1	Do you have a card where [NAME] vaccinations are written down?	23	24	24	21	22	114	24	24	24	24	24	120	95.0	21	No target set	N/A				
		21	21	21	21	21															
2	Has BCG vaccination	24	24	24	24	23	119	24	24	24	24	24	120	99.2	N/A	90.0	19				
		N/A	N/A	N/A	N/A	N/A															
3	Has child polio 1, 2 & 3 vaccination	19	21	22	20	20	102	24	24	24	24	24	120	85.0	18	90.0	19				
		18	18	18	18	18															
4	Has DPT1, 2 & 3 vaccination	20	20	21	21	20	102	24	24	24	24	24	120	85.0	18	90.0	19				
		18	18	18	18	18															
5	Has HepB1, HepB2 & HepB3 vaccination	19	21	21	19	20	100	24	24	24	24	24	120	83.3	18	90.0	19				
		18	18	18	18	18															
6	Has measles vaccination	20	22	21	20	19	102	24	24	24	24	24	120	85.0	18	90.0	19				
		18	18	18	18	18															

TABLE 3 B ELECTRONIC ANALYSIS : 12-23 MONTHS

Municipality 1 Mbabazane					Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
No	Indicator Vit A & Diarrhoea Knowledge	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule		
		1	2	3	4	5		1	2	3	4	5							
7	Has [NAME] ever received a Vitamin capsule like this one?	6	9	8	17	10	50	24	24	24	24	24	120	41.7	7	80.0	16		
		7	7	7	7	7													
8	What steps does mother normally take when child has diarrhoea?	21	21	21	22	21	106	24	24	24	24	24	120	88.3	19	80.0	16		
		19	19	19	19	19													
9	What signs & symptoms would cause you to seek advice / treatment immediately for child's diarrhoea?: 2/more	8	11	15	15	14	63	24	24	24	24	24	120	52.5	10	80.0	16		
		10	10	10	10	10													
10	After a bout of diarrhoea, how should a mother feed a child when recovering?	6	8	7	19	10	50	24	24	24	24	24	120	41.7	7	No target set	N/A		
		7	7	7	7	7													

TABLE 3 C ELECTRONIC ANALYSIS : 12-23 MONTHS

Municipality 1 Mbabazane				Municipality 2 Mtshezi				Municipality 3 Indaka				Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
	Indicator Respiratory Infections & General danger signs	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
11	Which danger signs- respiratory infections would cause you to take your child for medical help: ?2/more	<u>3</u>	13	9	6	11	42	24	24	24	24	24	120	35.0	4	50.0	9
		4	4	4	4	4											
12	Which danger signs- respiratory infections would cause you to take your child for medical help: ?3/more	<u>2</u>	8	8	8	8	34	24	24	24	24	24	120	28.3	3	No target set	N/A
		3	3	3	3	3											

TABLE 4 A ELECTRONIC ANALYSIS : WOMEN AGED 15-49 YEARS

Municipality 1 Mbabazane							Municipality 2 Mtshezi					Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba	
	Indicator Hiv/aids	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule				
		1	2	3	4	5		1	2	3	4	5									
1	Can the virus that causes HIV be transmitted from mother to child during pregnancy?	21	20	23	22	22	108	24	24	24	24	24	120	90.0	19	90.0	19				
		19	19	19	19	19															
2	Can the virus that causes HIV be transmitted from mother to child during delivery?	11	14	20	18	18	81	24	24	24	24	24	120	67.5	14	90.0	19				
		14	14	14	14	14															
3	Can the virus that causes HIV be transmitted from mother to child during breastfeeding?	18	17	19	18	16	87	24	24	24	24	24	120	72.5	15	90.0	19				
		15	15	15	15	15															
4	If an HIV +ve women chooses to breastfeed her baby, how can she decrease the risk of the baby contracting HIV	1	0	6	6	4	17	14	11	22	22	18	87	19.5	1	40.0	6				
		N/A	N/A	N/A	N/A	N/A															
5	How can an HIV +ve person stay as healthy as possible: 2/more	8	12	15	14	13	62	24	24	24	24	24	120	51.7	10	No target set	N/a				
		10	10	10	10	10															
6	How can an HIV +ve person stay as healthy as possible: 3/more	1	0	5	6	5	17	24	24	24	24	24	120	14.2	N/A	50.0	9				
		N/A	N/A	N/A	N/A	N/A															

TABLE 4 B ELECTRONIC ANALYSIS : WOMEN AGED 15-49 YEARS

Municipality 1 Mbabazane						Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi			Municipality 5 Okhahlamba		
	Indicator Maternal Health	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catchment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule			
		1	2	3	4	5		1	2	3	4	5								
7	Where would an HIV +ver person go for treatment if they are not well?	24	24	24	23	23	116	24	24	24	24	24	120	96.7	N/A	No target set	N/A			
		NA	N/A	N/A	N/A	N/A														
8	How could a person find out whether she has HIV?	23	20	21	23	23	110	24	24	24	24	24	120	91.7	21	No target set	N/A			
		21	21	21	21	21														
9	Have you heard of voluntary counseling & testing service (VCT)?	2	6	3	11	2	24	24	24	24	24	24	120	20.0	1	No target set	N/A			
		1	1	1	1	1														
10	If you want to be tested for HIV, where would you go?	22	24	23	23	24	116	24	24	24	24	24	120	96.7	N/A	No target set	N/A			
		N/A	N/A	N/A	N/A	N/A														
11	What do you think are the reasons to get an HIV test ? :1 reason	17	23	24	22	22	108	24	24	24	24	24	120	90.0	19	No target set	N/A			
		19	19	19	19	19														
12	What do you think are the reasons to get an HIV test :?2 reasons	1	4	12	8	7	32	24	24	24	24	24	120	26.7	3	50.0	9			
		3	3	3	3	3														

