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Characteristics of Instructions for Using Household Medicines
in Rural Kenya

Jeanne Ratzlaff

A Thesis

from

The T.E.S.L. Centre

Presented in Partial Fulfilment of the Requirements
for the Degree of Master of Arts at
Concordia University
Montreal, Quebec, Canada

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ABSTRACT

Characteristics of Instructions for Using Household Medicines in Rural Kenya

by J. Ratzlaff

The language on pharmaceutical labels sold commercially in Kenya was analyzed and the comprehension difficulties for a rural Kenyan clientele outlined. The framework for the analysis is the information on text-difficulty and clear writing found in the literature concerned with the genre of instructions, and the research on comprehension of pharmaceutical instructions by African and Asian subjects. The results supported research which claims that pharmaceutical labels are difficult due to their inconsistent use of language and graphics, overreliance on English, complex numeracy tasks, and their heavy reliance on tacit information. Strategies for decreasing text-difficulty are proposed.

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No man is an island.

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CHAPTER 1

STATEMENT OF THE PROBLEM

This thesis examines some of the characteristics of the genre of printed instructions; specifically, the instructions for commercial medicines sold in rural Kenya provided the basis for determining the characteristics of this genre. Recent studies (Eisemon, Patel and Ole Sena, 1987; Patel, Eisemon and Arocha, 1990) have emphasized that the difficulties consumers have with comprehending instructions for using commercial medicines have to do with factors associated with text design and lack of familiarity with the medical and biological knowledge implied in the instructions. There are few detailed studies of the characteristics of these texts to date. Research on this genre has generally considered four topics: (1) linguistic characteristics of the texts; (2) comprehension processes involved in processing these texts; (3) traditional knowledge which "readers" bring to the comprehension task; and (4) distribution policies of manufacturers and host countries. This study will primarily be concerned with the first area. It is believed that a detailed study of the linguistic and semantic characteristics and the typical formats and contents of the instructions will provide a valuable tool for ongoing research into the relationship between schooling and the development of functional literacy skills in developing countries.

Functional literacy is a skill which has been defined as the ability to read and write words at a level of competence adequate for carrying out practical tasks involving literacy in daily life (Stubbs, 1982). Functional literacy levels have, therefore, been of great concern to educators and policy makers in both developed and developing countries. In 1987, for example, a literacy survey was carried out in Canada by Southam News in which subjects were asked practical questions such as to determine the correct dosage for cough syrup using the instructions on the bottle's label. Based on this survey, five million adult Canadians were declared to be functionally illiterate (Southam News, 1987).

For Kenyans, the processing of written medical instructions has been shown to be among the most common uses of literacy in rural areas (Eisemon, 1988). However, little is known about the nature of these texts and the skills and knowledge used in comprehending them.

It will be shown that instructions for using non-prescription medicines in Kenya have common characteristics that do not facilitate comprehension, such as lack of correspondence between pictorial and printed information, discrepancies between the Kiswahili and English versions of the instructions, use of unfamiliar measurements, and lack of explanations for procedures (Kanouse and Hayes-Roth, 1980;

Eisemon, 1989). Furthermore, these texts typically contain much information imbedded in propositions expressed in conditional statements. Crucial information is seldom marked with text cues. Finally, the structure of this genre is highly varied, with few discourse conventions, which increases text difficulty. In order to improve text design and educate consumers to be able to comprehend instructions better, more detailed analyses are needed of the linguistic and semantic characteristics of this genre.

Pilot Study

Prior to collecting the data in Kenya, a pilot study comprising two stages was conducted in Montreal. First a preliminary analysis of four samples of the instructions on Oral Rehydration Therapy (ORT) medicines was carried out and second, an interview based on these same medicines was designed and administered in order to determine the nature of the text-processing strategies which users make use of in comprehending the instructions.

Characteristics of Printed Instructions

The findings from the pilot study indicated that important information may be absent altogether and must be inferred from prior knowledge. Few conventions apply despite

the fact that the four products are nearly identical in terms of chemical components and quantity. The instructions accompanying different versions of the same medicine vary considerably with respect to types of information included and the ways in which they are expressed. Sometimes the instructions present the same information both pictorially and in written language, but not always. In one case the important instruction "to boil and cool the water which is to be mixed with the solution" is not expressed in graphic form. In two other cases it is expressed in both modes and in one case it is not included at all. Similar differences occur for preparation, administration, dosage and storage information: two texts provide usage information, three include dosage information and storage information, and two contain instructions concerning administration.

Also, characteristically, conventions do not determine which language(s) are to be used. Only one of the four texts employed both English and Kiswahili; three manufacturers decided on English only texts although their rural Kenyan clientele is often more comfortable in Kiswahili (Eisemon, & Ratzlaff, 1990).

The lack of common conventions for this genre is further evidenced in the way the pharmaceutical companies made use of text

markers and cohesion devices, both important facilitators for locating and making sense of essential information. In the four sample texts studied, in only one case, that of information used to convey warnings, were any conventional markings used in all four texts. Yet even in this case, the convention that precautions should be placed at the end of the text and marked by a box or differently coloured lettering, does not apply to all the warning information; in three of the texts precautions are also embedded without markers in the descriptions of procedures. In terms of coherence and cohesion conventions, a case might be made for following either a descriptive or a sequential order in presenting preparation information, yet in three cases the instructions require the reader to make sense of a mixture of descriptive and sequential information, with the sequential information being interrupted by reversals in temporal order: the consumer is first instructed to "add 250 ml of water" and instructed that this water should have been boiled and cooled.

Finally, the texts all assume different kinds and amounts of prior knowledge on the part of consumers. Three manufacturers expect users to be able to read English and the other assumes that consumers will be bilingual in English and Kiswahili. In the latter case, there is no Kiswahili translation of the procedures information concerning dosage and administration. Furthermore, although all the products

require the consumer to be familiar with certain facts about modern health and with certain numeracy skills, some texts assume much more than others. For example, in one text mild and severe symptoms of diarrhoea are given so that the consumer can choose the appropriate dosage, but in the three other texts this knowledge is assumed. In some cases knowledge of metric system is required and in others equivalences are given to facilitate the task of determining the correct dosage.

Comprehension of the ORT Texts

Interview in Canada

To assess the influence of text characteristics on information processing, a Kenyan woman who had worked as a Medical Officer at a district hospital was interviewed concerning her comprehension of the four ORT texts described above. Although this subject was not a typical rural Kenyan, her work had given her experience with how Kenyan women respond to printed instructions on commercial medical products.

The interview demonstrated that many of the text characteristics described above made the task of comprehending the instructions and complying with them difficult. The

subject found it difficult to locate information and to make sense of this information. She tended toward exclusive use of the graphic information to locate requested information. In order to solve dosage problems when explanations were not given, the subject made up her own explanations based on prior experience.

Interviews in Kenya

Two more interviews were conducted with consumers in rural Kenya to determine the way the instructions on medical products are being comprehended. The two subjects were a mother and seamstress with a Form 3 education, literate in both English and Kiswahili, and a mother with a Standard 7 education, illiterate in English and only just literate in Kiswahili. In their responses to questions both women relied on personal experience, previous instruction, and traditional beliefs rather than on the printed instructions on the commercially sold ORT products. They did attempt to interpret the graphic information. Where explanations were not given, for example, whether or not to give the patient other nourishment while administering the ORT medicine, the subjects' responses differed according to their understanding of the disease process.

The task of comprehending and complying with the instructions on household medical products is clearly not an easy one. The women interviewed in this pilot study used similar strategies to rural Kenyan women studied previously (Patel, Eisemon and Arocha, 1988). They made decisions about which information to discard, generally written instructions, especially those written in English, and information requiring the parent to make a number of mathematical conversions, for example, to judge how many millilitres of fluid to make based on the weight of the child. They called on past experience, tradition and common sense to fill in the information not present or not clearly represented in the graphic images. When explanations were missing, for example, about why to boil the water, and whether to feed the child normally during the treatment phase with the ORT solutions, these women created explanations based on previous experience, or schooling.

Method

Collection of Data

Kenyan fieldwork comprised three steps: (1) the above mentioned exploratory interviews with rural consumers; (2) surveys of marketing centres in rural Kenya, in order to ascertain the most common types and prices of products being sold and to collect a sample of these products; and (3)

informal interviews of local shopkeepers to discover the typical types of information they are communicating to consumers concerning the proper use of these products.

In the surveys product samples were collected from five market centres: Eastleigh outside Nairobi City, Kithyoko Market (Kiambu District), Wajir (Wajir District) and Iten (Marakwet District). A survey of the shops in these locations and in other rural centres such as Mitaboni (Machakos District) and Coral Cove (Kwale District) revealed that not all shops carry the same medicines. A typical shop might sell only one type of ORT medicine, two types of malaria tablets and worm medicines and three or four types of respiratory and pain and fever medicines. Nonetheless, in each shop a core group of products containing at least one variety of the five the major types outlined above could be found: medicines for respiratory diseases, for diarrhoea, for malaria, and for general fever and pains.

Market Surveys

Most rural users buy small quantities of these products as needed, that is, two tablets of Hedex or one packet of an ORT product or two malaria tablets. This being the most usual case, a typical consumer would have to make sense of the instructions printed on these packets rather than the somewhat

easier to read print on the larger packages. The prices of these individual packets, usually tablets are sold in two's, ranged from .80 cents to 2.40 Kenya shillings (Ksh.), an average price being about two shillings. Powdered medicines are more costly, averaging 10 Ksh., while cough syrups and single dose medicines for intestinal worms ranged from 15.50 to 26.90 Ksh. A Kenya shilling is equivalent to 5 cents Canadian. Since the average rural Kenyan has little cash on hand, these prices are often prohibitive and mean that the average household must spend at least 3 - 6% of their monthly income on medicines (Eisemon, 1988).

Interviews with owners and clerks in various dukas (shops) confirmed what recent research has suggested, that is, that the duka owners do not often give detailed instructions of how to use the products, and that some of the information they do give is incorrect. For example, a duka owner in Kithyoko Market, when asked what Kenyans should do for malaria prevention, suggested that Kenyans should take malaria tablets if they were travelling because it was easier to get malaria if they were not used to the new climate.

CHAPTER 2

RESEARCH ON THE GENRE OF PRINTED INSTRUCTIONS

Recently there has been interest in "functional literacy". The main concerns have been the development of valid definitions and effective measures. This focus on literacy levels has limited the scope of the research. Detailed studies specifying the nature of specific types of texts which adults must process (Council of Ministers of Education, 1988), and the sort of texts and tasks which must be used to teach and assess processing of these functional texts have received relatively little consideration.

There has been some recognition that mass literacy programs may not be preparing adults for the practical tasks they will encounter in daily life (Eisemon, 1989b; Eisemon, Schwille & Prouty, 1989). Universal primary school programs promoting basic literacy skills may be an "unrealistic" first priority given the impossible financial burden this places developing Third World countries (Eisemon, et al., 1989); Eisemon, Patel, & Abagi, 1987; Eisemon, 1989; Jones, 1990). Consequently, a distinction is now made between basic reading and writing ability and specific abilities necessary to perform literacy-related tasks in daily life. In the context of this research, culture specific needs analyses, detailed analyses of texts related to those needs and of the tasks

which are presumed necessary to the processing of these texts are being carried out. (Wagner, 1990; Eisemon, 1988b; Public Policy Forum, 1990; Palmer, 1988; Scribner & Cole, 1981).

Traditional measures of literacy assessment have been based on self-assessment questionnaires, number of years of schooling, and on tests modeled on school-like activities. While these measures may have their place, the research shows they are inadequate for capturing what the "low-literate adult" actually knows (Wagner, 1990, p. 121; Eisemon, 1989b). What is being measured is often "basic literacy skills" rather than "functional literacy skills" (Public Policy Forum, 1990, p. 20). Measurements of functional literacy attempt to measure the ability to decode, comprehend, write words, sentences and numbers, and to locate information in the context of real-life activities. When different "domains" are processed, for example, product labels, or a newspaper story, the skills required vary in relative importance (Wagner, 1990). Furthermore, successful use of literacy skills in one domain may not mean success in another domain; literacy experts are devising instruction and tests which better demonstrate the relative effect of populations, skills, and domains on literacy needs and levels. (Eisemon, et al., 1989; Wagner, 1990). Numeracy, as an essential component of functional literacy, is receiving similar attention. Specific "numerical literacies" are also not found to automatically transfer

across various numeracy domains. This means that maths education also should to be made more practical and specific to the needs of various populations (Wagner, 1990; Berry, 1985).

Some research on functional literacy has looked at the typical commercial medicines sold in developing countries for the treatment of common illnesses. This domain is particularly important since the literature suggests that recent international aid policies stress personal responsibility for health care, as a response to the current crisis faced by many governments over inability to meet costs (Unicef, 1989). The Bamako initiative, for example, proposes that local communities set up medical funds so that they will be able to purchase and distribute their own medicines. Clients will be required to take increasing responsibility for diagnosing, purchasing and treating their own diseases. Functional literacy skills will necessarily play a much more important role in health care. There is an obvious need for better understanding of the structure of specific texts.

In East Africa, primary schools do not teach comprehension of instructions on product labels. In health and science classes, few attempts are made to link traditional and modern concepts of disease causes and treatments. Text-books are written in a narrative genre (Eisemon, 1988a), and modern

biomedical models are often taught in such a way as to replace traditional models with memorized facts rather than to integrate traditional belief systems with modern explanations and principles (Patel & Sivaramakrishnan, 1988; Patel, et al., 1988). Health knowledge is often presented as a list of facts for which no explanations are given (Eisemon, 1988a; Eisemon, 1989a). This approach does not prepare people for the tasks they will encounter when they need, for example, to make sense of the instructions on malaria, rehydration and worm medicines. Further, many instructions on product labels are inadequate and more attention needs to be given to principles of clear writing when preparing these instructions (Kanouse and Hayes-Roth, 1990; Patel, et al., 1989; Patel, Evans, Cruess, 1988).

