

HSRC RESEARCH OUTPUTS

4555

# REPORT ON CHILDREN UNDER FIVE HEALTH SURVEY

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*Water Research Council*  
Developing an appropriate tool: Voice, measure and  
intervention in ensuring the sustainability of municipal  
water services to the poor.



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## ***Introduction:***

The Weekly Diary for under Five Children is an innovative tool which provides community members, particularly mothers or guardians with the opportunity to take part in the community appraisal process. The health of under five children indicator (U5MR) reflects the achievement of general development standards and children's rights. It is a baseline indication of how a country is progressing in implementing rights to health-care, water, nutrition and social security. It is also a key indicator in terms of the Millennium Development Goal 4 to reduce by two-thirds, between 1990 and 2015, the under-five mortality rate. The U5MR is an indication of how very young children are progressing in terms of life, survival and development. It further reflects the socio-economic status of a population, in terms firstly of access to basic household services as well as secondly being a sensitive indicator of the effectiveness of health care.

The focus on the use of the tool here is on the health of under five children in relation to the quality of water and domestic hygiene rather than the full measure of U5MR. Article 24 of the United Nations Convention on the Rights of the Child specifically obliges all states to take appropriate measures to reduce the child death rate and in South Africa death by water related disease is still at a high level. The incidence of water related disease among children is a powerful indicator of inequalities in access to water services, health-care and of general socio-economic conditions.

The tool is particularly useful in tackling health issues facing children under five who are particularly vulnerable to diarrhoea, worms or bilharzia. It provides a means of gathering information and also for data analysis. The tool is an instrument of assessing the impact of the implementation of water services particularly in poor rural or shackland populations.

If it is carefully used it should be more effective than the statistics available at local clinics.

## ***Overview of tool:***

The Weekly Diary Children Under Five Tool is designed to record diarrhoea bowel movements and check on worms and bilharzia in order to assess the levels of diarrhoea in children under five over one week. The trainers were taught how the tool should be used and the data analysed. They, in turn, trained facilitators and participants in the village task teams in the use of the tool; and how they should interact with the mother or older siblings in recording the health of an under five.

The questionnaire is designed to be begun by a facilitator or member of a task team and then passed on to be used directly by mother or older sibling. After the end of a seven day period the questionnaires should be gathered and available for analysis.

The questionnaire requires the entry of data such as the child's name, household, age and area of residence. The respondent, a parent or guardian possibly assisted by an older child, then has to tick the option requesting information on the incidence of worms or bilharzia. The respondent then has to indicate whether treatment has been sought at the clinic and specify whether treatment was sought for diarrhoea, worms or bilharzia.

The core of the questionnaire is a seven day row of smiley faces. Normal stools are represented by the happy smiley ☺ and the incidence of diarrhoeal episodes is represented by the option of five unhappy smiley's ☹. If the child experienced no diarrhoeal episodes in a day the respondent indicates this by ticking the happy smiley. If diarrhoea is experienced the number of episodes is indicated by ticks on the unhappy smiley's. The presence of blood and/or mucus in stools is indicated by ticks in the box at the end of each day. The monitoring is continued over a period of seven days.

**Figure 1: Weekly Diary Children Under 5 Questionnaire**

**WEEKLY DIARY: CHILD UNDER FIVE**  
 Record diarrhoeal bowel movements for ONE CHILD on the day and check on worms and bilharzia

Household      Child's name      Age of child      Area      Date

WORMS YES/NO      BILHARZIA YES/NO

Treatment sought at clinic?      Diarrhoea YES/NO      Worms YES/NO      Bilharzia YES/NO

ENTER THE DATA ON TO THE ANALYSIS SHEET

	Normal stools	Diarrhoea					With blood and/or mucus
Monday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Tuesday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Wednesday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Thursday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Friday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Saturday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>
Sunday	☺	☹	☹	☹	☹	☹	<input type="checkbox"/>