TABLE 4 C ELECTRONIC ANALYSIS : WOMEN AGED 15-49 YEARS

Municipality 1 Mbabazane			Municipality 2 Mtshezi				Municipality 3 Indaka					Municipality 4 Mnambithi		Municipality 5 Okhahlamba			
No	Indicator HIV/AIDS	Number correct (or %) in each municipality/decision rule					Total no correct	Total in municipality or SA sample					Total catch- ment area sample	Average coverage	Average coverage decision rule	Target for the assessment	Target decision rule
		1	2	3	4	5		1	2	3	4	5					
13	What do you think are the reasons to get an HIV test :?3 reasons	0	1	2	2	2	7						120	5.8	N/A	30.0	3
		N/A	N/A	N/A	N/A	N/A		24	24	24	24	24					
14	Would you go for an HIV test yourself?	18	20	15	20	16	89	24	24	24	24	24	120	74.2	15	70.0	14
		15	15	15	15	15											
15	Would you talk to your partner or spouse before having an HIV test?	19	20	18	21	21	99						120	82.5	18	No target set	N/A
		18	18	18	18	18		24	24	24	24	24					
16	Would you tell your partner or spouse of results of HIV test?	20	21	19	18	24	102						120	85.0	18	No target set	N/A
		18	18	18	18	18		24	24	24	24	24					
17	Do you think you are personally at risk of getting HIV AIDS?	15	13	22	19	17	86						120	71.7	15	No target set	N/A
		15	15	15	15	15		24	24	24	24	24					
18	Did you use a condom at your last sexual intercourse?	9	6	4	6	7	32						109	29.4	N/A	No target set	N/A
		3	3	3	3	3		21	21	24	20	23					

APPENDIX D

WEIGHTING OF ELECTRONIC RESULTS WITH 95% CONFIDENCE INTERVALS

Each indicator used corresponds with the indicators used in the LQAS Tables in Appendix B and Appendix C. These indicators were established by the TDCSP Team, using information from the questionnaires administered.

Table D1 a: 0-11 Months

INDICATOR	Weighted coverage(%)	95% CI
Q1. Mother reports she received Vit A shortly after delivery	63.1	55.8- 70.4
Q2. Does (name of child) have a road to health card?	100.0	-
Q3. The child has been weighed once in the last 2 mnths	73.3	65.5- 81.1
Q4. The child has been weighed at least twice in the last 2 mnths.	33.9	25.1- 42.7
Q5. Card indicates mother received Vit A after delivery	56.1	48.5- 63.7
Q6. Are you breastfeeding?	91.2	86.3- 96.1
Q7. Did you ever breastfeed?	98.9	97.7- 100.0
Q8. How long after birth did you put (name of child) to the breast?	66.3	58.0- 74.6
Q9. Did you give (name) the first milk that came from your breast?	73.9	66.3- 81.5
Q10. At what age should a mother start giving fluids/liquids in addition to breastmilk?	22.1	14.1- 30.1
Q11. At what age should a mother stop breastfeeding her child altogether?	52.0	43.0- 61.0
Q12. During pregnancy, what problems or danger signs would make you seek medical attention? (2/more reasons)	54.4	45.0- 63.8

Table D1 b: 0-11 Months (continued)

INDICATOR	Weighted coverage(%)	95% CI
Q13. During pregnancy, what problems or danger signs would make you seek medical attention? (3/more reasons)	23.1	15.0- 31.2
Q14. During delivery, what problems or danger signs would make you look for medical attention? (2/more reasons)	36.1	26.9- 45.3
Q15. During delivery, what problems or danger signs would make you look for medical attention? (3/more reasons)	9.6	3.8- 15.4
Q16. After delivery, what problems or danger signs would make you look for medical attention? (2/more reasons)	32.3	23.5- 41.1
Q17. After delivery, what problems or danger signs would make you look for medical attention? (3/more reasons)	6.7	1.8- 11.6
Q18. What are the signs to watch for during the first 7 days, that may indicate that a newborn is sick and needs medical attention? (2/more reasons)	28.5	20.1- 36.9
Q19 What are the signs to watch for during the first 7 days, that may indicate that a newborn is sick and needs medical attention? (3/more reasons)	8.9	3.8- 14.0
Q20. If you had danger signs during pregnancy or post-partum, where would you seek medical attention?	98.7	95.9- 100.0
Q21. Antenatal record: ask mother to bring her antenatal record	32.2	24.4- 40.0
Q22. No. Of children 0-5 mnths	58.3	49.8- 66.8
Q23. No. Of children 0-5 mnths exclusively breastfed	23.2	16.3- 30.1
Q24. Have you given (name of child) commercially produced infant formula in the last 24 hrs?	37.8	28.7- 46.9

Table D2: 0-23 Months

Indicator	Weighted coverage (%)	95 % CI
Q1. Child 0-23 mnths with diarrhoea	31.3	28.3- 34.3
Q2. What did you give to treat the diarrhoea?	70.6	62.0- 79.2
Q3. Quantity of liquids same, more , or less during diarrhoea?	32.6	23.6- 41.6
Q4. Quantity of food same , more or less during diarrhoea?	34.2	25.3- 43.1
Q5. Quantity of foods same, more , or less during diarrhoea?	65.5	56.6- 74.4
Q6. Where did you go first for treatment of diarrhoea?	73.5	65.0- 82.0
Q7. Children to be assessed for adequate treatment	6.5	1.7- 11.3
Q8. Total number of 0-23 mnths sampled	100.0	-
Q9. Did you seek treatment when child was ill with fast/ difficult breathing?	71.0	64.5- 77.5
Q10. How long after you noticed cough/ fast breathing did you seek treatment?	3.0	1.3- 4.7
Q11. From whom did you seek treatment?	77.2	70.7- 83.7