The Genre of Instructions: Text-Difficulty

Research concerned with the development of functional literacy skills has tended to consider the linguistic characteristics of instructions on medical product labels from the point of view of "text-difficulty". What are the difficulties that readers experience with these texts? Can these difficulties be attributed to linguistic qualities of the texts?

Characteristics of product labels can be viewed from two perspectives, although this type of analysis has not yet been the subject of empirical research. The first perspective holds that labels are made up of five types of procedures; preparation, administration, dosage, precautions, and storage (Eisemon, 1987). A sixth component is manufacturing information. Some of these instructions involve numeracy-related issues, such as the relative number and difficulty of conversions and calculations and the regularity of administration intervals, as well as issues concerning illustrations and graphic text-markers.

The second perspective considers the texts from the point of view of the following linguistic categories: (1) lexical information, including such matters as active versus passive and concrete versus abstract language; and (2) cohesion and coherence markers, including issues related to inferences and text organization; and (3) language choice, that is, unilingual or bilingual procedures (Eisemon, 1987; Eisemon & Ratzlaff, 1990).

Many of the characteristics related to the linguistic form and content of procedures are common to written material in general. All written discourse requires consideration of lexicon, syntax, logic, cohesion and coherence, content, and of language choice. However, since some characteristics, such

as those related to the use of graphics and numeracy are more particular to the genre of instructions than to printed texts in general, the present review of the literature focuses on studies and papers concerned with text-difficulty in the genre of instructions.

The genre of instructions or procedures, may not be a homogeneous one; there may be a number of "sub-genre" or "sub-classes" within this genre. A study by Biber (1988) convincingly illustrates that the linguistic form of texts within a certain genre, for example academic prose, can often show great variation. It is possible that the genre of instructions also shows a high amount of variation.

Principles of Clear Writing

Several principles for clear writing have been identified: (1) employ active and concrete language; (2) fill subject, verb and object positions with important content words, not fillers; (3) keep most sentences short; and (4) use consistent terminology to refer to common referents. (Kanouse and Hayes-Roth, 1980). Kanouse and Hayes-Roth list eleven areas of possible text-difficulty which they have obtained from a comprehensive overview of the literature associated with "clear writing " (p. 156). This list provides a useful

guideline for text description research concerned with identifying possible features that might hinder comprehension. Employing such a list assumes that these areas of difficulty apply to the genre of instructions. Often the language associated with commercial medicines is characterized by a lack of attention to these principles (Eisemon, 1987; Eisemon & Ratzlaff, 1990; Patel, Eisemon, & Arocha, 1989).

Lexical Information

Four of the principles listed by Kanouse and Hayes-Roth (1980) refer to lexical information. Writers are encouraged to use concrete rather than abstract language, content words rather than fillers, and to use consistent terminology. The concrete versus abstract language continuum has received much attention. In general, nouns that are ostensibly definable, verbs that are in the active voice, literal language are concrete (Mason, 1986; Kaplan, 1975). More concrete language is associated with greater text-readability (Kanouse and Hayes-Roth, 1980; Paivo, 1971). Some research indicates that the instructions sold with commercial medicines are characterized by the features associated with abstract language (Eisemon, 1989b). There is also some indication that the ability to use abstract language may require certain types of schooling (Mason, 1986; Scolon & Scolon, 1981).

Syntax and Discourse

There has been increasing interest in meaning as it is encoded at the level of syntax and discourse. The main question is which devices of cohesion and coherence and which organizational techniques best facilitate effective comprehension? The remaining six principles proposed by Kanouse and Hayes-Roth concern these issues of syntax and discourse: short sentences, stated presuppositions, the placement of old before new information, and the use of explicit clause, sequence, time and cause markers are presumed to be characteristics of "readable" texts.

Cohesive and Coherence Markers

Palmer (1983) provides a useful starting point for a discussion of cohesive and coherence markers and techniques. He defines cohesive markers as those features which "account for the semantic relations that link sentences together with what has gone before in the text" (Palmer, 1983b, p. 71) and coherence devices or rhetorical techniques as those devices which operate in such a way as to "make a text situationally appropriate and effective" (Palmer, 1983b, p. 71) and "bring about order and unity and emphasis" (Palmer, 1983a, p.4). His papers detail a number of specific techniques, and examples, of both types of "connectors" and "organizers".

The evidence is that certain genres may benefit more from the use of certain cohesive and coherence markers than others. For example, the relative need for "conjunctive cohesion", or cohesive markers like "but", "and" and "or", may be less important in the genre of definition than in narrative genre due to the "ever present" nature of the topic in the former. At present the literature suggests that explicit coherence markers, and "clear markers of time and cause and effect" may be important for clear writing (Kanouse & Hayes-Roth, 1980, p. 156; Halliday, 1985).

Medical product labels may be lacking in cohesion and coherence. In the United States (1980), for example, at a conference on product labelling and health risks (Morris, Mazis and Barofsky, 1980), Kanouse and Hayes-Roth (1980), and Olson (1980) presented papers in which they stated that product labels lacked "explicitness and elaboration in behavioural instructions, [and] effective coherence devices such as hierarchial ordering of information..." (Eisemon, Ratzlaff, 1990, p. 7). They also note that a "hierarchical organization helps the reader to identify important facts, thereby facilitating memory of those facts" (Kanouse & Hayes-Roth, 1980, p. 154).

An important cross-cultural study by Chambliss and Chase (1989) lends support to the significance of effective

coherence devices. In this study, a comparison of Japanese, American and Singaporean fourth-grade science text-books, coherence enhanced comprehension in several ways. For example, "readers organize recall according to either the text structure or their background knowledge" (p. 310), and certain types of text structures, for example, "matrices and hierarchies", are more coherent than "lists" and "topical nets" by virtue of providing "tighter linkages". The above conclusions are contingent on "readers know[ing] how to recognize and employ the patterns" (p. 310).

The importance of specific methods of organization has also been identified in a specific area of product labelling, the use of warnings. Information processing theory proposes that the relative "depth of processing" is related to the amount of "elaboration" by the processor; therefore, the more connections the reader is able to make from the warnings, the more "durable" or "retrievable" the message will be. Wording, format, intensity, message length, amount of explanation or elaboration, concreteness, and organization may all have a role in increasing the number of connections the reader is able to make (Olson, 1980). Trade-offs may be necessary between these features in order to tighten the link between the way the situation is understood by the pharmaceutical manufacturer and the way the "application situation" is derived by the reader. (Patel, et al., 1988, p. 2; Kanouse

and Hayes-Roth, 1980).

Three possible areas of trade-off have been identified in the research of Kanouse and Hayes-Roth (1980): (1) optimum length of warning, (2) amount of elaboration or explanation, and (3) method of organization. Longer warnings, for instance, allow for explanations and illustrations. But if the message is too long readers may lose interest and poor readers may find it difficult to pick out main ideas. Explanations allow the reader to take more active responsibility for personal health care and if they are explicit, and they encourage the reader to think in concrete terms, they "increase the likelihood that he or she will take the necessary actions to minimize the danger" (Kanouse & Hayes-Roth, 1980, p. 149). Hierarchical organization, as mentioned above, facilitates total message comprehension, long-term memory of pertinent facts, as well "picture" formation of the text for efficient future retrieval of necessary facts, and sequential ordering of procedures may be the most effective way behavioural steps (p. 155). An empirical study by Patel, et al. (1989) exploring the role of explanations and text length in conveying instructions on medicine product labels, concluded that explanations contributed to recall. Total message length was not shown to have an effect.

Inferences

Much of what the reader is expected to understand from reading a text must be understood from unwritten or tacit information. The importance of the role of inferences in instructional genres is recognized in contemporary information processing theory (Olson, 1980). Warren, Nicholas, & Trabasso (1981) provide a number of useful insights into the role of inferences in comprehension. They identify three main types of mutually exclusive inferences, "logical", "informational" and "value-related" (p. 27). Logical inferences refer to the "why and how" links between propositions, while informational inferences refer to referential, world frame and elaborative types of connections, that is, the "what, who, where, and when" of connecting links. Value inferences indicate evaluative relationships. While this taxonomy is drawn from studies of comprehension of narrative texts, it may be a useful tool to facilitate identification of inferences in the genre of instructions.

Warren, Nicholas & Trabasso provide a second perspective from which to consider the relationship of tacit information to text-difficulty. From this point of view all inferences can be seen as either "slot-filling", that is, the type that require the reader to fill in gaps with background information or real-world knowledge, or "text-connecting", which is to

say, the type of inferences that require the reader to piece together facts from different places in the text. Although the former type may present the most difficulties for readers, research in Kenya suggests that "slot-filling" inferences are the type which are most often employed on product labels (Eisemon, & Ratzlaff, 1990; Eisemon, 1989).

Warren et al propose that individuals do not have an inherent "narrative schema", but that they come to "know" about stories through having stories told and read to them. They learn the "the kinds of permissible connections between events [or propositions]" (pp. 49-50). This proposal may have implications for the research concerned with comprehension strategies for making sense of medicine instructions. There is evidence that Kenyans, perhaps lacking experience with the language used on product labels, are filling in the "gaps" in the instructions with information drawn from common sense, experience and traditions-- sometimes to the harm of patients (Patel, et al., 1989).

Bulleting, Numbering, and Graphic Text-Markers

The last principle of clear writing to be considered here states that numbering or bulleting paragraphs facilitates text clarity (Kanouse and Hayes-Roth, 1980; Frase, 1977). Although, there is a lack of empirical evidence, the

literature on product labelling suggests that graphic text-markers such as variations in print colour and size may also play a role in the facilitation of text clarity (Eisemon, 1987; Eisemon & Ratzlaff, 1990). However, often numbering or bulleting are absent from product labels (Eisemon & Ratzlaff, 1990). Typical graphic devices are variations on print size and colouring, use of spacing, underlining, boxes, numbering, different coloured backgrounds, and bulleting to mark points (Eisemon, & Ratzlaff, 1990). These authors propose that, while these markers facilitate location of essential information, highlight important information, and operate as coherence markers indicating, for example, time order or topic changes, there are few conventions for their use and many texts lack efficient use of these principles of text organization.

Numeracy Tasks

Issues related to numeracy form an integral part of current research in functional literacy. Four areas of difficulty have been identified: (1) inherently difficult conversions, for example, having to change milligrams to millilitres, or too many steps; (2) irregular intervals or varying amounts of medication between doses; (3) non-standard applications of information, as when the recommended vessel, for instance, a teaspoon, is not treated as a simple unit but is divided into fractional parts; and (4) unfamiliar units of

measurement such as metric units rather than common implements such as a soda bottle (Patel, et al., 1988, pp. 16-17; Eisemon & Ratzlaff, 1990). These studies indicate that the product labels for medicines for such sicknesses as fever, dehydration and coughs all contain at least one of the four difficulties mentioned above.

The literature indicates that schools often teach mathematics skills which involve non-practical skills, such as solving "story problems" and algebra, rather than functional numeracy skills. For example, in the story-problems all the relevant factors required to solve the problems are given to problem solvers. Furthermore, both the solutions and procedures are presented as fixed, a situation which does not parallel real life where it is possible to solve, resolve, or walk away from a problem in a variety of ways. Often students are penalized, or at least not rewarded, for estimating or making careful guesses, although in everyday life such skills are employed in solving mathematics problems (Lave, 1988; Berry, 1985; Eisemon, 1989b; Eisemon & Ratzlaff, 1990; Patel, et al., 1988; Stigler and Baranes 1989). Current research concludes that instruction such as this is erroneously based on the idea that mathematics is "an abstract system devoid of culture" (Stigler and Baranes, 1989, p. 254).

Illustrations

A great deal has been written about the role of illustrations in instructions. In general, the literature indicates that one important purpose of pictorial information is to aid the reader in putting the message into a context, or in ascertaining the "gist" of the message (Booher, 1975; Stone and Glock, 1981; Loftus & Bell, 1975; Clark & Chase, 1972). Several principles can be drawn from the literature: (1) use illustrations to present an overall picture of the instructions, or to set the context (Booher, 1975; Stone and Glock, 1981); (2) ensure congruency between graphic and printed message (Patel, et al., 1989); and (3) use graphic information to illustrate sequential action-orientated procedures (Patel, et al., 1989; Stone and Glock, 1981).

Booher (1975) gave a series of tasks to a group of US military personnel to determine the proper roles of pictures and words to communicate information. A positive feature of Booher's study was his use of various combinations such as print only, pictures only, a primarily pictorial mode with print, a primarily print mode with pictures and so on. "The pictorial information was found to be important for speed, but written information was necessary for accuracy" (Patel, et al., 1989).

Stone and Glock (1981) used a task of assembling a model of a loading cart while (1) reading written instructions; (2) reading instructions and viewing illustrations or (3) viewing illustrations only. Accuracy of constructing the cart was highest in the condition of text with illustrations and lowest in the condition of illustrations only. In addition to obtaining accuracy scores, the study used "eye tracking" data to indicate the use subjects were making of printed and pictorial information. In the first condition, readers "fixed" on the illustrations first, perhaps, in order to extract the "gist" information, after which they referred to the text, and then periodically to the illustrations. One explanation for the high scores in this condition may be that the reader uses the redundant information provided by pictures and text to clarify points which are ambiguous in either mode.

While these studies seem valid, they lack reliability. The populations considered were highly verbal and academically homogeneous, whereas other populations, for example, the subjects currently being tested in Kenya, may be less verbal or literate, and are less academically homogeneous. In addition, the two populations differ in the important aspect of cultural "distance" between themselves and the authors of the instructions. There is less chance of misunderstood graphics when the culture of the sender and receiver are similar.