**Figure 2: Analysis sheet**

DATA ANALYSIS: DIARRHOEA AND WORMS											
Ward:		Village:		Date:			Week:		Facilitator:		
No	Household	Child's name	Age of child	Evidence of worms YES=1 NO=0	Evidence of bilharzia YES=1 NO=0	Has treatment been sought at a clinic? YES=1 NO=0 <i>if yes state Diarrhoea/Worms/Bilharzia</i>	Diarrhea evidence YES=1 NO=0	Number of episodes; <i>count up the number of sad faces</i>	With blood or mucus YES=1 NO=0	Enter how many days the blood/mucus lasted	Was ORT used? YES=1 NO=0
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
<b>TOTALS</b>				Add and total	Add and total	Add and total	Add and total	Add and total	Add and total	Add and total	Add and total

Perhaps the most important aspect of the tool lies in the analysis sheet (see figure 2) which is designed to provide for community members themselves to enter the data and tabulate information based on the findings in their own villages. The data is entered systematically from the questionnaires under the appropriate headings. The use of a series of "1s" indicating positive evidence or "0s" indicating no evidence allows totals to be added, revealing statistics on the levels of diarrhoea, worms and bilharzia among children under five in a particular village. The information can provide a way of giving an idea of the proportion of children with levels of disease.

The tool itself and the analysis sheet is designed to be used at a local level, allowing communities to assess their own situation through the gathering of information and statistics.

**Assessment of use of the tool:**

The tool was well received in the villages according to the trainers, as people were interested in knowing more about health issues facing their children and learning what could be done to secure their health. Certain issues can however be identified after an assessment of how the tool was used. The questionnaire was designed to be used over

seven days; however some have only been filled in for a number of days. This leads one to question whether the tool was taken home for a week or whether a single call to a household was made and the questionnaire completed through recall.

In some villages it is positively recorded that the Village Facilitators, went door to door and explained and distributed the tool to mothers requesting them to record the seven day period. In other villages the questionnaire was distributed to mothers at the workshops or Village Facilitators visited and completed the questionnaire on the basis of information received. These adaptations of the method can help explain the differences in the number of days being completed; in some questionnaires the complete seven days and in others a few or only one day.

The data analysis is therefore a little uneven as reflects incidence of diarrhoea over differing periods. The questionnaires do however reveal a balance between evidence of strong cases of diarrhoea and no evidence of diarrhoea. Generally the data was gathered for one child under five per household, although there could be more children under five in each household.

The questionnaires indicate a high level of access to clinics for treatment sought for diarrhoea or bilharzia or worms. Although the questionnaire was designed to reflect whether a visit to a clinic during the seven day period, unfortunately the data may reflect visits during a previous period. The question should be rephrased for future use. The questionnaires do not ask whether any Oral Rehydration Solutions were used.

Information on the clinic, although not asked was added in some cases revealing a lack of medication available for diarrhoea. For example, in Ethridge Village in Ward 20, some respondents added to the survey by stating that they had taken their child to the clinic, but there was no medication at the clinic so they had to take the child to the hospital.

## ***Conclusions***

Information collected in a survey of under fives has a substantial advantage over the data collected at clinics if it is well conducted. This is largely due to the fact that data collected at clinics is of visits rather than general incidence and may reflect variations in access to clinics. The data is also often not available over a longer period of time and that it specifically focuses on recording complaints and may not reflect severity of the health issue in question. The clinic data also does not reflect other possibly associated diseases such as worm infestations or bilharzia.

The surveys were undertaken by the communities themselves, which is an added advantage in bringing about both awareness and advocacy. There is a considerable accomplishment in the fact that some of the poorest communities in the country without external direction or supervision completed 371 questionnaires at a reasonable quality on the conditions of under fives. Although the survey did not involve sampling, it did succeed in covering a reasonable proportion of under fives in each village.

The unevenness in data collection and recording (although far from being unknown in large-scale surveys) points to the need for greater attention to be given to supervision by trainers and facilitators and quality control. This needs to be exercised at an early stage so that remedial measures can be introduced. Although there are always problems of sufficient time, a check on the questionnaires after a few days recording would help identify problems and correct them.

Apart from initiating mobilization within the community the tools have been useful in obtaining real facts about an important range of child health issues facing these communities. The focus of issues of water and sanitation were not only limited to access, but involved the assessment of rights to water and sanitation as well as health-care.