Table D3: 12-23 Months

Indicator	Weighted coverage (%)	95 % CI
Q1. Do you have a card where (name) vaccination are written down?	93.4	88.3- 98.5
Q2. Has BCG	99.1	97.4- 100.0
Q3. Has Polio 1, 2,3	84.4	77.4- 91.4
Q4. Has DPT 1, 2, 3	85.4	78.7- 92.8
Q5. Has Hep B1, Hep B2, Hep B3	82.3	74.9- 89.7
Q6. Has measles vaccination	83.9	76.8- 91.0
Q7. Has (name of child) ever received a Vit A capsule like this one?	45.9	37.1- 54.7
Q8. What steps does a mother normally take when a child has diarrhoea?	88.8	82.9- 94.7
Q9. What signs and symptoms would cause you to seek advice/treatment for child's diarrhoea? (2/more)	54.4	45.1- 63.4
Q10. After a bout of diarrhoea, how should a mother feed her child when recovering?	47.5	39.1- 55.9
Q11. Which danger signs of respiratory infection would cause you to take your child for medical help? (2/more)	31.8	23.4- 40.2
Q12. Which danger signs of respiratory infection would cause you to take your child for medical help? (3/more)	28.4	19.9- 36.9

Table D4 a: Women 15-49 years

Indicator	Weighted coverage (%)	95 % CI
Q1. Can the virus that causes AIDS be transmitted from mother to child during pregnancy?	90.9	85.5- 96.3
Q2. Can the virus that causes AIDS be transmitted from mother to child during delivery?	69.3	60.9- 77.7
Q3. Can the virus that causes AIDS be transmitted from mother to child during breastfeeding?	72.7	64.3- 81.1
Q4. If an HIV +ve women chooses to breastfeed her baby, how can she decrease the risk of the baby contracting HIV through breastmilk?	19.7	15.6- 23.8
Q5. How can an HIV +ve person stay as healthy as possible? (2/more reasons)	52.5	43.1- 61.9
Q6. How can an HIV +ve person stay as healthy as possible? (3/more reasons)	17.1	9.7- 24.5
Q7. Where would an HIV +ve person go for treatment if they are not well?	97.8	94.7- 100.0
Q8. How can a person find out whether she has HIV?	93.2	88.8- 97.6
Q9. Have you heard of a voluntary counselling and testing (VCT) service?	22.7	15.0- 30.4
Q10. If you want to be tested for HIV, where would you go?	96.3	92.6- 100.0
Q11. What do you think are the reasons to get an HIV test? (1 reason)	89.4	81.1- 97.7
Q12. What do you think are the reasons to get an HIV test? (2/more reasons)	28.2	19.9- 36.5

Table D4 b: Women 15-49 years (continued)

Indicator	Weighted coverage (%)	95 % CI
Q13. What do you think are the reasons to get an HIV test? (3/more reasons)	6.3	1.5- 11.1
Q14. Would you go for an HIV test yourself?	74.4	66.4- 82.4
Q15. Would you talk to your partner or spouse before having an HIV test?	83.3	76.4- 90.2
Q16. Would you tell your partner/ spouse the results of the HIV test?	83.8	76.8- 90.8
Q17. Do you think you are personally at risk of getting HIV/AIDS?	74.1	66.1- 82.1
Q18. Did you use a condom at your last sexual intercourse?	30.1	20.9- 39.3

APPENDIX E

**INTERVIEW – FEBRUARY 2002 ENGLISH
MOTHER WITH CHILD 0-11 MONTHS**

RAPID KNOWLEDGE, PRACTICE & COVERAGE (KPC) SURVEY: World Vision / South Africa

QUESTIONNAIRE IDENTIFICATION	FOR OFFICE USE ONLY RECORD # 1 ___
MUNICIPALITY _____ SUPERVISION AREA # _____ LQAS # OUT OF 24 ____	

INTERVIEW DATE	____/____/____ DD/MM/YY
INTERVIEWER'S NAME	_____
SUPERVISOR'S NAME	_____
SCHOOL NAME	_____
VILLAGE	_____

PRIOR TO THE INTERVIEW, THE NUMBER OF HOUSES VISITED (USE TICKMARKS)	
A. HOUSES EMPTY	_____
B. NO RESPONDENT AT HOUSE	_____
C. RESPONDENT DOES NOT AGREE TO INTERVIEW	_____
D. RESPONDENT LIVES AT HOUSE BUT FAR AWAY	_____
E. RETURN APPOINTMENT	_____
F. RESPONDENT AT HOME	_____
TOTAL HOUSES VISITED	_____

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with (NAME OF ORGANIZATION). We are conducting a _____ survey about the health of women and children. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help _____ to plan and improve existing health services. The survey usually takes _____ minutes to complete. Whatever information you provide, we will keep strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED..... 1

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED 2 →END

NAME OF CHILD BETWEEN 0 AND 11 MONTHS _____

NAME OF MOTHER _____

[IF CHILD IS 12 MOS. OR OLDER, END]

AGE OF MOTHER (IN YEARS) _____

CHILD BIRTHDATE ____/____/____

RESIDENTIAL ADDRESS (NOT BOX NUMBER)
HOUSEHOLD _____

DD/MM/YY

[ASK TO SEE IMMUNIZATION CARD TO VERIFY BIRTHDATE.]

AGE OF CHILD (IN MONTHS) _____

SEX OF CHILD (PLEASE CIRCLE): M F

PLEASE CIRCLE THE RESPONDENT'S ANSWERS

SECTION 1 – Road to Health Card + VITAMIN A

NO.	QUESTIONS	ANSWERS	PASS
1	Shortly after delivery did you receive a Vitamin A capsule like this one? SHOW A VITAMIN A CAPSULE	Yes 1 No 2 DK 88	
2	Does (name of child) have a Road to Health card?	YES, SEEN 1 YES, LOST IT 2 NEVER HAD A CARD 3	→Sec2 →Sec2
3	Look at the Road to Health Card of the child and record the following information: How many times has the child been weighed in the LAST 2 MONTHS?	Not weighed 1 One time 2 Two times 3	
4	Look at the Road to Health Card and see if the Mother received a Vitamin A capsule.	Yes 1 No 2	