These differences between populations may account for the differences in the results obtained in several experiments in Kenya which attempted to measure the relative effects of graphics and printed information on comprehension. The majority of the subjects in these studies relied exclusively on graphic information in attempting to follow instructions. The few subjects who referred to the printed information for details not included in the graphics still recalled information in the sequence presented in the pictorial information, even when this contradicted printed information (Patel, et al., 1989; Eisemon, Ratzlaff, 1990).

Preliminary studies (Eisemon, Ratzlaff, 1990) report extensive variation between illustrations which accompany instructions on medicines. Few conventions seem to apply. Graphics range from action pictures, with or without human figures, to abstract representations. Sometimes the information in graphics and printed text is congruent, but not always.

Translation

Exploratory research suggests that many rural Kenyans cannot read the instructions on pharmaceutical product labels, especially if they are in English (Eisemon & Ratzlaff, 1990). They are more likely to be able to make sense of instructions

written in Kiswahili than in English. Furthermore, if rural Kenyans are literate in neither language, they find it easier to understand instructions which are read to them if they are in the vernacular, since this is more likely to be the language of everyday life (Harries, 1984). The studies on product labelling also indicate that very often the instructions are only in English. If they are bilingual, contradictions are found in the two versions, and/or information is not complete in either version, requiring that the reader be bilingual (Eisemon & Ratzlaff, 1990; Eisemon, 1989b). Furthermore, since science, including health, concepts are taught at a time when students are being switched from Kiswahili to English immersion, important background concepts are not learned. This may increase the difficulty of making sense of instructions in an unfamiliar language (Eisemon, Owen & Wasi, 1987; Eisemon, Nyamete, Cleghorn, 1989).

CHAPTER 3

LINGUISTIC ANALYSIS OF PHARMACEUTICAL INSTRUCTIONS

Characteristics of Pharmaceutical Instructions

The sample of 12 product labels for commercial medicines was selected in July 1990 during a survey of rural dukas in Kenya. Four brand names for each of the three common diseases were also selected. The four brand names for malaria, and oral rehydration therapy medicines, and for medicines for intestinal worms are respectively: Camoquin, Malaraquin, Dawaquin, and Homoquin; Oralite, Dioralyte, D.R.F. and DTS; and Ketrax (tablets), Padrax, Antepar (elixir), and Cosmisol 40. The sample size is small, and is therefore not representative of all commercially sold medicine product labels. However, the findings provide pertinent insights into which factors contribute to text-difficulty and they provide a means for developing an analytic framework for characterizing the language on these labels.

At the outset it appeared that the instructions would be similar across various brand names for a given product since the medicines are intended for the same illnesses, contain similar chemical compounds and amounts, and are generally meant to be used in similar ways. The oral rehydration salts are intended for the serious and recovery stages of

dehydration; the medicines for intestinal worms medicines are expected to cure all types of worms in one dose, and the instructions on the malaria medicines specify both prevention and cure. All the malaria medicines are in tablet form, all the ORT salts in powder form, and two of the worm medicines are in tablet form and one each in powder and elixir form. Finally, these medicines are being marketed to a specific clientele, that is, to people who have relatively low literacy and numeracy skills, are unfamiliar with English, especially written English, and with modern scientific concepts of disease.

Semantics and Syntax

The semantic and syntactical choices which manufacturers have made when designing the labels studied in this sample have resulted in varying demands being made on readers. Manufacturers have made different choices between the use of technical and general vocabulary, and between abstract and concrete lexical items. Different decisions have been made concerning the use of ellipsis, reference words, for example, pronouns and articles. Variations in syntax, that is, sentences or "block language" also characterize these labels. In this analysis sentences are those segments of language containing a complete subject and predicate, or an implied one as in commands or in point form, for example, "Expels

Hookworms, Whipworms, Threadworms, Pinworms, and Roundworms" (Cosmisol 40). Block language refers to phrases and single words, a style often, but not always, used for headings and captions.

Unexplained technical language is characteristic of many of the labels with the ORT labels having the most technical vocabulary. All four of the ORT labels use words such as, "hydration" (Oralite), "rehydration" (DTS), "dilution", "oral electrolyte mixture", "dehydration treatment" (D.R.F.) and "reconstitution" (Dioralyte). DTS provides brief explanations for two terms, "mild rehydration" and "mild continuing diarrhoea", by giving the symptoms associated with each state, but the explanation is vague since incomparable criteria are used for each category.

In contrast the labels for intestinal worms and malaria have less technical vocabulary. Ketrax, Cosmisol 40 and Padrax use common names for worms instead of the scientific names used on the Antepar label and these three labels use no other technical vocabulary except the word, "dose" (Ketrax) and "dosage" (Cosmisol 40) and the chemical names of the product in the manufacturing information. Similarly, while one malaria label, Camoquin, has the terms, "partially immune", "non-immune" and "dosage", the other three malaria labels, only use technical terminology for manufacturing information.

Generally the relationship between synonyms is implicit. A synonym, for example, is placed in brackets after its counterpart. This is the case on the DTS label, but here the word in brackets is more obtuse than the word it follows; "sachet" follows "packet" and "a measure" follows "500 ml (a large beer bottle...)". The insert label for Antepar also uses brackets to indicate the relationship between synonyms. However, in this case, one term is the technical and one the general or everyday term so that, for example, the scientific names for worms, "Ascariasis" and "Enterobiasis" are followed by the bracketed general terms, "roundworms, pinworms, threadworms, seatworms, and whipworms". The general terms only occur once near the beginning of the instructions. Thereafter, only the technical terms are employed. For example, since the heading for one table is, "Treatment for enterobiasis", the reader must have made the connection earlier in order to make use of this heading.

In the present analysis verbs and nouns are separately analyzed. Concrete verbs are those expressed in the active mode, that is, in simple present or past or future tenses, or imperative forms. Abstract forms are those expressed as passives, conditionals, modals, non-finite participles, infinitives and subjunctives. Concrete nouns are lexical items which have touchable or seeable referents; abstract nouns are

those which do not.

The total number of verbs that the 12 samples employ ranges from 33 (Antepar) to 4 (Dawaquin, and Homaquin). The medicines with fewer verbs either make extensive use of charts and /or illustrated information or use point form where many verbs are implicit rather than explicit, for example, "[give] 15 ml/kg. hourly..." (D.R.F.). In 9 samples out of the 12, more verbs are concrete than abstract. Nonetheless, considerable numbers of abstract verb forms occur, for example, "should be discarded", (D.R.F.), "is readily transmitted" (Antepar), kutumia [to use] (Ketrax), and muone [let him see] (Homoquin).

Similarly, most of the labels have more concrete nouns than abstract nouns. Only Antepar and Homaquin have a greater number of abstract than concrete nouns with Antepar having nineteen more abstract nouns than concrete nouns. Despite the greater use of concrete terminology, the average rural Kenyan reader may often experience difficulty making sense of the vocabulary since a large number of the words counted as concrete are technical terminology, such as, "dextrose oral powder", "Sussex", "Armour Pharmaceutical Company Limited," and " Sodium Chloride B.P.", etc.

Decisions about reference words indicate more similarity in manufacturer choices. Only two labels (DTS and Ketrax) use pronouns in place of nouns. Most repeat the nouns when needed. On the DTS label, the substitution is only made in the English version, for example, the English version of the second step uses a pronoun, "boil it" while the Kiswahili version repeats the noun, chemsha maji haya [boil this water]. The two language versions on the Ketrax label are comparable in this regard.

There is more variation in the use of indefinite and definite articles although the labels which use point form generally omit articles and those which give Kiswahili translations do not use articles since these do not exist in the Kiswahili language. Since indefinite and definite articles help the reader to connect old and new information, this frequent ellipsis of articles deprives readers of a valuable source of information. On the Oralite label, for example, no articles are used for an instruction first given as a caption and then repeated in the written instructions. The reader is first instructed to "pour water into tumbler", and then to "fill tumbler with water". The use of "a" and "the" would have better demonstrated the connection between these two pieces of information.

Nouns, clause markers (conjunctions) and verbs are also characteristically omitted in instructions which are given in

imperative or point form (Oralite, D.R.F., Ketrax, Cosmisol 40, Homaquin, DTS, Camoquin, and Padrax). Several examples follow: "store [unopened packet] in a cool dry place" (DRF); "For mild rehydration: [that is] thirsty, reduced skin elasticity" (DTS); "...all positive cases [should be] treated concurrently" (Antepar), and " [give] tembe mbili kila siku saba" [two tablets every seventh day] (Homaquin). The malaria labels display the least ellipsis but they also use, overall, fewer sentences than the other medicines.

Great variation in the use of sentences and block language occurs among the labels. Except for Antepar, the medicines for intestinal worms have more block language than sentences. A majority of the information consists of illustrations with captions. Cosmisol 40, for instance has only three sentences and while Antepar has 29 sentences. Like the labels for intestinal worms, labels for malaria products make considerably more use of block language than sentence form. Most of the information is in chart form.

In contrast, more sentences than block language characterize the ORT labels. Dioralyte and DRF have about 50 % of the text in block language. Oralite and DTS have more sentences than block language. Oralite has 27 sentences, and only five instances of block language. Oralite, the only ORT label which has captions for the illustrations, gives this

information in sentence form, unlike the captions used with the illustrations on the medicines for intestinal worms. With the exception of the Antepar and Dioralyte labels, all the labels for all three products use short simple sentences.

Tacit Information

A characteristic of all the labels is the relatively great reliance on implicit information which is necessary for correct administration of the product such as information concerning causes, prevention, and treatment of the diseases. Although all the labels, except Dioralyte, Camoquin, and Antepar, demonstrate at least some manufacturer awareness of the population for which these products are intended, many labels indicate possibly erroneous assumptions concerning consumer knowledge. The rural Kenyan clientele may be relatively unfamiliar with a western biological model of disease, and with the associated terminology often used to describe the disease and the treatment. These consumers may also be unfamiliar with the relationship between obtaining effective treatment and following specified procedures, as well as, with the actions they need to take in the case of side-effects or the failure of the treatment.

None of the labels includes information about disease causes, or prevention, few contain information about specific

symptoms and their relationship to certain treatments, and few give reasons for following preparation, dosage, administration and storage instructions closely. The relationship between important concepts is seldom given, presumably on the assumption that consumers are aware of the nature of these relationships. For example, although Oralite indicates the link between the concept of dehydration and diarrhoea, expressing it as, "Oral treatment for dehydration" and "replaces body water and body salts lost during diarrhoea", the link is implicit. Other rehydration medicines neither explain this relationship, nor the important relationship between unboiled water and diarrhoea. Padrax, for example, makes no mention of using boiled water to make the solution. Ketrax and Antepar instruct consumers to treat all infected people at one time due to the contagiousness of intestinal worms, but neither product label explains how intestinal worms are transmitted between infected people.

Furthermore, consumers are largely expected to make their own judgements about how long to keep unopened medicines, when to discard opened medicines, or about the need to use clean utensils. Oralite and DTS instruct the consumer to use, respectively, a "clean spoon" to administer the solution, and "clean pan" for the water which is to be boiled. Only two medicines have expiry dates (Antepar, Cosmisol 40 and Ketrax); only three of five medicines which are in powder form have

instructions concerning discarding unused solutions.

The labels do not explain technical vocabulary nor make explicit the relationship between product names and the disease to be treated. No explanations, for instance, are given for the terms, "partially -immune" and "non-immune", "rehydration", "cure" versus "prevention", despite the importance of these terms for proper usage of the respective medicines. Therefore, few medicines make explicit, through illustrations and/or by print, the relationship between the medicine and the disease which is to be treated. When the labels do indicate this type of information in written form, they often do so only in English. DRF, for example, has the heading in English, "For Dehydration Treatment", but it does not define this phrase. Homaquin has the heading in Kiswahili, "Dawa ya malaria" [medicines for malaria], but Dawaquin, otherwise in Kiswahili, has the English heading, "For prevention and cure of malaria". Dioralyte gives no direct indication of the specific disease the medicine is meant for. A similar range of headings occurs for the medicines for intestinal worms. Here too, only one label gives a Kiswahili translation of this information.

A further illustration of inaccurate expectations concerning consumer knowledge of diseases is the variety that exists, even among brand names, in how the diseases are

"defined" in the process of categorizing patients and/or symptoms and treatments. There appears to be no overall guide as to what is the best perspective from which to describe a treatment plan. Manufacturers assume consumers know enough about the various diseases to understand the different definitions competing brands present. For example, while all four malaria medicines designate two types of patients, Malaraguin, Homaquin and Dawaquin categorize patients into those needing cure and those needing preventative treatment, while Camoquin refers to the two types of patients seeking cure, that is, those who are partially immune and those who are non-immune. Of the four worm medicines, only Antepar specifies two groups of patients, those with roundworm and those with other types of intestinal worms. Ketrax and Cosmisol 40 list all these kinds of worms but treat them as one group. Dioralyte and DTS do not divide patients into different age categories as do Oralite and D.R.F. Only the instructions for DTS and D.R.F. divide the patients between those having mild (to moderate) dehydration and those needing maintenance therapy. In the case of DTS, these categories appear to be independent conditions rather than representing a continuum.

Another indication of erroneous assumptions about consumer knowledge of disease and labeling conventions, is the frequent tendency to insert unnecessary information in the

midst of procedures. Readers are assumed to be capable of recognizing this information as being extraneous to the task. Antepar and D.R.F., for example, unlike the other two medicines for intestinal worms, categorize patients by weight as well as age, thus forcing the reader to judge whether or not both criteria are essential. Padrax, Antepar, Homaquin, Malarquin, and Camoquin all have manufacturing information inserted into the passages containing the procedures.