The tool was able to achieve the mobilization of people to record health conditions of under fives, whilst not directly being under supervision by an external agency. An important spin-off of this intervention has been a keen interest in the communities in learning more about how to defend the health of their children and to learn more about making water safe for consumption.

### ***Challenges:***

Training people and making use of people to use the tool presented various challenges at times. It was crucial that all trainers understood the aims and objectives of the tool and were able to communicate them to community members. Trainers had to communicate instructions clearly to avoid any misunderstandings particularly in the data analysis section.

On the whole the tool appears to have worked well as a high number of children were covered and most questionnaires covered the full seven days. The quality of questionnaires differed among the villages revealing some which were filled in more completely and provided more information such as the quality of service at clinics.

### ***Discussion:***

The questionnaire had a total coverage of 371 children aged under five on the basis of house to house visits by facilitators or members of the task team. Although the survey was not undertaken on a basis of sampling and thus unevenly covered the population of under fives, a fairly high proportion of this population was involved.

Very high levels of water related diseases are reported in all wards. There could be an exaggeration effect in capturing the incidence of diarrhoea, worms and bilharzia. From fieldwork it was found that the teachers of the entry classes of primary schools did report high levels of diarrhoea. At one school most of the children were absent and reported to

be ill with diarrhoea. The data does indicate important variances in incidence of certain diseases as could be expected; bilharzia (for example) is not reported at all in some villages while high in others.

These variances appear to indicate that while there could be some unevenness in reporting of the incidence of disease, anticipated variances in incidence are found.

### ***Analysis of data I: ward summaries***

From the data analysis sheets collected, the villages and wards can be assessed in terms of the incidence of diarrhea, worms, and bilharzia. The following tables represent an analysis by Ward (Ward 2, 19 and 20) on the reported cases of worms, bilharzia and diarrhoea. The number of reported cases of blood/mucus in stools can be taken as an indication of a serious level of diarrhoea.

**Table 1 Analysis of data, Ward 2**

<b>Ward 2</b>	<b>Total</b>	<b>Percent</b>
Reported incidence of worms	132	67%
Reported incidence of bilharzia	21	11%
Reported incidence of diarrhoea	171	87%
Reported incidence of blood/mucus in stools	98	50%
Mothers' knowledge of ORT	166	84%
Total number of U5s = 197		

Ward 2 has the lowest levels of reported cases of worms and Bilharzia.

**Table 2 Analysis of data, Ward 19**

<b>Ward 19</b>	<b>Total</b>	<b>Percent</b>
Reported incidence of worms	131	69%
Reported incidence of bilharzia	74	39%
Reported incidence of diarrhoea	169	89%
Reported incidence of blood/mucus in stools	140	74%
Mothers' knowledge of ORT	164	87%
Total number of U5s = 189		

Ward 19 has the highest levels of reported cases of Bilharzia as well as the highest levels of reported diarrhoea with blood/ mucus in the stools.



**Table 3 Analysis of data, Ward 20**

Ward 20	Total	Percent
Reported incidence of worms	86	88%
Reported incidence of bilharzia	23	23%
Reported incidence of diarrhoea	97	99%
Reported incidence of blood/mucus in stools	51	52%
Mothers' knowledge of ORT	71	72%
Total number of U5s = 98		

Ward 20 has the highest level of reported incidence of worms. It must be noted that the level of diarrhoea during the period of the questionnaire was substantially high in all Wards.

In the following table the villages are ranked to provide information on sthe highest and lowest reported cases of worms.

**Table 4: Presence of worms**

Ward	Village	Percent	
2	Nokhatshile	100%	Most
20	Madadana	100%	
20	Nongeke	100%	
20	Mangqofoza	50%	Least
20	Zwelethu	50%	
2	Ngele	43%	

Through the ranking of villages, analysis can be made of those with the highest levels of diarrhoea, of worms and bilharzia as the basis for further investigation and follow-up intervention.