SECTION 2 – BREASTFEEDING

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	PASS
1	Did you ever breastfeed (NAME)?	YES 1 NO 2	→6
2A	Are you breastfeeding (NAME) now?	YES 1 NO 2	→3
2B	For how long did you breastfeed (NAME)? IF LESS THAN ONE WEEK, RECORD '00' WEEKS. IF LESS THAN ONE MONTH, RECORD '00' MONTHS.	WEEKS 1 # OF WEEKS ____ MONTHS 2 # OF MONTHS ____	
3	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	Immediately 1 Hours 2 # Of Hours ____ Days 3 # Of Days ____ Don't Know 88	→Q5
4	Did you give (NAME) the first milk(colostrum) that came from your breast?	YES 1 NO 2	
5	At what age did you first give (NAME) anything other than breast milk?	# OF MONTHS ____	

6	NOW I WOULD LIKE TO ASK YOU ABOUT THE TYPES OF FOODS/ FLUIDS (NAME) HAS BEEN GIVEN OVER THE PAST 24 HOURS.	YES = 1	NO = 2	DON'T KNOW = 88	
A	Have you given (NAME) plain water in the past 24 hours ?				
B	Have you given (NAME) teas or juices or any other liquid in the past 24 hours?				
C	Have you given (NAME) commercially produced infant formula in the past 24 hours ?				
D	Have you given (NAME) any other milk, such as tinned, powdered, (Nespray) or fresh animal milk?				
E	Is (NAME) getting soft foods such as porridge?				
F	Is anything else being added to (NAME)'s meals?				
G	Is (NAME) getting fruit?				
H	Is (name of child) getting any yellow vegetable ?				
I	Is (name of child) getting dark green leafy vegetables, such as IMIFINO ?	Yes = 1	No = 2	Dk = 88	
J	Is (name of child) getting meat, chicken, fish, soya or beans?				
K	Is (name of child) getting margarine, peanut butter, oil or sugar?				
L	Is (name of child) getting eggs?				
M	Is (name of child) getting maas?				
7	At what age should a mother start giving her child foods or liquids in addition to breast milk? PROBE FOR NUMERIC ANSWER.	Earlier Than 4 Months..... 1 At 4 Months..... 2 Between 4 And 6 Months..... 3 At 6 Months..... 4 After 6 Months..... 5 Don't Know..... 88			
8	At what age should a mother stop breastfeeding her child altogether? PROBE FOR A NUMERIC ANSWER.	Earlier than 6 months -----1 Earlier than 12 months -----2 Earlier Than 24 Months..... 3 At 24 Months..... 4 After 24 Months..... 5 As Long As Possible 6 Don't Know..... 88			

SECTION 3: DIARRHEA: Sick Child Questions

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	PASS
1	Has (NAME) had diarrhea in the last 2 weeks?	Yes.....1 No2 Don't Know.....88	→ Sec 4 → Sec 4
2	Did you give (NAME) anything orally at home to treat the diarrhea?	Yes.....1 No2 Don't Know.....88	→ 4 → 4
3	What did you give (NAME) to treat the diarrhea? Anything more? DO NOT READ LIST OF OPTIONS PLEASE MARK AS MANY RESPONSES AS APPROPRIATE	ORS Sachet1 SSS2 Any Home Fluids3 Anti-Diarrhea Medicine4 Antibiotics5 Castor Oil6 Enemas7 Breast Milk8 Don't Know88 Other96 Specify	
4	When (NAME) had diarrhea, was the quantity of liquids (and breastfeeding) that you gave her/him the same, more or less than normal?	SAME1 MORE2 LESS.....3 GAVE NOTHING TO DRINK.....4 DON'T KNOW.....88	
5 A	When (NAME) had diarrhea, was the quantity of food that you gave her/him the same, more or less than normal? IF THE MOTHER IN RESPONSE TO THIS QUESTION HAS SAID SHE IS EXCLUSIVELY BREASTFEEDING THEN NOTE IT AND DO NOT FILL IN THIS QUESTION.	SAME1 MORE2 LESS.....3 GAVE NOTHING TO EAT4 DON'T KNOW.....88 Exclusive Breastfeeding_____	
5 B	When (NAME) was recuperating from the diarrhea was the quantity of food that you gave her/him the same, more or less than normal? IF THE MOTHER IN RESPONSE TO THIS QUESTION HAS SAID SHE IS EXCLUSIVELY BREASTFEEDING THEN NOTE IT AND DO NOT FILL IN THIS QUESTION.	SAME1 MORE2 LESS.....3 SMALL FREQUENT MEALS4 GAVE NOTHING TO EAT5 DON'T KNOW.....88 Exclusive Breastfeeding_____	

6	Where did you go first for treatment of (NAME) diarrhea? MARK ALL RESPONSES MENTIONED	Hospital.....1 Clinic2 Doctor Or Private Clinic.....3 Community Health Worker.....4 Family Member.....5 Pharmacist6 Traditional Healer.....7 OTHER _____ 96 (SPECIFY)	
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SECTION 4: RESPIRATORY INFECTIONS: Sick Child Questions

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	PASS
1	Has (NAME) been ill with cough or difficult breathing in the last two weeks?	Yes1 No2	→ sec 5
2	Did (NAME) experience fast breathing or chest in-drawing when ill?	Yes1 No2 DK88	→ sec 5 → sec 5
3	Did you seek treatment when (NAME) was ill with these respiratory problems?	Yes1 No2	→ sec 5
4	From whom did you seek treatment for (NAME) when ill with fast and difficult breathing? DO NOT READ and DO NOT PROMPT MARK ALL RESPONSES	Hospital1 Clinic / Mobile Clinic2 Private Doctor3 Community Health Worker....4 Traditional Healer5 Faith Healer6 Grandmother.....7 Relatives & Friends.....8 Chemist9 Other96 (Explain)	
5	How long after you noticed (name of the child) having cough and fast breathing did you seek treatment?	Same Day.....1 Next Day.....2 2 Days.....3 3 Or More Days.....4	
6	When (name of the child) fell ill, and he / she was taken to a health facility, who decided that the child needed treatment?	Mother1 Father.....2 Mother And Father3 Grand Mother4 Grandfather5 Community Health Worker ...6 Community Member7 Nurse8 Other _____ 96 Specify	