Relatively few explicit instructions are given to the consumer in order to make clear the relationship between getting well and careful attention to the instructions on the packet. Warnings concerning the need to follow the procedures carefully are only given on one label (D.R.F.). Most of the warnings which are given pertain only to preparation and dosage information. Few warnings relate to the administration of the medicine. Oralite, one of the few labels which contains such warnings, both instructs readers how to administer the medicine, "Give slowly to prevent vomiting during treatment" and what type of instrument to use, "Use clean spoon to give Oralite to small babies". Two other medicines provide a little information on administration. Padrax instructs readers to administer the correct dose before sleeping, and DRF instructs readers to "Drink while fresh". Three of the ORT medicines provide some administrative information in the illustrations, showing the upright head of small child being given the

mixture from a cup. The remaining labels require the consumer to infer how, why, and when to administer the correct dose.

In general the consumer is not given explicit warnings concerning possible side-effects or ineffectiveness of the treatment. Only Antepar, Padrax, and Oralite warn consumers about possible side-effects. Antepar warns pregnant women, Padrax warns about possible constipation and Oralite warns about possible vomiting if the medicine is not given slowly to infants. Only one label, Oralite, warns consumers to consult a doctor in case the patient does not get well. Here, the warning is: "Warning: See a doctor whenever diarrhoea is severe or if it has not stopped within 2 days". Furthermore, despite the possibly fatal consequences of malaria and dehydration, especially for infants, only two of the malaria medicine labels and one of the ORT labels warn consumers to take small babies to the doctor. None of these medicines warn that if the medicine is ineffective in a certain time, the patient could die.

Finally, warnings are not always clearly presented and there is much variation between labels in how these are highlighted. In five cases the warnings are given at the end of the text, sometimes before and sometimes after final manufacturing information. On only two labels is the warning surrounded by a box. Furthermore, in five cases, warnings are

inserted in the text which explains the procedures. Four labels do not highlight warnings in any way. Three, Cosmisol 40, Camoquin and Dawaquin, do not have any warnings on the label. Consumers are expected to know a good deal about disease and treatment with commercial medicines in order to be able to use these medicines effectively.

Translation

The issue of bilingual labels, and /or labels only written in the vernacular language is clearly pertinent in this discussion of factors which make for comprehensible pharmaceutical labeling. Only 50% of the labels contain even a partial translation of the instructions into Kiswahili. Five labels are completely English (Antepar, Cosmisol 40, DRF, Dioralyte, Oralite). One is presented French as well as English (Camoquin). Four have only the Kiswahili translations, except for the manufacturing information which is in English (Padrax, Dawaquin, Malariaquin, and Homaquin). The usage information for Padrax and Dawaquin is only in English. The other two labels are mostly bilingual (Ketrax, DTS). The only texts which do not require some facility in English as well are the Ketrax and Homaquin labels.

There is a slight tendency for Kiswahili translations to employ fewer technical words than the English versions. There

is also a tendency for Kiswahili versions to use less precise language. For example, the Ketrax label uses a more general phrase for worms in Kiswahili, michango wenqine wa tumboni [other stomach worms], than it does in English, where it uses, "whipworms, pinworms, and threadworms", as the corresponding terms. On the DTS label, two English terms, "clean", and "fresh", are translated by one Kiswahili word, safi [clean]. However, in general, the translations on the sample labels between English and Kiswahili use comparable wording. Finally, there is a some indication that the Kiswahili versions, in general, make use of more "everyday" measures such as teaspoons and glasses than do English versions which slightly more often use metric or imperial measures at least in addition to metric measures. For example, while all the Kiswahili translations use everyday measures alone or in addition to metric measures, two of the five English only labels do not use any everyday measures.

Graphics

Except for Antepar, Camoquin, Dawaquin, and Dioralyte, the labels have illustrations. These illustrations, which represent disease-type, and dosage information for preparation, are of two main types: those depicting narrative sequences, and those depicting single events or objects. In this sample, the content and order of the illustrated and the

printed information are more nearly one-to-one for the second type of illustration than for the former.

The three ORT labels which use narrative sequences to depict the preparation procedures illustrate from four to six steps. However, on two of the labels (DTS, D.R.F.) necessary steps are omitted, such as boiling and cooling the water. The labels also differ in terms of the recognizability and familiarity of the objects and human figures depicted. Oralite, for example, in addition to having the most complete sequence of events, has the most "natural" sketches, in the sense of being drawn as three-dimensional sketches rather than two-dimensional or "text-book" illustrations. DTS, however, depicts a more familiar cooking utensil, the suferia, in place of the pan shown in the first drawing on Oralite, and DTS and Oralite use a beer bottle and glass respectively for a measure, instead of the beaker used on the D.R.F. label.

As the two illustrated medicines for intestinal worms with illustrations require no preparation and require only one dose, illustrated narrative sequences are not relevant. Instead the information about dosage is represented by illustrations of single events. In contrast to the illustrations of narrative sequences, these illustrations do not include information about administration.

Disease-type is also indicated by the latter type of illustrations. A sketch of the carriers of the disease, "the parasites", are on three of the labels for malaria, and on all four labels for intestinal worms.

Other differences between the two types of illustrations have to do with their relationship to the written text. On the labels for intestinal worms, the written procedural information consists of captions which accompany each illustration. These captions repeat and extend the graphic information and are written as "block language". On the ORT labels, the written procedures are presented in sentence form separate from the illustrations, except in the case of Oralite, where both captions, expressed in sentence form and prose, are used to express the procedural information. The DTS label shows the relationship between the two modes of information by placing corresponding illustrated and written procedures next to each other. The D.R.F. label uses corresponding numbers for related procedures in the two modes. But, again, several procedures are not illustrated. The Oralite label has two illustrated steps which are not found in sentence form in the main body of the text. The analysis clearly indicates a relationship which is not one where the written procedures repeat and extend the information conveyed through graphics.

Text-Markers

A further kind of variation among the labels is in their graphic text markers, that is, lines, space markers, different types, colours, and sizes of print, and different background colours which are used to give readers a clearer picture of the organization of the written text and of the points which need special attention. These markers are variously used to indicate warnings, chart information, and changes in topics or translation. There is little consistency of usage, outside of the striking similarities between the use made of text-markers on the Ketrax and Cosmisol 40 labels, and the noticeable lack of markers on the Dioralyte and Padrax labels. In the latter case, the procedural information consists of one non-indented, paragraph unmarked by any differences in print.

Warnings are most consistently highlighted by graphic markers. However, although usually at least one warning on each label is highlighted in some way, much variation exists in how this is achieved. Just over 50% of the labels follow the convention of placing at least some of the warnings at or near the end of the text. Cosmisol 40, Dawaquin and Camoquin have no warnings and Homaquin and Malaraquin, due to packaging, have the "final" warnings placed in the centre of the reverse side of the packet. Only two labels set warnings apart by placing them in boxes. One of these is the Dioralyte

label, which otherwise uses no text markers for procedural information and which does not mark the more critical warnings concerning reboiling the solution and using only fresh solutions. DTS highlights some warnings with uppercase lettering, D.R.F. uses a space marker to separate the warnings from the rest of the text, and Antepar and Oralite use headings, respectively, "Precautions" and "Important" to mark some of the warnings. Oralite marks one warning with red print. Padrax does not highlight warnings in any way.

In contrast to the tendency to highlight warnings in some way, changes in topics are usually unmarked. For example, on the Padrax label, manufacturing information, "Kila paketi ina 'piperazine citrate'. 1.65g...." [each packet has....], is inserted, without warning, in the midst of the paragraph giving the procedural information. Cosmisol 40 separates procedural from manufacturing information by lines, Oralite uses space markers, D.R.F. places these two types of information on different sides of the package, and Homaquin, and Malarquin attempt to place manufacturing information after the dosage information with no marker to separate the two topics.

Tables

Half of the labels have tables, all for the purpose of

presenting dosage information (Dawaquin, Homaquin, Malariaquin, Camoquin, DTS, and Antepar). Age groups and treatment types and/or stages differ between brand names for the same product. Only one label explicitly instructs the reader to integrate prose and tabular information (Camoquin), although several labels require the reader to integrate both sources of information. Only two labels make explicit the meanings of the numbers given in the charts and tables for example by including the word tembe [tablet] beside each number. The categories found in the tables differ even between the same medicine types. For example patients with malaria fever are variously instructed to administer the tablets in three doses (Camoquin), in four doses (Malariaquin and Dawaquin) and in five doses (Homaquin). Furthermore, whereas no age categories are given on the Camoquin label, five are given on the Homaquin label, four on the Malariaquin label and six age categories on the Dawaquin Junior label.

Numeracy Tasks

The calculations and conversions which readers are expected to make range from very complex to relatively simple. Antepar, for instance, requires the consumer to make 5 calculations and 6 conversions in order to administer the syrup to a child under two. Homaquin only requires the consumer to divide the given totals per treatment by the

number of tablets per packet in order to calculate the number of packets needed for one complete treatment. Homaquin and Antepar are the only medicines requiring more than one dose which supply the reader with the total tablets, packets or teaspoons to be administered per complete treatment. However, on the Antepar label this information is only found on the box and bottle and only for one type of treatment.

Half of the medicines, that is, all of the ORT and two of the worm medicines, require more than one conversion. Four of the six medicines which are in powder form require at least two conversions (Antepar, Dioralyte, D.R.F., and DTS) such as converting metric and imperial measures to common measures such as teaspoons, glasses, or bottles. The three medicines which are in tablet form and only require one dose for a treatment (Ketrax, Cosmisol 40, and the first type of treatment on the Camoquin label) ask the least of the consumer with respect to numeracy skills. The reader must simply decode the meaning of number symbols and link these to the corresponding illustrations of human figures and tablets.

However, most of the labels more demand relatively complicated numeracy skills. On half of the labels, for example, consumers must deal with fractions (Homaquin, Camoquin, Oralite, D.R. F., DTS, and Antepar) in order to determine the correct dosages to administer. Consumers are

asked to break tablets into quarters, halves, and three quarters and they are asked to convert millilitres into fractions of glasses and beer bottles (DTS and D.R.F.). In order to correctly calculate the amount of medicine required for a treatment, readers must be able to make sense of fractions, add them, and convert them into other measures. While DTS and D. R. F. do not have explicit fractions, the administrator has to convert millilitres into everyday measures in order to administer the correct amount of liquid.

Use of equivalences for measures of volume and/or weight are another common characteristic of all the labels except the four malaria labels. The equivalence is sometimes implicit, as on the DRF and Oralite labels, where the consumer must deduce that the millilitres of water referred to are equivalent to a glass and on the Ketrax and Cosmisol 40 labels, where the reader must make the link between a number and a drawing in order to determine the correct dosage. However the relationship between equivalents is usually more directly indicated by brackets. Less often, the relationship is expressed by a sentence: "one teaspoonful contains 5 ml. " (Antepar). Although, in 7 of the 8 samples, the equivalences given are crucial for calculating correct dosages, in some cases the equivalences are less necessary and/ or less helpful. Cosmisol 40, for instance, expresses the equivalent relationship between two chemical forms of the product and

Dioralyte equates the number of millilitres with the number of ounces. Neither will be usable to many Kenyans in rural areas.

Another characteristic is the lack of uniform application procedures. Frequently the instructions require the consumer to administer the medicine at irregular intervals and/or using varying amounts of medicine. The one dose medicines, Antepar (the treatment for roundworms), Padrax, Ketrax, Cosmisol 40, are the exceptions. DRF, DTS, Oralite, Dawaquin, Homaquin, and Malariaquin require the medicine to administered at regular intervals, for example, daily for three days, but they also require different amounts of medicine. The ORT medicines divide the treatments roughly into the initially severe condition of dehydration/ diarrhoea and to the following recovery stage. During the second stage the patient requires less solution over a longer time period. Furthermore, the instructions leave the administrator leeway as to the exact amount of solution to administer during the treatments. For example, he/she is instructed to give " 2 or 3 tumblers during the first 4 to 6 hours", and "... 2 or 3 more during the next 18 to 24 hours", but not "... give more than 6 tumblers in 24 hours" (Oralite).

In the process of solving the numeracy tasks indicated on these labels, the reader is often left to estimate the correct dosage to administer. For example, since the exact weight of

a child may not be known, the administrator may have to estimate the child's weight in order to calculate the correct dosage (DTS, DRF, and Antepar). The DTS and Dioralyte labels implicitly require the reader to estimate how many millilitres will be in terms of fractions of a beer bottle and a glass. Camoquin instructs consumers to cut tiny tablets into quarters and three quarters, a process which will involve some degree of estimation since the tablets will probably break unevenly.

The instructions on the pharmaceutical labels are intended to equip readers to make good decisions about several factors: the quantity of medicine to purchase; the persons to whom it should be administered; the correct amount to administer and the correct procedure to follow in the process; and the safest way to store the medicine. They should also be capable of dealing with the possible failure of the medicine to cure the disease and with any possible side-effects. The consumer must decide what the sickness itself is, and follow the explicit and implicit procedures contained on the labels. She must integrate her background knowledge and experience with the graphic and written information in order to make sense of and correctly follow both the implicit and explicit instructions. In the process of solving the problem of how to cure or prevent a particular illness in a particular patient, many problem-solving skills are required. The consumer must be able to estimate, make judgements where the information is

vague or where a range of possibilities exist, generalize, and infer implicit information. As well, she must be able to integrate explicit information, make sense of technical vocabulary, read charts, and perform numeracy tasks such as addition, multiplication, subtraction and division. In the increasingly usual situation in Kenya in which the consumer receives only the written information on the label, the clarity and completeness of the language and graphics on these labels plays a crucial role in determining the patients' health.