## ***Analysis of data II: analysis by village***

For analysis purposes, each of the villages is categorized according to the following criteria:

- i) Presence of diarrhoea: incidence of diarrhoea reported.
- ii) Presence of severe diarrhoea: questionnaires reveal evidence of serious diarrhoea distinguished by blood and mucus in stools. The presence of severe diarrhoea is further assessed by the number of episodes and days severe diarrhoea lasted, as in “all cases”, “most cases” or “some cases”.

<b>Trainers</b>	<b>Ward</b>	<b>Villages trained</b>	<b>U5 Classification</b>
<b>Team 1:</b> Gloria Mhlelebana Sindiswe Mphoswa	2	1) Nokhatshile 2) Mkhandlweni 3) Mafadobo 4) Mhlambondaba 5) Mpeni 6) Ngele 7) Thalen 8) Mkhambathi 9) Goxe 10) Qobo	Severe diarrhoea present (most) Diarrhoea present Severe diarrhoea present (some) Severe diarrhoea present (some) Severe diarrhoea present (most) Severe diarrhoea present(some) Severe diarrhoea present (all) Severe diarrhoea present (most) Severe diarrhoea present (some) Diarrhoea present
<b>Team 2:</b> Mbongwa Ngaleka (Robson)	20	1) Lindokuhle 2) Madadana 3) Zwelethu 4) Stanford 5) Ethridge 6) Nongeke 7) Mangqofoza	Diarrhoea present Diarrhoea present Severe diarrhoea present (most) Severe diarrhoea present (most) Severe diarrhoea present (most) Diarrhoea present Diarrhoea present
<b>Team 3:</b> Zibongele Manyaka	19	1) Ntlozelo 2) Mbabazo 3) Thokozani 4) Ilityeni 5) Mqeni 6) Isidanga 7) Kopana 8) Nonja 9) Monti	Severe diarrhoea present (most) Severe diarrhoea present (most) Severe diarrhoea present (most) Absent Severe diarrhoea present (most) Severe diarrhoea present (most) Severe diarrhoea present (most) Severe diarrhoea present (all) Severe diarrhoea present (most)

**Team 1:**

Gloria Mhlelebana and Sindiswe Mphoswa

**Mlambondaba Village:** Severe diarrhoea present in some cases.

Total: 17

- All reported evidence of worms.
- High number of cases that sought treatment at clinic for diarrhoea and worms
- The majority reported cases of diarrhoea with blood/mucus.
- ORT was used my most in the treatment of diarrhoea.
- No full week has been completed most questionnaires range from 3-5 days.
- Number of questionnaires does not coincide with number on data analysis sheet.

**Mafadobo Village:** Severe diarrhoea present in some cases.

Total: 10

- Most cases reported diarrhoea with evidence of blood/mucus.
- All sought treatment at clinic for diarrhoea.
- ORT was used in the treatment of diarrhoea.
- The questionnaires were completed for one day only.

**Mkhandlwini Village:** Diarrhoea Present

Total: 33

- A few reported cases of diarrhoea with evidence of blood/mucus.
- All sought treatment at clinic for diarrhoea small number sought treatment for worms and biharzia
- ORT was used by all in the treatment of diarrhoea.
- Questionnaires range between 4-5 days.
- Of those 4-5 days, all indicate evidence of diarrhoea

**Nokhatshile Village:** Severe diarrhoea present in most cases.

Total : 14

- All reported cases of diarrhoea with evidence of blood/mucus
- All reported evidence of worms.
- All sought treatment at clinic for diarrhoea and worms
- ORT was used in the treatment of diarrhoea.
- Questionnaires range between 3 and 4 days
- Of those 3-4 days, all indicate strong evidence of diarrhoea.

**Qobo Village:** Diarrhoea present.

Total: 28

- There are a few reported cases of diarrhoea with evidence of blood/mucus.
- All sought treatment at clinic for worms and a large number of cases sought treatment for worms.
- There is evidence of worms in the majority of cases.
- ORT was used in the treatment of diarrhoea.
- Questionnaires range between 3 and 4 days
- Of those 3-4 days, all indicate strong evidence of diarrhoea

**Goxe Village:** Severe diarrhoea present in some cases.

Total: 28

- Evidence of worms in the majority of respondents.
- ORT was used in the treatment of most of the cases of diarrhoea.
- One third of the respondents reported evidence of blood/mucus.
- Large numbers sought treatment at clinic for diarrhoea. Evidence of a number of cases seeking treatment for worms and bilharzia.
- Questionnaires range between 3 and 7 days.
- Of those all indicate evidence of diarrhea except one.