SECTION 5: MATERNAL DANGER SIGNS

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	PASS
1.	<p>During the pregnancy, what problems or danger signs would make you look for medical attention?</p> <p>MARK ALL RESPONSES MENTIONED</p>	<p>Fever.....1 Vaginal Bleeding.....2 Persistent Or Severe Headache3 Swelling of Body/ Hand/face..... 4 Rupture Of Membranes 5 Decrease In Fetal Movement..... 6</p> <p>Persistent Or Severe Abdominal Pains 7</p> <p>Dizziness Or Vomiting Late In Pregnancy 8 Convulsions 9 Vulval Sores Or Offensive Vaginal Discharge 10 Burning Urine11 Premature Labour 12</p> <p>In Labour And Has Had Previous Cesarean Section Or Abortion ... 13</p> <p>Difficult Breathing 14</p> <p>Does Not Know 88</p> <p>Other_____96 (Specify)</p>	
2	<p>During the delivery, what problems or danger signs would make you look for medical attention?</p> <p>MARK ALL RESPONSES MENTIONED</p>	<p>Fever.....1 Haemorrhage.....2 Severe Headache3 Sweating Of Body Hands, Face..... 4 Sun Sets At Least Once During Labor (Prolonged Labor) 5</p> <p>Swelling Of Body Hands, Face ...6 Retained Placenta..... 7 Convulsions 8 Abdominal Pain 9 Symptoms Of An Abortion10 Water Breaks 11 Baby Does Not Move12</p> <p>Baby Has Excessive Movement ...13 Baby In Poor Position.... 14 Liquor Is Green 15</p> <p>Does Not Know.....88</p> <p>Other_____96 (Specify)</p>	

3	<p>After the delivery, what problems or danger signs would make you look for medical attention?</p> <p>MARK ALL RESPONSES MENTIONED</p>	<p>Fever..... 1</p> <p>Difficult Breathing2</p> <p>Haemorrhage.....3</p> <p>Severe Headache4</p> <p>Severe Sweating Of Body/ Hands, Face 5</p> <p>Swelling Of Body</p> <p>Hands, Face 6</p> <p>Abdominal Pain7</p> <p>Weakness, Debility 8</p> <p>Offensive Vaginal Discharge..... 9</p> <p>Convulsions 10</p> <p>Abnormal Behavior/ Severe Depression 11</p> <p>Tear of perineum + bleeding.....12</p> <p>Don't Know----- 88</p> <p>Other_____96</p> <p>(SPECIFY)</p>
4	<p>What are the signs to watch for within the first seven days that may indicate that the newborn baby is sick and seek medical attention immediately?</p> <p>MARK ALL RESPONSES MENTIONED</p>	<p>Chest in drawing -----1</p> <p>Baby feels cold -----2</p> <p>Yellow (discoloration) of skin and eyes -----3</p> <p>Failure to suck or breast feed ---4</p> <p>Discharging eyes -----5</p> <p>Fever -----6</p> <p>Failure to pass stool or urine ---7</p> <p>Convulsions -----8</p> <p>Bleeding from umbilical cord ---9</p> <p>Bulging fontanelle -----10</p> <p>Fast breathing -----11</p> <p>Grunting-----12</p> <p>Not active, lethargic or unconscious -----13</p> <p>DK -----88</p> <p>Other_____96</p> <p>(Explain)</p>

APPENDIX F

INTERVIEW – FEBRUARY 2002 – ENGLISH
MOTHER WITH CHILD 12-23 MONTHS

RAPID KNOWLEDGE, PRACTICE & COVERAGE (KPC) SURVEY: World Vision / South Africa

QUESTIONNAIRE IDENTIFICATION	FOR OFFICE USE ONLY RECORD # 2 ____
MUNICIPALITY _____	SUPERVISION AREA # _____
LQAS # OUT OF 24 ____	

INTERVIEW DATE	____/____/____ DD/MM/YY	PRIOR TO THE INTERVIEW, THE NUMBER OF HOUSES VISITED (USE TICKMARKS)
INTERVIEWER'S NAME	_____	A. HOUSES EMPTY _____
SUPERVISOR'S NAME	_____	B. NO RESPONDENT AT HOUSE _____
SCHOOL NAME	_____	C. RESPONDENT DOES NOT AGREE TO INTERVIEW _____
VILLAGE	_____	D. RESPONDENT LIVES AT HOUSE BUT MORE THAN 30 MINUTES FAR AWAY _____
		E. RETURN APPOINTMENT ____:____
		TOTAL HOUSES VISITED _____

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with (NAME OF ORGANIZATION). We are conducting a _____ survey about the health of women and children. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help _____ to plan and improve existing health services. The survey usually takes _____ minutes to complete. Whatever information you provide we will keep strictly confidential and will not be shown to other persons. Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED 1 RESPONDENT DOES NOT AGREE TO BE INTERVIEWED.....2 →END

NAME OF CHILD BETWEEN 12 AND 23 MONTHS _____	NAME OF MOTHER _____
[IF CHILD IS 12 MOS. OR OLDER, END]	AGE OF MOTHER (IN YEARS) _____
CHILD BIRTHDATE ____/____/____	RESIDENTIAL ADDRESS (NOT BOX NUMBER)
DD/MM/YY	HOUSEHOLD _____
[ASK TO SEE IMMUNIZATION CARD TO VERIFY BIRTHDATE.]	_____
AGE OF CHILD (IN MONTHS) _____	_____
SEX OF CHILD (PLEASE CIRCLE): M F	