The present analysis establishes that the pharmaceutical labels in Kenya often lack the characteristics that the recent literature claims are necessary for straight-forward and adequate instructions. Instead, the labels have the following characteristics:

- (1) little to no information on disease cause, prevention, and symptoms,
- (2) many unexplained technical terms,
- (3) few if any warnings concerning possible risks, and side-effects,
- (4) unexplained precautions for preparation, administration and dosage instructions,
- (5) relatively large numbers of abstract verbs and nouns used to convey procedures,
- (6) frequent ellipsis of nouns, verbs, clause markers and

articles,

- (7) few complete translations into Kiswahili,
- (8) frequent use of complex numerical tasks, with the exception of the one-dose intestinal worm medicines labels and the clear instructions on the Oralite label,
- (9) frequent use of synonyms for key terms,
- (10) lack of consistency in how the dosage information is categorized in charts,
- (12) frequent semi-illegible chart information due to the size and darkness of lettering and packaging,
- (13) extensive variation between the form and content of illustrations and captions, if any,
- (14) lack of one-to-one correspondence between instructions in graphic and print modes,
- (15) inconsistent and frequently non-existent use of graphic markers to mark warnings,
- (16) changes in topic and translations and, a characteristic not discussed in the literature, and
- (7) the relative scarcity of sentences in favour of single lexical items and phrases.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

Instructions may be judged adequate when they explicitly equip the reader to (1) correctly diagnose the disease, (2) confirm that the medicine chosen is the correct one, (3) single out people who should not be given the medicine, (4) purchase the correct amount of medicine for one complete treatment, (5) determine the correct dosage for a particular patient, (6) correctly prepare this dosage, (7) determine the correct regime, length and method of administration, (9) take steps in case of side-effects or the treatment's ineffectiveness, and (10) determine the safe way to store unused preparations and unopened packets.

The four dominant characteristics which emerge from the analysis of the instructions are (1) inconsistent use of language and graphics, (2) overreliance on English, (3) complex numeracy tasks, and (4) the heavy reliance on non-explicit, but crucial, tacit information to complement explicit instructions for cure and /or prevention of the various diseases.

Both the review of the literature and the analysis indicate the complexity of the issue surrounding discussions of text-difficulty, as applied to the genre of instructions, specifically those on pharmaceutical labels. The relevant

PAGINATION ERROR.

ERREUR DE PAGINATION.

TEXT COMPLETE.

LE TEXTE EST COMPLET.

NATIONAL LIBRARY OF CANADA.

BIBLIOTHEQUE NATIONALE DU CANADA.

CANADIAN THESES SERVICE.

SERVICE DES THESES CANADIENNES.

literature contains a discussion of the issue from several perspectives: (1) semantics, (2) syntax, (3) translation, (4) numeracy tasks, and (5) inferences. Various strategies for increasing the simplicity and clarity of instructions have been suggested. These include ordering procedures temporally, using simple, short, active sentences with concrete, non-technical terminology, illustrating the instructions and explicitly connecting graphics and printed instructions, decreasing the complexity of numerical tasks, providing complete translations into Kiswahili and following a consistent format for the presentation of tabular information.

The studies and the results of this analysis have several implications for product labelling, these implications being two-fold: manufacturers need to design more adequate labels and legislation is needed to ensure that the labels are adequate. Labelling legislation needs to give manufacturers more specific guidelines both in order to ensure comprehensible instructions, and to provide the government with clearer "laws" to enforce.

Labels need to be improved in at least five important areas: illustrations, numeracy tasks, text-markers, translation, and explication of tacit information. Adequate illustrations appear to facilitate comprehension of

instructions. At present, many labels lack complete illustrations which are well-integrated with the printed text. They lack immediately recognizable objects. The implication for better labelling is that more adequate graphic information needs to be developed. For example, dosage information, similar to that given on two of the labels for intestinal worms, only expressed in glasses instead of tablets, could be illustrated on ORT medicines. Illustrated procedures in narrative sequences could be numbered to correspond with the numbering of corresponding written steps, as on the DRF label. Captions, in sentence form, could accompany all illustrations as they do on the Oralite label. Moreover, more recognizable implements, such as suferia(s) and glasses instead of pans or beakers, drawn in three-dimensional form instead of two dimensional form, may facilitate comprehension.

The findings also indicate that bilingual labels are necessary for the rural Kenyan population and that many labels are presently not translated or are only partially translated into Kiswahili. These labels may be difficult for readers, even those who have completed primary school and, therefore, learned most scientific concepts in English. The implication for labelling legislation is, therefore, that complete translations into Kiswahili need to be enforced. In the present sample only the Ketrax label is completely translated with the translations clearly demarcated by different

background colours, space markers, that is, spaces left between the two language versions, and by lines separating the translations. Placing the English and Kiswahili version for procedures given in point form across from each other with corresponding illustrations in the middle may also prove to be a good method for setting up the instructions (see DT'S).

Complex numeracy tasks arising out of irregular administration intervals, multiple conversions and the use of fractions decrease the comprehensibility of instructions. The implication for better labelling is that numeracy tasks must be simplified. For instance, give fewer age categories, and give only one criterion for dosage calculations. Calculate conversions for the consumer, for instance, present dosage information in terms of teaspoons or glasses needed for each age category and frequency of administrations. (See the label for Antepar in Appendix). Finally, give the totals for each treatment (See the label for Homaquin in Appendix).

The findings clearly indicate that adequate background information about the nature of various diseases and their treatments using commercial medicines are important components of pharmaceutical labels. The 12 labels analyzed largely lacked this type of information. Basic disease information is needed. For instance, clients must know that dehydration is a result of the loss of body fluids due to diarrhoea. The

relationship between the disease and the medicine needs to be made explicit. For example, on the Oralite label, clients are told that the medicine "replaces body water and body salts lost during diarrhoea. The labels need to contain explanations for procedures and warnings, such as that the procedures should be closely followed for the patient to get well, that the medicine should be given slowly to prevent vomiting (see Oralite), and that medicines should usually be stored in a safe place.

Finally, text-markers facilitate comprehension. In order to do so, there must be conventions for their use so that readers will be able to recognize, for example, that boxes and red lettering indicate important information. The analysis shows that due to the variations in the use of particular markers consumers are not able to rely on markers to convey information consistently. The implication for labelling design and legislation is that conventions need to be developed. Warnings, for example, could always be placed in boxes at the end of the text in bold coloured lettering. Changes in topics could be marked by bold headings (see Oralite and Ketrax).

This study is one step in the research concerned with the effective development of instructions for pharmaceutical labels. Follow-up studies are needed to confirm that the population referred to in this study does have the predicted

difficulties with present pharmaceutical labels and that the suggestions presented in this chapter actually do improve comprehensibility. Other studies are needed to confirm and perhaps expand on the kinds of necessary "background" information about diseases and commercial medicines which labels are largely failing to provide. More research is needed into the relative benefits of graphic over printed information for populations with poor literacy skills and into the benefits of more symbolic or less symbolic, that is, more real-life images for this graphic information. More studies are needed to determine optimum length of product labels. Finally, more research is needed into marketing and advertising policies since these policies directly affect both the type of products which are sold and purchased, and the type of information which is exchanged between advertisers, consumers and shop owners.

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Appendices

- A. Symbols and Criteria
- B. Photocopies of the Pharmaceutical Labels
- C. Detailed Analysis of the Labels

SYMBOLS AND CRITERIA USED IN DESCRIPTION

Symbols

The following symbols are used in the word counts:

TEXT	SYMBOL	MEANING
-	"hyphen"	(replacement of a verb ("adults-tablets") or spacer)
-	"tat"	(the preposition "to")
no.	"nol"	(number: no.)
\	"prt"	(per)
\	"plt"	(place marker between numbers or dates)
	"deg"	(degrees)
A	"ta"	(abbreviation or symbol of a company)
&	"ab"	(and)

Metric terms have been included within the English word count even when they are used within a Kiswahili translation of the procedures. Numbers are included in both English and Kiswahili word counts depending on the language version they were used in. French and Arabic translations are not included. All hyphenated words are counted as two words.

In the description of the verbs and nouns, one star signals a word which is analyzed as either abstract or concrete because of the context in which it is used. In the description of verbs, nouns, sentences and block language, three stars signal a term or phrase which is repeated due to packaging. The repeated word or phrase is not included in the total counts for these categories.

Criteria

In the description of the verbs the criteria "active" and "passive" are used. All non-finite, and passive verb forms fit into the latter category. Active verb forms include all imperatives. The description of nouns is divided by two categories, "abstract" and "concrete". The latter referents which can be physically touched, seen, heard, or tasted.

In the syntactic description three categories are used: (1) major sentences having a finite verb as predicator and a subject, unless imperative; (2) minor sentences having a non-finite verb or no predicator as well as the possibility missing other function units; and (3) block language having few clear function units

ANTEPAR
ELIXIR

WELLCOME



AS WITH ALL MEDICINES
KEEP OUT OF REACH OF
CHILDREN

ANTEPAR
ELIXIR

ANTEPAR
ELIXIR

ANTEPAR
ELIXIR

ANTEPAR
ELIXIR

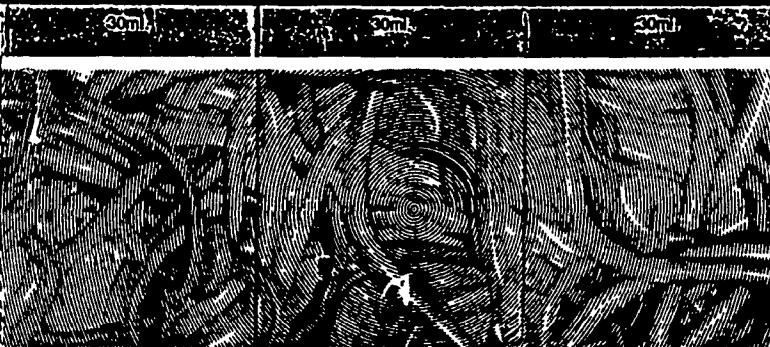
FORMULATION
Each 5ml (one teaspoonful) contains equivalent 61.750mg Piperazine Hydrate BPC.

TREATMENT OF ROUND WORMS
DOSAGE
Over 10 yrs. take the full contents of the bottle.
6-10 yrs. give 4 teaspoonfuls.
5-6 yrs. give 3 teaspoonfuls.
2-4 yrs. give 2 teaspoonfuls.
For under 2 yrs. see Direction Circular.

TREATMENT OF ENTEROBIOSIS
See full instruction on Direction Circular.

Trade Mark
Made in Kenya
LUNDA 10015
Lot No. 02 92
Use by: 02 89
Mfd. Date: 02 88

**STORE IN A COOL DRY PLACE.
PROTECT FROM LIGHT.**



ONE COMPLETE DOSE 30ml.



Wellcome
WELLCOME HEALTH LIMITED
PO BOX 1100, DURBAN

ANTEPAR
ELIXIR

Expels roundworms easily and safely overnight

Trade Mark
Made in Kenya
LUNDA 10015
Lot No. 02 92
Use by: 02 89
Mfd. Date: 02 88

ANTEPAR* Elixir

PRESENTATION:

Tablets: Each yellow scored tablet contains Piperazine Phosphate BP in an amount equivalent to 500 mg Piperazine Hydrate BP.
Elixir: ANTEPAR elixir is an orange-coloured syrup containing Piperazine Hydrate BP and Piperazine Citrate BP in a stable combination. Each 5 ml contains the equivalent of 750 mg Piperazine Hydrate BP.

INDICATIONS:

ANTEPAR is indicated for the treatment of enterobiasis (oxyuriasis) *Enterobius vermicularis* (pinworm/threadworm) (intestinal infections) and ascariasis (roundworm, *Ascaris lumbricoides* infections).

DOSEAGE AND ADMINISTRATION:

Treatment of enterobiasis:

Since *Enterobius vermicularis* infection is readily transmitted, all household contacts should be examined and all positive cases treated concurrently. ANTEPAR should be taken once daily for 7 days. The following dosage schedule should be followed:

DAILY DOSAGE			
AGE (years)	BODYWEIGHT (kg)	ELIXIR (ml)	TABLETS
Over 12	Over 40	15	4
5-12	17-40	10	3
2-4	13-16	5	1.5
Under 2		50-75 mg piperazine hydrate/kg bodyweight	

In the event of the infection persisting a further course of ANTEPAR should be given 7 days after completion of the first course.

Treatment of Ascariasis:

A single dose of ANTEPAR should be taken. The following dosage schedule should be followed:

DAILY DOSAGE			
AGE (years)	BODYWEIGHT (kg)	ELIXIR (ml)	TABLETS
Over 10	Over 34	30	8
6-10	21-33	20	6
5-6	17-20	15	4.5
2-4	13-16	10	3
Under 2	Under 13	120 mg piperazine hydrate/kg bodyweight	

PRECAUTIONS:

If you are currently receiving attention or treatment from your doctor, you should not take any additional medicine without his knowledge or approval.

Pregnancy

Whilst extensive clinical experience has not revealed evidence that the use of Antepar in pregnancy is associated with a risk to the foetus, it is nevertheless advised that, unless symptoms warrant immediate treatment, administration of ANTEPAR should be postponed until after pregnancy.

STORAGE RECOMMENDATIONS:

Tablets: Store below 25°C. Keep dry and protect from light. Elixir: Store below 25°C and protect from light.

Wellcome Kenya Limited, P.O. Private Bag, KABETE, Kenya. Made in Kenya. UK/04843/A. *Trade Mark

Elixir ANTEPAR*

PRESENTATION:

Comprimés: Comprimés jaunes, sécables contenant du Phosphate de Piperazine B.P. en quantité équivalente à 500 mg d'Hydrate de Piperazine B.P. par comprimé.

Elixir: ANTEPAR Elixir est un sirop de couleur orange contenant de l'Hydrate de Piperazine B.P. et du Citrate de Piperazine B.P. en une association stable. Chaque cuillerée de 5 ml. contient l'équivalent de 750 mg. d'Hydrate de Piperazine B.P.

INDICATIONS

ANTEPAR est indiqué pour le traitement de l'enterobiase (oxyurose) infections par *Enterobius vermicularis*, oxyures vermiculaires, nématodes, vers anaux) et de l'ascaridiose (infections par les ascarides, *Ascaris lumbricoides*).