**Thaleni Village:** Severe diarrhoea present in all cases.

Total: 14

- Evidence of worms in all cases.
- Treatment has been sought at the clinic for diarrhoea and worms.
- ORT was used in the treatment of diarrhoea for all cases.
- All children experienced diarrhoea with blood/mucus.
- Questionnaires range between 2-7 days.
- Of those ranged between 2-7 days, all indicate an evidence of diarrhea.

**Mpeni Village:** Severe diarrhoea present in most cases.

Total: 25

- All cases sought treatment at clinic for diarrhea.
- Majority of respondents indicated evidence of worms.
- The majority of children experienced diarrhoea with blood/mucus.
- ORT was used by all in the treatment of diarrhoea.
- Questionnaires range between 4-7 days.
- Of those ranged between 4-7 days, all indicate an evidence of diarrhea.

**Ngele Village:** Severe diarrhoea present in some cases.

Total: 14

- Questionnaires indicate evidence of worms.
- The majority of children Under 5 experienced diarrhoea with blood/mucus.

- ORT was used in the treatment of some of the cases of diarrhoea.
- There is no evidence of Bilharzia.

**Mkhambathi Village:** Severe diarrhoea present in most cases.

Total: 14

- Most respondents report evidence of worms
- The majority of children Under 5 experienced diarrhoea with blood/mucus.
- ORT was used in the treatment of some of all cases diarrhoea.
- Treatment was sought for diarrhoea and worms.

**Team 2: Mbongwa Ngaleka (Robson)**

**Ward 20**

**Madadana Village:** Diarrhoea present.

Total: 14

- All respondents indicated evidence of worms.
- A number of respondents sought treatment for diarrhoea and worms at the clinic.
- ORT was only used by a few in the treatment of diarrhoea.
- Notes were added to the questionnaire regarding visits to the clinic: some experienced lack of medication, others were given glucose and wormqo(?)
- Only two cases reported of diarrhoea with blood/mucus.

**Zwelethu Village:** Severe diarrhoea present in most cases.

Total: 14

- Half (50%) of respondents reported evidence of worms.
- Treatment had been sought at the clinic for diarrhoea and worms for a number of cases.
- ORT was used by the majority in the treatment of diarrhoea.
- Balance between evidence of diarrhoea and no evidence.
- Evidence of blood and/or mucus in the majority of cases

**Ethridge Village:** Severe diarrhoea present in most cases.

Total: 14

- Most respondents reported evidence of worms and bilharzia.
- Treatment at clinic and hospital was particularly high in this group for diarrhoea, worms and bilharzia.
- Notes were added regarding treatment. Some respondents had to take children to a hospital for diarrhoea. Many received treatment for diarrhoea, worms and/or bilharzia from the clinic.
- ORT was used by most in the treatment of diarrhoea.
- Most respondents reported evidence of diarrhoea with blood and/or mucus.

**Mangqofoza Village: Diarrhoea present**

Total: 14

- Half (50%) of the respondents reported evidence of worms.
- Treatment was sought at the clinic for diarrhoea and worms.
- No indication of the use of ORT.
- Balance between evidence of diarrhoea and no evidence.
- Evidence of blood and/or mucus in a number of cases

**Lindokuhle Village: Diarrhoea present**

Total: 14

- All respondents indicated evidence of worms.
- Few reported evidence of diarrhoea with blood/mucus.
- ORT was used by the majority of respondents in the treatment of diarrhoea.
- Notes were made on treatment, but were not clearly indicated on the questionnaire. According to the notes, many of the children were treated at the hospital/clinic.

**Stanford Village: Severe diarrhoea present in most cases.**

Total: 14

- Worms and bilharzia were evident in the majority of cases.
- Notes were made on treatment. There is a lack of medication at the clinic, so many cases had to go to the hospital for treatment.
- ORT was used by some in the treatment of diarrhoea.
- Blood and/or mucus are evident in the majority of cases.
- Most questionnaires reveal a full week.