SECTION 0: IDENTIFYING THE CARE TAKER

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	Are you the mother of the child? IF SHE SAYS NO ASK: Where is the mother now?	Present1 At Work2 At School3 Absconded4 Deceased 5 Other -----96 (Specify)	→ Sec 2
2	If the caretaker is not (NAME)'s mother ask: Name of Caretaker _____	Relationship Grandmother..... 1 Older Children..... 2 Maid / Nanny.....3 Creche..... 4 Neighbor/Friends5 Husband/Father Of Child..... 6 Relatives..... 7	

SECTION 1: Immunizations and Vitamin A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES
1	Do you have a card where (NAME'S) vaccinations are written down? ¹ IF YES: May I see it please?	YES, SEEN1 YES, LOST IT2 → 18 NEVER HAD A CARD3 → 18
(1)	COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. ¹	

SECTION 2. DIARRHEA – Knowledge

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1	<p>What steps does a mother normally take when a child has diarrhea?</p> <p>MARK ALL RESPONSES DO NOT READ and DO NOT PROMPT</p>	<p>Nothing.....1.</p> <p>Initiate Fluids Rapidly2</p> <p>Proper Mixing And Administration of ORS Sachet/SSS 3</p> <p>Give The Child More To Drink Than Usual4</p> <p>Continue To Feed/Breast Feed The Child 5</p> <p>Give Home Available Fluids, i.e.Tea , juice..... 6</p> <p>Anti-Diarrhea Medicine From Doctor Or Chemist....7</p> <p>Enemas.....8</p> <p>Castor Oil 9</p> <p>Take The Child To Hospital/Health Facility....10</p> <p>Withhold Fluids 11</p> <p>Withhold Food 12</p> <p>DK 88</p> <p>Other 96</p> <p>(specify)</p>	
2	<p>What signs and symptoms would cause you to seek advice or treatment immediately for (name of child)'s diarrhea ?</p> <p>MARK ALL RESPONSES DO NOT READ and DO NOT PROMPT</p>	<p>Child is unable to drink or breastfeed.....1</p> <p>Child vomits everything.....2</p> <p>Signs of dehydration such as sunken eyes, sunken fontanelle, thirsty.....3</p> <p>Diarrhea with blood.....4</p> <p>Child lethargic or unconscious.....5</p> <p>Convulsions in this illness.....6</p> <p>Dk 88</p> <p>Other 96</p> <p>(Specify)</p>	

3	<p>After a bout of diarrhea how should a mother feed a child when the child is recovering?</p> <p>MARK ALL RESPONSES DO NOT READ and DO NOT PROMPT</p>	<p>Feed more after diarrhea episode 1</p> <p>Give the child smaller, more frequent feeds2</p> <p>Feed the child less.....3</p> <p>Feed the child the same.....4</p> <p>Don't know..... 88</p> <p>Other 96</p> <p>(Specify)</p>
---	---	--

SECTION 3: DIARRHEA: Sick Child Practice

1	Has (NAME) had diarrhea in the last 2 weeks?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 88</p>	<p>→ Sec 4</p> <p>→ Sec 4</p>
2	Did you give anything (NAME) at home to treat the diarrhea?	<p>YES 1</p> <p>NO 2</p> <p>DON'T KNOW 88</p>	<p>→ Q 4</p> <p>→ Q 4</p>
3	<p>What did you give (NAME) to treat the diarrhea?</p> <p>Anything more?</p> <p>PLEASE MARK AS MANY RESPONSES AS APPROPRIATE</p>	<p>ORS SACHET1</p> <p>SSS2</p> <p>ANY HOME FLUIDS 3</p> <p>ANTI-DIARRHEA MEDICINE 4</p> <p>ANTIBIOTICS5</p> <p>CASTOR OIL6</p> <p>ENEMAS7</p> <p>DON'T KNOW88</p> <p>OTHER96</p> <p>SPECIFY</p>	
4A	When (NAME) had diarrhea, was the quantity of liquids (and breastfeeding) that you gave her/him the same, more or less than normal?	<p>SAME 1</p> <p>MORE 2</p> <p>LESS 3</p> <p>GAVE NOTHING TO DRINK 4</p> <p>DON'T KNOW88</p>	
4B	When (NAME) had diarrhea when did you initiate fluids?	<p>Immediately..... 1</p> <p>After ½ hour.....2</p> <p>After some hours.....3</p> <p>After 1 or 2 days.....4</p> <p>Don't know.....88</p> <p>Other96</p> <p>(Specify)</p>	

4C	Did you give (NAME) fluid after each loose stool?	Yes1 No2	→ 5A
4D	How much fluid did you give after each loose stool?	½ cup.....1 More than ½ cup.....2 Less than ½ cup.....3 Nothing.....4 Don't Know.....88	
5 A	When (NAME) had diarrhea, was the quantity of food that you gave her/him the same, more or less than normal? IF THE MOTHER IN RESPONSE TO THIS QUESTION HAS SAID SHE IS EXCLUSIVELY BREASTFEEDING THEN NOTE IT AND DO NOT FILL IN THIS QUESTION.	SAME 1 MORE 2 LESS 3 GAVE NOTHING TO EAT 4 DON'T KNOW 88 Exclusively breastfeeding _____	
5 B	When (NAME) was recuperating from the diarrhea was the quantity of food that you gave her/him the same, more or less than normal? IF THE MOTHER IN RESPONSE TO THIS QUESTION HAS SAID SHE IS EXCLUSIVELY BREASTFEEDING THEN NOTE IT AND DO NOT FILL IN THIS QUESTION.	SAME 1 MORE 2 LESS 3 GAVE NOTHING TO EAT 4 DON'T KNOW 88 Exclusively breastfeeding _____	
6A	Did you seek treatment when (NAME) had diarrhea?	Yes1 No2	→ Sec 4
6B	Where did you go to first for treatment of (NAME's) diarrhea?	Hospital.....1 Clinic 2 Doctor or Private Clinic.....3 Community Health Worker.....4 Family Member.....5 Pharmacist6 Traditional Healer.....7 OTHER _____ 96 (SPECIFY)	