POSOLOGIE ET ADMINISTRATION

Traitement de l'enterobiase: Puisque l'infection par *Enterobius vermicularis* est facilement transmise les personnes en contact avec les malades doivent être examinées et tous cas positifs traités concurrentement.

ANTEPAR doit être administré à raison d'une fois par jour pendant 7 jours. Se conformer au plan de posologie suivant:

POSOLOGIE JOURNALIERE			
AGE (années)	POIDS CORPOREL (kg)	ELIXIR (ml)	COMPRIMÉS
Plus de 12 ans	Plus de 40	15	4
De 5 à 12 ans	De 17 à 40	10	3
De 2 à 4 ans	De 13 à 16	5	1.5
Moins de 2 ans		50 à 75 mg. d'hydrate de piperazine/kg. de poids corporel	

Au cas où l'infection persisterait, administrer un traitement supplémentaire d'ANTEPAR 7 jours après avoir terminé la prise du premier cycle.

Traitement de l'ascaridiose: Administrer une dose individuelle d'ANTEPAR. Se conformer au plan de posologie suivant:

POSOLOGIE JOURNALIERE			
AGE (années)	POIDS CORPOREL (kg)	ELIXIR (ml)	COMPRIMÉS
Plus de 10 ans	Plus de 34	30	8
De 6 à 10 ans	De 21 à 33	20	6
De 5 à 6 ans	De 17 à 20	15	4.5
De 2 à 4 ans	De 13 à 16	10	3
Moins de 2 ans	Moins de 13	120 mg. d'hydrate de piperazine/kg. de poids corporel	

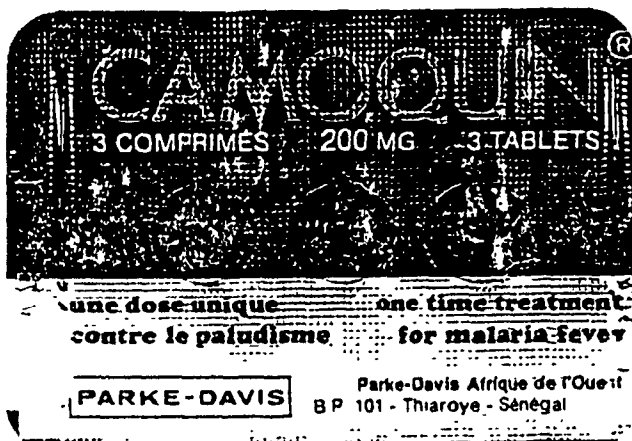
PRECAUTIONS

Si vous êtes sous surveillance médicale ou recevez un traitement prescrit par votre médecin, vous ne devez pas prendre d'autres médicaments à son insu ou sans avoir obtenu son approbation.

Grossesse: Tandis que l'expérience clinique extensive n'a pas révélé que l'utilisation d'ANTEPAR pendant la grossesse constitue un danger pour le foetus, à moins que les symptômes ne justifient un traitement immédiat, il est conseillé de retarder l'administration d'ANTEPAR jusqu'après l'accouchement.

RECOMMANDATIONS POUR LA CONSERVATION: Comprimés: Conserver au-dessous de 25°C dans un endroit sec à l'abri de la lumière. Elixir: Conserver au-dessous de 25°C à l'abri de la lumière.

Wellcome Kenya Limited, P.O. Private Bag, KABETE, Kenya. Fabriquée au Kenya. UK/04843/A. *Marque déposée



CAMOQUIN® 200 MG

PALUDISME PÉRIODIQUE
ADULTES
- partiellement immunisés 3 comprimés à 200 mg en prise unique
- non immunisés cette dose unique doit être renouvelée pendant 3 jours

DOSSAGE IN MALARIA
ADULTS
- partiellement immunisés 3 comprimés à 200 mg en prise unique
- non immunisés 3 comprimés à 200 mg en prise unique pendant 3 jours

CHILDREN
- partiellement immunisés, en prise unique (voir tableau)
- non immunisés même dosage que ci-dessus en 1^{er} jour, puis moitié du dosage pendant 2 jours

AGE (years) (années)	Unseparated (Moins de 1 an)	1-2	3-4	5-7	8-10	11-15
TABLETS/ COMPRIMÉS	1/4	1/2	3/4	1	1 1/2	2

Chaque comprimé contient/Each tablet contains:
Amodiaquine Hydrochloride P
Equivalent à 0,2 g d'Amodiaquine base

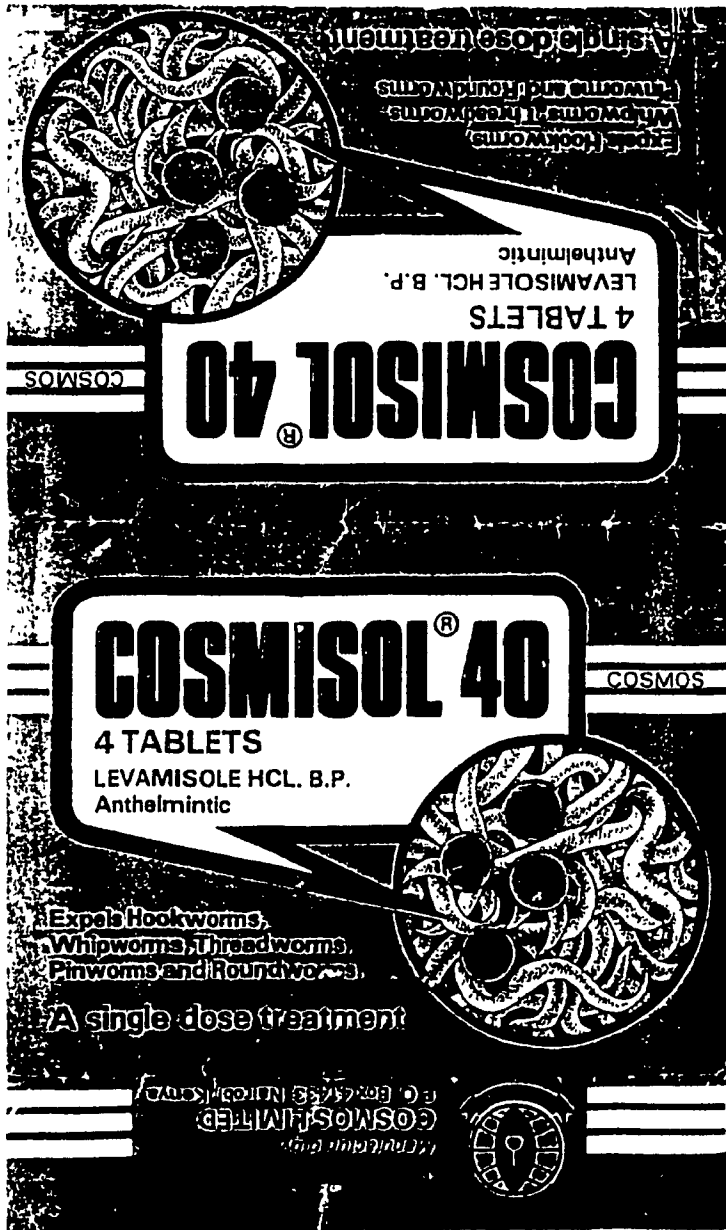
CAMOQUIN® 200 MG

PALUDISME PÉRIODIQUE
ADULTES
- partiellement immunisés 3 comprimés à 200 mg en prise unique
- non immunisés cette dose unique doit être renouvelée pendant 3 jours

DOSSAGE IN MALARIA
ADULTS
- partiellement immunisés 3 comprimés à 200 mg en prise unique
- non immunisés 3 comprimés à 200 mg en prise unique pendant 3 jours

CHILDREN
- partiellement immunisés, en prise unique (voir tableau)
- non immunisés même dosage que ci-dessus en 1^{er} jour, puis moitié du dosage pendant 2 jours

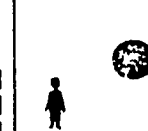
AGE (years) (années)	Unseparated (Moins de 1 an)	1-2	3-4	5-7	8-10	11-15
TABLETS/ COMPRIMÉS	1/4	1/2	3/4	1	1 1/2	2



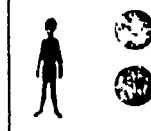
Each tablet contains
Levamisole Hydrochloride B.P.
equivalent to Levamisole 40 mg

DOSAGE

BABIES
(1-4 Years)
1 tablet



CHILDREN
(5-12 Years)
2 tablets



ADULTS
(13 Yrs. and over)
3 Tablets



Batch No. **90134**
Mfg. Date: **FEB. 90**
Use before: **FEB. 93**

(B) Regd. T.M.

BEFORE USE BEFORE USE

9 4 JAN 9 4 JA

BATCH No. BATCH No.

0 0 7 7 9 1 0 0 7 7

TEAR OR CUT ACROSS

DIORALYTE®

Compound Sodium Chloride
and Dextrose Oral Powder B.P.

Sodium Chloride B.P. 0.2 g
Sodium Bicarbonate B.P. 0.3 g
Potassium Chloride B.P. 0.3 g
Dextrose Monohydrate B.P. 8.0 g

Dissolve contents in sufficient freshly boiled and cooled water to make up to 200 ml (7 fl oz). Any solution unused after one hour should be discarded. Solutions may be used for up to 24 hours if stored in a refrigerator immediately after reconstitution but the reconstituted solution must not be boiled.

Keep out of reach of children.



ARMOUR PHARMACEUTICAL
COMPANY LIMITED
EASTBOURNE SUSSEX

PL 0231/0043
ML 0142/01
Eire Lic. No. PA 10/15/1

1580-11 (R) Regd. Trade Mark

0010101

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D. R. F.
ELECTROLYTE POWDER



BANANA FLAVOUR
ORAL ELECTROLYTE MIXTURE
FOR
DEHYDRATION TREATMENT

CONTAINS 14 g EACH

Sodium Chloride 0.44 g. Potassium
Chloride 0.38 g.

Sodium Bicarbonate 0.42 g. Citric Acid
0.44 g. Sugar 12.23 g. plus flavouring



LABORATORY & ALLIED EQUIP. LTD.
P.O. Box 42878 NAIROBI-KENYA

D. R. F.
ELECTROLYTE POWDER



1. Open Sachet.
2. Pour contents into glass or container.
3. Add 250 ml of water (The water should be freshly boiled and cooled). Do not boil solution after adding contents of Sachet. Stir the contents until dissolved.
4. Drink whilst fresh, any unused solution should be discarded. A fresh solution should be made each time.

Always use in the recommended dilution.

Dosage:

Mild to moderate dehydration:

Replacement of losses 50-120 ml/kg in 6 hours.

Maintenance 100-200 ml/kg in 24 hours.

Adults may need up to 1000 ml per hour.

For maintenance therapy with Oral fluids in cases of severe dehydration usually corrected with I.V. fluids, 15 ml/kg hourly until diarrhoea stops.

Keep out of the reach of Children.

Store in a cool dry place.

Homaquin
Dawa ya malaria

Homaquin
Dawa ya malaria

Homaquin
Dawa ya malaria

[illegible]



DIARRHOEA TREATMENT SOLUTION

THE ORAL REHYDRATION AND
ELECTROLYTE REPLACEMENT FLUID

STORE IN COOL DRY PLACE

PROTECT FROM LIGHT

KEEP OUT OF REACH OF CHILDREN

1 Litre of Prepared Solution contains
Na⁺ 90 mmol, K⁺ 20 mmol, Cl⁻ 3 mmol,
HCO₃⁻ 30 mmol, Glucose 111 mmol.



Manufactured by
COSMOS LIMITED
P.O. Box 41433 NAIROBI

Instructions for "dts" therapy Dose per Kg body weight

1 For mild dehydration

(Thirsty, reduced skin elasticity) 50ml-120ml "dts" (Soini) every 4-6 hours

2 Maintenance

a) Mild Continuing diarrhoea (less than one stool every hour) 100ml-200ml "dts" (Soini) every 24 hours until diarrhoea stops

b) Severe Continuing diarrhoea 15 ml every hour until diarrhoea becomes mild or stops

Mwaga maji safi,
kipimo cha 500 ml
(Chupa moja ya beer)
kwa sufuria safi
Chemsha maji haya
Wacha yapoe
Mwaga pakiti moja ya
"dts" kwa sufuria safi
bila maji

5 Mwaga maji yaliyo
poeshwa 500 ml
(Kipimo cha chupa
moja ya beer) kwa
sufuria hii, koroga
mpaka dawa iweyuke
6 Dawa sasa iko tayari
kunywea

1 Pour enough fresh
water to fill a large beer
bottle (500ml) into a
clean pan

2 Boil it

3 Cool it

4 Empty a packet (sachet)
of "dts" in a clean dry
pan

5 Add 500 ml (a large
beer bottle, to meas-
ure) of boiled and
cooled water prepared
as above to the pan stir
till dissolved

6 The solution is ready
for drinking

DO NOT BOIL SOLUTION AFTER DISSOLVING THE CONTENTS
USICHEMSHE BAADA YA KUYAYEYUSHA POUDA

Any portion of the solution remaining after 24 hrs
should be discarded

Ketrax*

Levamisole

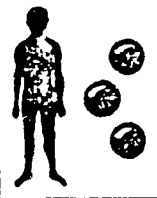
The modern medicine that expels roundworms, hookworms, whipworms, pinworms, and threadworms. Safe and quick. One dose only.

Dawa ya kisasa inayoondoa minyoo, safura, na michango wengine wa tumboni; kwani hutibu haraka na ni salama. Kiasi kimoja tu.