**Nongeke Village: Diarrhoea present**

Total: 14

- Few reported cases of diarrhoea with blood/mucus.
- All reported evidence of worms.
- Treatment had been sought at the clinic mainly for diarrhoea and worms.
- ORT was used by the majority in the treatment of diarrhoea.
- Notes were made on treatment. Some were unable to get treatment from the clinic so had to go to the hospital.

**Team 3: Zibongele Manyaka**

**Ward 19**

**Monti Village: Severe diarrhoea present in most cases**

Total: 19

- The majority of cases reported evidence of diarrhoea with blood/mucus.
- High number of cases sought treatment at clinic for diarrhoea/ worms/bilharzia
- ORT was used by most in the treatment of diarrhoea.
- The majority of respondents indicate evidence of worms and bilharzia.
- Most cases reveal a full week.

**Nonja Village:** Severe Diarrhoea present in all cases.

Total: 15

- Most respondents reported evidence of worms.
- All respondents had sought treatment at the clinic for diarrhoea. Treatment for bilharzia and/or worms was also sought by a high number.
- ORT was used in the treatment of diarrhoea.
- All cases indicate diarrhoea was experienced with blood/and or mucus
- Indication of worms
- Most questionnaires reveal a full week.
- Of the week diarrhoea is evident between 3-5 days.

**Kopana Village:** Severe diarrhoea present in most cases.

Total: 36

- The majority of respondents reported evidence of diarrhoea with blood/mucus.
- Large number of respondents indicate treatment was sought at the clinic but do not specify.
- Those that specify indicate treatment was sought mostly for diarrhoea.
- ORT was used by all in the treatment of diarrhoea.
- Balance between an indication of diarrhoea and no indication
- Most questionnaires reveal a full week.
- Indication of worms/ bilharzia has been left out on many questionnaires.

**Mbabazo Village:** Severe diarrhoea present in most cases.

Total: 26

- Most respondents reported evidence of worms.
- Most respondents indicate that treatment was sought at the clinic for diarrhoea and/or worms.
- ORT was used by most in the treatment of diarrhoea.
- Most questionnaires range between 3-7 days.
- Most respondents reported evidence of diarrhoea with blood and/or mucus.

**Thokozani Village :** Severe diarrhoea present in most cases

Total: 22

- Majority reported evidence of worms. A number reported evidence of bilharzia.
- Most respondents indicate that treatment was sought at the clinic for diarrhoea. A number of respondents also sought treatment for bilharzia and/or worms
- ORT was used by all in the treatment of diarrhoea.
- Most questionnaires reveal a full week.
- Of that week, diarrhoea is present between 3-5 days.

- There is reported evidence of blood and/or mucus in the majority of cases

**Ntlozelo Village:** Severe Diarrhoea Present in most cases.

Total: 25

- The majority reported evidence of diarrhoea with blood/mucus.
- Most respondents indicate that treatment was sought at the clinic for diarrhoea and worms. There are a number of cases that sought treatment for bilharzia.
- Most questionnaires reveal a full week.
- ORT was used by most in the treatment of diarrhoea.

**Isidanga Village:** Severe diarrhoea present in most cases.

Total: 29

- All respondents indicate that treatment had been sought at the clinic for diarrhoea.
- A number of cases had also sought treatment for worms.
- ORT was used by all in the treatment of diarrhoea.
- Balance between an indication of diarrhoea and no diarrhoea.
- Questionnaires range between 4-7 days.
- There is evidence of blood and/or mucus in 50% of the cases.

**Mqeni Village:** Severe diarrhoea present in most cases.

Total: 17

- There is reported evidence of worms and bilharzia in a number of cases.
- Treatment has been sought at the clinic for diarrhoea. There are a number of cases that sought treatment for worms.
- ORT was used by all in the treatment of diarrhoea.
- Balance between indication of diarrhoea and no diarrhoea
- Questionnaires range between 4-7 days.
- There is reported evidence of blood and/or mucus in the majority of cases.