SECTION 4: RESPIRATORY INFECTIONS AND GENERAL DANGER SIGNS

Knowledge and Behavior

NO	QUESTIONS AND FILTERS	CODING CATEGORIES	PASS
1	Which danger signs of respiratory infection would cause you to take (name) to a health facility immediately MARK ALL RESPONSES DO NOT READ ANSWERS	Fast or difficult breathing.....1 Chest in-drawing.....2 Grunting/groaning.....3 Wheezing.....4 Child unable to drink or breastfeed5 Child vomits everything.....6 Child lethargic or unconscious.....7 Convulsions in this illness.....8 Doesn't Know88 Other96 (Specify)	
2	Has (name) been ill with cough or difficult breathing in the last two weeks?	Yes1 No2	→ Sec 5
3	Did (name of child) experience fast breathing or chest in-drawing when ill?	Yes1 No2 Don't Know88	→ Sec 5 → Sec 5
4	Did you seek treatment when (name) was ill with these respiratory problems?	Yes1 No2	→ Sec 5
5	How long after you noticed (name) having cough and fast breathing did you seek treatment?	Same Day.....1 Next Day.....2 2 Days.....3 3 Or More Days.....4	
6	When (NAME) fell ill, and he/she was taken to a health facility who decided that the child needed treatment?	Mother1 Father2 Mother and father3 Grandmother4 Grandfather5 Community health worker6 Community member7 Nurse8 Other96 (Specify)	

SECTION 5: Growth Monitoring (12-23 Months)

NO.	QUESTIONS	ANSWERS	PASS
1	Take the Child's Vaccination Card and look at the place where the Growth Monitoring information is recorded.	YES, Card Seen 1 YES, Lost It 2 NEVER had a Card 3	→ End → End
2	Look at the Road to Health Card of the child and record the following information: How many times the child was weighed in the LAST 2 MONTHS?	Not weighed..... 1 One time..... 2 Two times..... 3	

END OF QUESTIONNAIRE

APPENDIX G

INTERVIEW WOMEN 15-49 YEARS ENGLISH

RAPID KNOWLEDGE, PRACTICE & COVERAGE (KPC) SURVEY: World Vision / South Africa

QUESTIONNAIRE IDENTIFICATION	FOR OFFICE USE ONLY RECORD # 1 ____
MUNICIPALITY _____ SUPERVISION AREA # _____ LQAS # OUT OF 24 ____	

INTERVIEW DATE _____ <div style="text-align: center;">DD/MM/YY</div> INTERVIEWER'S NAME _____ SUPERVISOR'S NAME _____ SCHOOL NAME _____ VILLAGE _____	PRIOR TO THE INTERVIEW, THE NUMBER OF HOUSES VISITED (USE TICKMARKS) A. HOUSES EMPTY _____ B. NO RESPONDENT AT HOUSE _____ C. RESPONDENT DOES NOT AGREE TO INTERVIEW _____ D. RESPONDENT LIVES AT HOUSE IS FAR AWAY _____ E. RETURN APPOINTMENT ____:____ F. RESPONDENT AT HOME _____ TOTAL HOUSES VISITED _____
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INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____ and I am working with (NAME OF ORGANIZATION). We are conducting a _____ survey about the health of women and children. We would very much appreciate your participation in this survey. I would like to ask you about your health (and the health of your children). This information will help _____ to plan and improve existing health services. The survey usually takes _____ minutes to complete. Whatever information you provide we will keep strictly confidential and will not be shown to other persons.

Participation in this survey is voluntary and you can choose not to answer any individual question or all of the questions. However, we hope that you will participate in this survey since your views are important.

At this time, do you want to ask me anything about the survey?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED1