THIS IS THE DOSE YOU NEED TO TAKE
HIKI NDICHO KIASI CHA KUTUMIA

Adults 3 tablets
watu wazima
tembe 3



Children (5-15 yrs.)
2 tablets
watoto wa
miaka 5 hadi 15
tembe 2



Babies (1-4 yrs.)
1 tablet
watoto wa
miaka 1 hadi 4
tembe 1

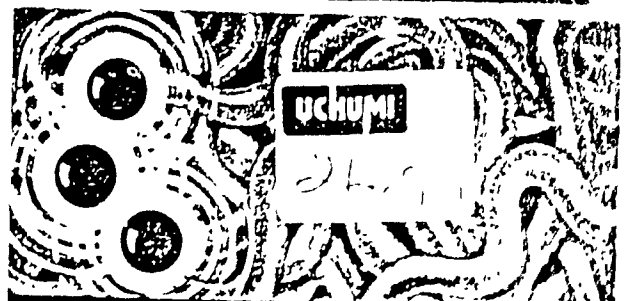
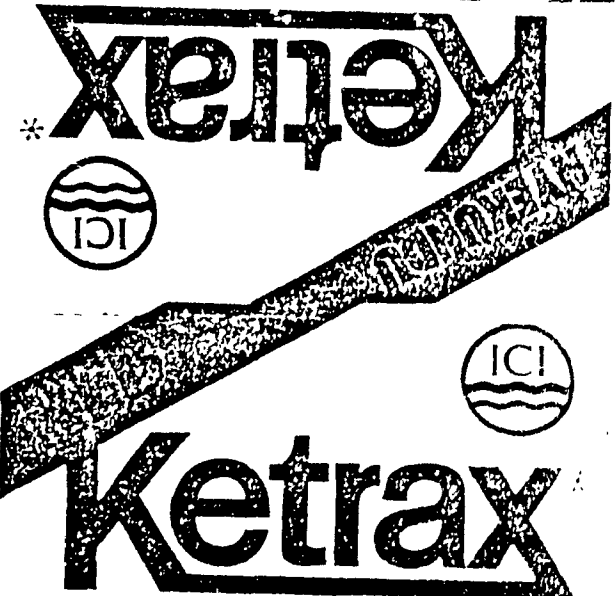
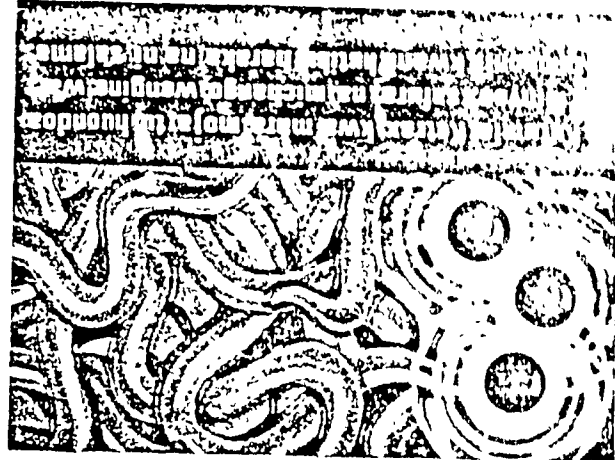


In the family one person can easily get worms from another. Treat the family regularly with Ketrax and keep them healthy and fit.

Mmoja wa jamaa yako aweza kupata minyoo kutoka kwa mwingine, kwa hivyo, fanya iwe kawaida kutibu watoto wako na Ketrax na iwaweke wenye nguvu na Afya.



Ketrax is a registered trademark of ICI Ltd.
and is distributed by ICI Ltd.
ICI Pharmaceuticals Ltd. Nairobi, Kenya
P.O. Box 10000 Nairobi, Kenya



Only one dose expels roundworms, hookworms, whipworms, pinworms and threadworms. Safely, quickly.



Siku ya kwanza	4	3	2
Baada ya mawazo	2	1	1
Siku ya 10	2	1	1
Siku ya 15	2		
Jumla ya tendo	10	5	4
Kutuba Malaria. Tuma dawa kutunyo kila baada ya siku	2	1	1
Wazi	2	1	1
Masa 2.5 tuma vyub na chini ya masaa 2 mahabuni daktari			
Masa in kuni ya ITDUNG PRODUCTS INTERNATIONAL LTD. Hama			
Registered Unit of the Tanzania Government			
Each tablet contains 250mg Chloroquine Phosphate			
Kutuba Malaria	15	11	5
Siku ya kwanza	4	3	2
Baada ya mawazo	2	1	1

**Protect your baby during Diarrhoea &
How to use Oralite**

For children up to 5 years old. Fill tumbler with water up to mark (300 ml). Add ALL powder from sachet. Stir.
Give 2 or 3 tumblers during the first 4 to 6 hours.
Give 2 or 3 more tumblers over next 18 to 24 hours.
Give 2 more tumblers in the following 24 hours.
Do not give more than 6 tumblers in 24 hours.
For adults and children over 5 years old.
Mix ALL powder from sachet with $\frac{1}{2}$ of a tumbler of water (200 ml). Give this dose every 2 or 3 hours.
Do not give more than 10 doses in 24 hours.


Important






- Always use as instructed unless otherwise directed by your doctor.
 - Give slowly to prevent vomiting during treatment. Use clean spoon to give Oralite to small babies.
 - If baby is thirsty between drinks of Oralite, give plain boiled and cooled water.
 - Begin normal feeding again as soon as possible.
- Each 5.5 g dose contains: Anhydrous Dextrose BP 4.0 g, Sodium Chloride BP 0.7 g, Sodium Bicarbonate BP 0.5 g, Potassium Chloride BP 0.3 g.

Warning: See a doctor whenever diarrhoea is severe or if it has not stopped within 7 days.

Manufactured by
BEECHAM OF KENYA LIMITED
Under Licence from
BEECHAM PRODUCTS, UK

Oralite
Oral Treatment for Dehydration



				
Boil water	Let it cool	Pour into tumbler	Add ALL powder and stir	Give slowly

Do not boil water after adding powder. [Ⓢ]

REPLACES BODY WATER & BODY SALTS LOST DURING DIARRHOEA

NEW Powdered

Padrax

BYO TRADE MARK

brand of piperazine citrate, B.P

worm medicine



Poda ya Padrax hutengeneza dawa inayoonja vizuri ambayo huondoa Minyoo (Roundworm) upesi na kwa ukamilifu Kipimo Watu Wakuuwa na Watoto zaidi ya miaka 12 pakiti 3 Miaka 6-12 pakiti 2 Miaka 2 hadi 6 pakiti 1 Yeyusha ndani ya glassa ya maji (200ml) na kunywa kabla hujajala Chini ya miaka 2 shaun daktari ikwa ni lazima, rudia kipimo hiki baada ya siku 2 Kunywa dawa ya kufungua choo ikiwa huendi choo baada ya masaa 24 Kila pakiti ina piperazine citrate 1.65g (iliyo sawa na piperazine hexahydrate 1.50g) Weka pahali pasipo na joto, pakavu pasipofikiwa na watoto

Made in Kenya by
STERUNG PRODUCTS INTERNATIONAL
LTD., Nairobi
Registered User of the trade mark Padrax

210901-02

Detailed Analysis of the Labels

Antepar

I. LEXICAL

A. WORD COUNT

1. ENGLISH 635--DIFFERENT WORDS 185

2. KISWAHILI N/A

--DIFFERENT WORDS

ANTEPAR ENGLISH WORD FREQUENCY

a 6
 additional 1
 administration 2
 advised 1
 after 2
 age 2
 all 4
 amount 1
 an 2
 and 6
 antepar 12
 any 1
 approval 1
 are 1
 as 2
 associated 1
 ascaris 1
 ascariasis 2
 attention 1
 bag 2
 be 4
 before 1
 below 2
 bodyweight 4
 bottle 2
 bp 5
 bpc 2
 by 2
 c 2
 cases 1
 children 2
 circular 4

citrate 1
clinical 1
coloured 1
combination 1
completion 1
concurrently 1
contacts 1
containing 1
contains 5
contents 2
cool 2
course 2
currently 1
daily 3
date 2
days 2
deg 2
direction 4
doctor 1
dosage 8
dose 2
dry 3
ea 2
each 4
elixir 8
enterobiasis 4
enterobius 2
equivalent 4
event 1
evidence 1
examined 1
exp 1
expeller 1
experience 1
extensive 1
foetus 1
followed 1
following 1
for 4
formulation 2
from 5
full 4
further 1
give 6
given 1
has 1
his 1
household 1
hydrate 7
if 1
immediate 1
in 9

indicated 1
indications 1
infection 3
infections 1
instruction 2
is 5
it 1
kabete 2
keep 3
kenya 7
kg 3
knowledge 1
light 4
limited 3
lot 2
lumbricoides 1
made 3
mark 3
medicine 1
medicines 2
mfd 2
mg 6
ml 6
mnf 1
nevertheless 1
nol 2
not 2
of 22
on 2
once 1
one 3
or 1
orange- 1
out 2
over 6
oxyuriasis 1
persisting 1
phosphate 1
pinworm 1
piperazine 9
place 2
plt 4
po 2
postponed 1
positive 1
precautions 1
pregnancy 3
presentation 1
private 2
protect 4
prt 1
reach 2

readily 1
receiving 1
recommendations 1
revealed 1
risk 1
round 2
roundworm 1
schedule 2
scored 1
seatworm 1
see 4
should 8
since 1
single 1
stable 1
storage 1
store 4
symptoms 1
syrup 1
ta 3
tablet 1
tablets 4
take 3
taken 2
tat 17
teaspoonful 3
teaspoonfuls 6
that 2
the 14
threadworm 1
to 2
trade 3
transmitted 1
treated 1
treatment 9
uk 3
under 5
unless 1
until 1
use 3
vermicularis 2
warrant 1
wellcome 5
whilst 1
with 3
without 1
worm 1
worms 2
years 2
yellow 1
you 3
yrs 10

02 4
 04843 1
 10 8
 12 2
 13 3
 15 3
 16 2
 17 2
 184 2
 2 9
 25 2
 3 4
 30 2
 3615 1
 3616 1
 4 7
 40 2
 5 9
 50 1
 500 1
 6 7
 7 2
 75 1
 750 3
 89 2
 92 2
 4.5 1
 34 1
 8 1
 21 1
 33 1
 20 1
 120 1

B. VERB TYPES

BOX

1. keep	imperative (imp)
2. take	imp
3. give (2)	imp
4. see (2)	imp
5. store	imp
6. protect	imp

BOTTLE

1. take	imp
2. give (3)	imp
3. see (2)	imp
4. store	imp
5. protect	imp
6. expels	simple present

7. use imp (manufacturing (mfg))

"DIRECTION CIRCULAR"

1. is (3)	simple present
2. is indicated	passive present
3. is transmitted	passive present
4. should be examined	modal/passive
5. [is] treated	passive present
6. should be taken	modal/passive
7. should be followed	modal/passive
8. should be given	modal/passive
9. should be taken	modal/passive
10. should be followed	modal/passive
11. are receiving	passive; continuous
12. should not take	modal; negative
13. has not revealed	present perfect; negative
14. is associated	passive present
15. is advised	passive present
16. warrant	simple present
17. should be postponed	modal/passive
18. store	imp
19. keep	imp
20. protect	imp
21. persisting	non-finite -ing
22. contains (3)	simple present (mfg)
23. is	simple present
24. [is] made	passive present

PASSIVE (PRESENT & CONTINUOUS & MODAL): 6 & 1 & 7

SIMPLE PRESENT (SIMPLE PRESENT & PRESENT MODAL & NEGATIVE PRESENT MODAL): 5 & 0 & 1

IMPERATIVE: 15

NON-FINITE: 1

ACTIVE/ PASSIVE: 21 /15

C. ABSTRACT AND CONCRETE NOUNS

BOX /BOTTLE

1. antepar elixir (2)	C *** (technical)
2. medicines	A ***
3. children	C ***
4. teaspoonfuls (3)	C ***
5. treatment (2)	A ***
6. round worms	C ***
7. dosage	A ***
8. yrs (4)	A ***
9. contents	C ***
10. bottle	C ***
11. Direction Circular (2)	C ***
12. enterobiasis	C ***
13. instruction	C ***

14.	light	A	***
15.	Place	A	***
16.	ml	C	***
17.	worm expeller	C	
18.	dose	A	
19.	formulation	A	(mfg)
20.	Wellcome Kenya Limited (4)	A	*
21.	PO Private Bag	A	
22.	Kabete	C	
23.	Trade Mark	A	
24.	Kenya	C	

DIRECTION CIRCULAR

1.	administration (2)	A	
2.	age	A	
3.	amount	A	
4.	antepar (8)	C	
5.	antepar elixir (2)	C	
6.	elixir (3)	A*	
7.	ascariasis (2)	C	
8.	attention	A	
9.	bodyweight (2)	A	
10.	direction circular (2)	C	
11.	contacts	A*	
12.	course (2)	A	
13.	days	A	
14.	doctor	C	
15.	dosage (3)	A	
16.	dose	A	
17.	evidence	A	
18.	experience	A	
19.	foetus	C	
20.	household contacts	A	
21.	indications	A	
22.	infection (2)	C*	
23.	infections (1)	A	
24.	knowledge	A	
25.	light (2)	A	
26.	medicine	A*	
27.	syrup	C*	
28.	enterobiasis	A*	
29.	oxyuriasis Enterobius vermicularis BP	A*	
30.	pinworm	C	
31.	precautions	A	
32.	pregnancy (3)	C	
33.	presentation	A	
34.	recommendations	A	
35.	risk	A	
36.	roundworm	C	
37.	schedule	A*	
38.	seatworm	C	
39.	symptoms	A	

40.	tablets (2)	C
41.	teaspoonful (2)	C
42.	threadworm	C
43.	treatment (4)	A
44.	worms	C
45.	yrs (2)	A
46.	years (2)	A
47.	Wellcome Kenya Limited	A (mfg.)
48.	P.O. Private Bag	A
49.	KABETTE, Kenya	C
50.	Kenya	C
51.	UK	C
52.	Trade Mark	A

ABSTRACT/CONCRETE: 64/45

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Each 5 ml (one teaspoonful) contains [the] equivalent of 750 mg Piperazine Hydrate BPC. (2) ***
2. [For people] Over 10 yrs. take the full contents of the bottle (2) ***
3. [For children from] 6 - 10 yrs. give 4 teaspoonfuls (2) ***
4. 5 - 6 yrs. give 3 teaspoonfuls (2) ***
5. 2 - 4 yrs. give 2 teaspoonfuls (2) ***
6. For [infants] under 2 yrs. see Direction Circular. (2) ***
7. See full instruction[s] on Direction Circular. (2) ***
8. STORE IN A COOL DRY PLACE. (2) ***
9. PROTECT FROM LIGHT. (2) ***
10. AS WITH ALL MEDICINES KEEP OUT OF REACH OF CHILDREN (2) ***
11. Use by: 02 92 (2) ***
12. Each yellow scored tablet contains Piperazine Phosphate BP in in amount equivalent to 500 mg Piperazine Hydrate BP.
13. ANTEPAR elixir is an orange-coloured syrup containing Piperazine Hydrate BP and Piperazine Citrate BP in a stable combination.
14. Each 5 ml contains the equivalent of 750 mg Piperazine Hydrate BP.
15. ANTEPAR is indicated for the treatment of enterobiasis (oxyuriasis Enterobius vermicularis, pinworm, threadworm, seatworm infections) and ascariasis (roundworm, Ascaris lumbricoides infections).
16. Since Enterobius vermicularis infection is readily transmitted, all household contacts should be examined and all positive cases treated concurrently.