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED2 →END

FIRST NAME OF WOMAN _____

AGE OF WOMAN (IN YEARS) _____

RESIDENTIAL ADDRESS (NOT BOX NUMBER)
HOUSEHOLD _____

IN THE NEXT FEW QUESTIONS I WOULD LIKE TO FIND OUT WHAT PEOPLE KNOW ABOUT HIV/AIDS

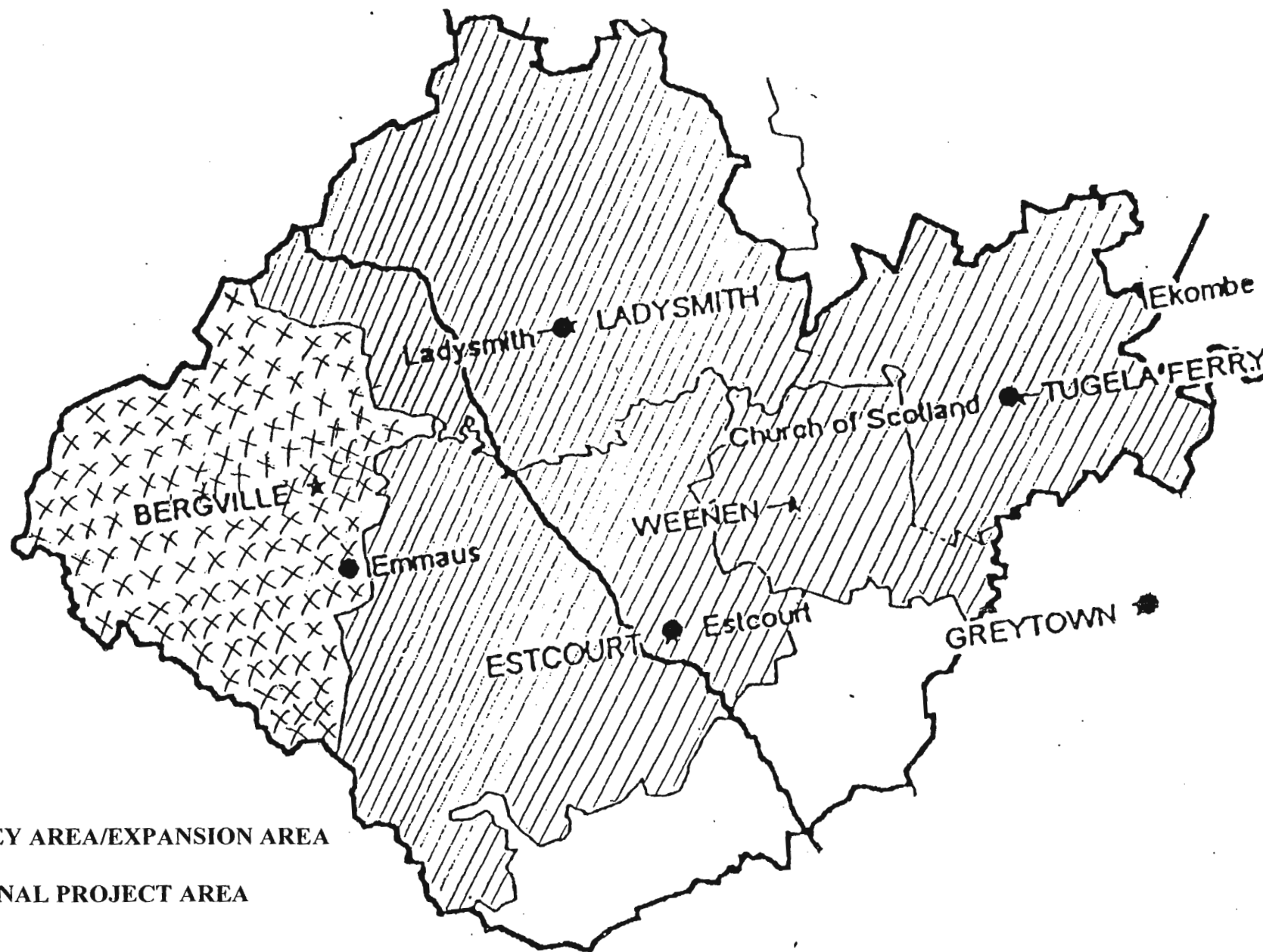
SECTION 1: HIV/AIDS/STI

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP	CODE
1	<p>Can the virus that causes AIDS be transmitted from a mother to a child</p> <p>PROMPT</p>	<p>During pregnancy</p> <p>Yes -----1</p> <p>No -----2</p> <p>Don't know -----88</p> <p>During delivery</p> <p>Yes -----1</p> <p>No -----2</p> <p>Don't know -----88</p> <p>During breastfeeding</p> <p>Yes -----1</p> <p>No -----2</p> <p>Don't know -----88</p>	<p>Go to 2</p> <p>Go to 3</p> <p>Go to 3</p>	
2	<p>If yes to breastfeeding:</p> <p>If an HIV positive woman chooses to breastfeed her baby, how can she decrease the risk of her baby contracting HIV through breastmilk?</p>	<p>Exclusive breastfeed for at least the first 6 months and then abrupt weaning -----1</p> <p>Heat the milk -----2</p> <p>Don't know -----88</p>		
3	<p>How can an HIV positive person stay as healthy as possible?</p> <p>MARK ALL RESPONSES</p>	<p>Good nutrition -----1</p> <p>Treat opportunistic infections as soon as possible -----2</p> <p>Use a condom to prevent re-infection through sex -----3</p> <p>Reduce stress -----4</p> <p>Get enough rest -----5</p> <p>Plan his/her future -----6</p> <p>Healthy habits (no excessive drinking and smoking) -----7</p> <p>Exercise -----8</p> <p>Where desired, seek spiritual wisdom-----9</p> <p>Don't Know-----88</p> <p>Other -----96</p> <p>(Specify)</p>		

4	Where would an HIV Positive person go for treatment if they are not well MARK ALL RESPONSES	Clinic/hospital -----1 Private doctor -----2 Traditional healers -----3 Pharmacy -----4 Don't know-----88 Other ----- 96 (SPECIFY)		
5	How could a person find out if he/ she has HIV? MARK ALL RESPONSES	Go for test -----1 Go to health facility -----2 Go to counseling and testing service-----3 Don't know -----88 Other ----- 96 SPECIFY		
6	Have you heard of a voluntary Counseling and testing service (VCT)?	Yes-----1 No-----2 Don't know-----88		
7	If you want to be tested for HIV where would you go? MARK ALL RESPONSES	Hospital -----1 Clinic -----2 Wellbeing/community centre/VCT center-----3 Private doctor ----- 4 Don't know ----- 88 Other) ----- 96 (specify)		
8	What do you think are the reasons to get an HIV test? MARK ALL RESPONSES	Marriage -----1 Pregnancy -----2 Family planning -----3 Insurance -----4 Plan for the future -----5 Protect partner -----6 Protect child -----7 If I'm sick -----8 If I have an STI -----9 To know your status -----10 Don't know -----88 Other) ----- 96 (specify)		
9	Would you go for an HIV test yourself?	Yes -----1 No -----2 Don't know -----88		

10	Would you talk to your partner/spouse before having an HIV test?	Yes -----1 No -----2 Don't know -----88		
11	Would you tell your partner/spouse the results of an HIV test?	Yes -----1 No -----2 Don't know -----88		
12	Do you think you are personally at risk of getting HIV/AIDS?	Yes: -----1 Why? (PROMPT) ----- ----- ----- No: 2 why? - Abstaining -----10 - Faithful partners -----11 - Use a condom every time -----12 - Other -----96 SPECIFY		
13	Are you sexually active?	Yes -----1 No -----2	Go to 14	
			END	
14	(If yes) Did you use a condom at your last sexual intercourse?	Yes -----1 No -----2	END	
			Go to 15	
15	(If no) If you didn't use a condom, why didn't you use it? MARK ALL RESPONSES	They break -----1 Too expensive -----2 Don't like to use them -----3 Less satisfaction -----4 Don't know where to get it -----5 Partner refused -----6 Not available -----7 Don't know -----88 Other -----96 SPECIFY		

END OF QUESTIONNAIRE



 SURVEY AREA/EXPANSION AREA

 ORIGINAL PROJECT AREA