17. Antepar should be taken once daily for 7 days.
18. The following dosage schedule should be followed:
19. One teaspoonful contains 5 ml.
20. In the event of the infection persisting a further course of ANTEPAR should be given 7 days after completion of the first course.
21. A single dose of ANTEPAR should be taken.
22. The following dosage schedule should be followed:
23. If you are currently receiving attention of treatment from you doctor, you should not take any additional medicine without his knowledge or approval.
24. Whilst extensive clinical experience has not revealed evidence that the use of Antepar in pregnancy is associated with a risk to the foetus, it is nevertheless advised that, unless symptoms warrant immediate treatment, administration of ANTEPAR should be postponed until after pregnancy.
25. Store below 25 C.
26. Keep dry and protect from light.
27. Store below 25 C and protect from light.

B. MINOR SENTENCES:

1. Made in Kenya (3) ***
2. Expels roundworms easily and safely overnight

C. BLOCK LANGUAGE:

1. ANTEPAR (5) ***
2. ELIXIR (5) ***
3. FORMULATION (2) ***
4. TREATMENT OF ROUND WORMS (2) ***
5. DOSAGE (2) ***
6. TREATMENT OF ENTEROBIASIS
7. Trade Mark (3) ***
8. UK / 184 / A (2) ***
9. Lot No. EA 36 15 (2) ***
10. Mfd. Date: MNF 02 89 (2) ***
11. PRESENTATION:
12. Tablets:
13. Elixir:
14. INDICATIONS:
15. DOSAGE AND ADMINISTRATION:
16. Treatment of enterobiasis:
17. DAILY DOSAGE (2) [in the two tables]
18. AGE (years) (2)
19. BODYWEIGHT (kg) (2)
20. ELIXIR (ml) (2)
21. TABLETS (2)

22. Over 12
23. Over 40 15 4 / 5 - 12 17 - 40 10 3 / 2 - 4
13 - 16 5 1.5
24. Under 2
25. 50 - 75 mg piperazine hydrate / kg bodyweight
26. Treatment of Ascariasis:
27. Over 10
28. Over 34 30 8 / 6-10 21-33 20 6 / 5-6 17-20 15 4.5
/2-4 13-16 10 3
29. Under 2
30. Under 13
31. 120 mg piperazine hydrate/ kg bodyweight
32. PRECAUTIONS:
33. Pregnancy
34. STORAGE RECOMMENDATIONS:
35. Tablets:
36. Elixir:
37. Wellcome Kenya Limited, PO Private Bag KABETE, Kenya.
38. UK / 04843 / A
39. 30 ml
40. The worm expeller
41. Wellcome Wellcome Kenya Limited (3) ***
42. PO PRIVATE BAG, KABETE

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. ANTEPAR (5) ***
2. ELIXIR (5) ***

2. PRODUCT USE

1. INDICATIONS:
1. ANTEPAR is indicated for the treatment of enterobiasis (oxyuriasis *Enterobius vermicularis*, pinworm, threadworm, seatworm infections) and ascariasis (roundworm, *Ascaris lumbricoides* infections).
2. Expels roundworms easily and safely overnight
4. The worm expeller

3. PREPARATION INFORMATION

None.

4. DOSAGE INFORMATION

[BOX AND BOTTLE]

1. TREATMENT OF ROUNDWORMS (2) *** [also product use]

2. DOSAGE: (2) ***
3. Over 10 yrs. take the full contents of the bottle (2) ***
4. 6 - 10 yrs. give 4 teaspoonfuls (2) ***
5. 5 - 6 yrs. give 3 teaspoonfuls (2) ***
6. 2 - 4 yrs. give 2 teaspoonfuls (2) ***
7. For under 2 yrs. see Direction Circular. (2) ***
8. See full instruction on Direction Circular. (2) ***
9. Use by: 02 92 (2) ***

[DIRECTION CIRCULAR]

1. DOSAGE AND ADMINISTRATION:
2. Treatment of enterobiasis:
3. Antepar should be taken once daily for 7 days.
4. The following dosage schedule should be followed:

5. DAILY DOSAGE

6. AGE (years)	BODYWEIGHT (kg)	ELIXIR (ml)	TABLETS
7. Over 12	Over 40	15	4
8. 5 - 12	17 - 40	10	3
9. 2 - 4	13 - 16	5	1.5
10. Under 2	50 - 75 mg piperazine hydrate / kg bodyweight		

11. Treatment of Ascariasis:
12. A single dose of ANTEPAR should be taken.
13. The following dosage schedule should be followed:

14. DAILY DOSAGE

15. AGE (years)	BODYWEIGHT (kg)	ELIXIR (ml)	TABLETS
16. Over 10	Over 34	30	8
17. 6-10	21-33	20	6
18. 5-6	17-20	15	4.5
19. 2-4	13-16	10	3
20. Under 2	Under 13		

21. 120 mg piperazine hydrate/ kg bodyweight
22. One teaspoonful contains 5 ml.
23. Each 5 ml (one teaspoonful) contains equivalent of 750 mg Piperazine Hydrate BPC. (2) *** [Also Mfg. information]

24. 30 ml. [to designate the amount the bottle contains]

5. ADMINISTRATION

None

6. STORAGE/WARNINGS

1. STORE IN A COOL DRY PLACE. (2) ***
2. PROTECT FROM LIGHT. (2) ***
3. AS WITH ALL MEDICINES KEEP OUT OF REACH OF CHILDREN (2) ***

4. STORAGE RECOMMENDATIONS:
5. Tablets:
6. Store below 25 C.

7. Keep dry and protect from light.
8. Elixir:
9. Store below 25 C and protect from light.

7. WARNINGS

1. Since *Enterobius vermicularis* infection is readily transmitted, all household contacts should be examined and all positive cases treated concurrently.
2. In the event of the infection persisting a further course of ANTEPAR should be given 7 days after completion of the first course.
3. PRECAUTIONS:
4. If you are currently receiving attention of treatment from you doctor, you should not take any additional medicine without his knowledge or approval.
5. Pregnancy Whilst extensive clinical experience has not revealed evidence that the use of Antepar in pregnancy is associated with a risk to the foetus, it is nevertheless advised that, unless symptoms warrant immediate treatment, administration of ANTEPAR should be postponed until after pregnancy.

8. MANUFACTURING

1. FORMULATION
2. Each 5 ml (one teaspoonful) contains equivalent of 750 mg Piperazine Hydrate BPC. (2) *** [Also Dosage information]
3. PRESENTATION:
4. Tablets: Each yellow scored tablet contains Piperazine Phosphate BP in an amount equivalent to 500 mg Piperazine Hydrate BP.
5. Elixir: ANTEPAR elixir is an orange-coloured syrup containing piperazine Hydrate BP and Piperazine Citrate BP in a stable combination.
6. Each 5 ml contains the equivalent of 750 mg Piperazine Hydrate BP.
7. Made in Kenya (3) ***
8. Trade Mark (3) ***
9. UK / 184 / A (2) ***
10. UK / 04843 / A [direction circular]
11. Lot No. EA 36 15 (2) ***
12. Mfd. Date: MNF 02 89 (2) ***
13. Wellcome Kenya Limited, PO Private Bag KABETE, Kenya.
14. Wellcome Wellcome Kenya Limited (3) *** [BOX & BOTTLE]
15. PO PRIVATE BAG, KABETE [BOX]

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Years; kilograms and milligrams; millilitres; teaspoonfuls; days; and degrees C.

b. EQUIVALENCES

1. 5 ml. Elixir = 1 teaspoonful
2. 5 ml. syrup = 750 mg Piperazine Hydrate BP
- 3 one tablet contains Piperazine Phosphate BP which equals 500 mg Piperazine Hydrate BP.

c. FRACTIONS

In two cases, the tablets must be divided in half. Fractions of a teaspoon, when treating children under two, must be administered and the fractions converted to millilitres.

2. CALCULATIONS

1. 10 kg (estimated bodyweight) times 50 mg (minimum dosage for child under 2) = 500 mg
2. Since 5 ml = 1 tsp = 750 mg, make the conclusion that 500 mg is less than a tsp; estimate about $\frac{2}{3}$ tsp.
3. multiply $\frac{2}{3}$ by 7 for the full treatment = 4.6 tsp.
4. 4.6 teaspoons times 5 millilitres = 23 ml total.
5. 30 ml (bottle's contents) is more than 23 ml so one bottle will suffice for a treatment of one child less than two years for enterobiasis.

3. CONVERSIONS

For treatment of enterobiasis (pinworm etc.)

To treat a child under 2 years:

1. convert milligrams to millilitres taking into consideration bodyweight
2. convert millilitres to teaspoons
3. convert teaspoons in decimal measure
4. convert decimal measure to fraction of a teaspoon
5. convert fraction to decimal measure
6. convert decimal measure to millilitres to determine if total amount exceeds the 30 millilitre contents of the bottle

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client has to be able to add, subtract, divide,

multiply and make the types of conversions listed in # 3 above.

2. He/she has also to integrate different parts of the text, that is, the two tables and the information on the contents of the syrup which precedes, but not directly, the first table as well as information on possible retreatment which is contained between the two tables.
3. He/she has to be able to estimate bodyweight.
4. A judgement must be made about how much Elixir to give children under two years.

5. STEPS

For treatment of enterobiasis (pinworm etc.); a child under 2 years:

1. give the child 50-75 mg piperazine hydrate/kg bodyweight
2. read instructions to determine that piperazine refers to the Antepar syrup
3. estimate the weight of the child, for example, 10 kg
4. read the instructions to learn that each 5 ml of Antepar contains the equivalent of 750 mg Piperazine Hydrate BP
5. read the instruction following the chart to learn that one teaspoonful contains 5 ml.
6. decide how much, that is 50-75 mg Antepar to give, for example, 50 mg.
7. $10 \text{ kg} \times 50 \text{ mg} = 500 \text{ mg}$
8. $5 \text{ ml} = 1 \text{ tsp} = 750 \text{ mg}$ (this must be less than a tsp)
9. estimate about $2/3$ tsp. (convert mg to ml and ml to a fraction)
10. multiply the fraction by 7 for the full treatment
11. convert back from tsps to ml and note if total is more than 30 ml, that is, the contents of the bottle
13. when purchasing the medicine, take in consideration the other members of the family which may have the infection
14. consider that the treatment may have to be repeated

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|-----|
| a. Regular intervals | yes |
| b. Same amounts of medication between doses | yes |
| c. Same dosage between age levels | no |
| d. Number of age levels distinguished: | 5 |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

No illustrations are given except for a picture of worms on

the box.

- a. **SUBJECTS**
- b. **REPRESENTATIONS**
- c. **NUMBER OF SEQUENCES**
- d. **TIME ORDER**
- e. **SIMILARITY TO ORDER IN PRINT**
- f. **STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS**
- g. **INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS**
- h. **ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT**

D. CHARTS/TABLES

- 1. The text consists of two tables on the instruction insert.
- 2. On the box and bottle, a list is given.

1. HEADINGS

- A. The tables:
 - 1. The horizontal headings for both tables are identical.
 - 2. The main heading notifies the reader that this is information concerning daily dosage, although the text explains that for the second table, only a single dosage is needed.
 - 3. The other horizontal headings refer to age (years), bodyweight (kilograms) and the respective dosages for the elixir and the tablet form of Antepar.
 - 4. No vertical headings are given. Age and weight categories are listed and the dosages for each specified.
- B. The lists:
 - 1. The lists on the box and bottle are identical.
 - 2. The heading is "Dosage" in large block, bold lettering.
 - 2. Each item on the list explains the dosage for a certain age category (5), from old to young.
 - 3. The lists only contain dosage information for roundworms. (Compare the the dosage information in the second table.) Following the list is the instruction that clients see the table for dosage information concerning "enterobiasis". (This term is not explained on the box or the bottle.)

2. SENTENCE STRUCTURE

1. The tables consist of the worded horizontal headings and numbers, except for one phrase in each: "50-75 mg piperazine hydrate / kg bodyweight" (table one) and "120 mg piperazine hydrate /kg bodyweight" (table two).
2. The lists consist of complete sentences with no beginning and final punctuation, except for the last item referring to children under two years.

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. The tables are separated from the rest of the text by lines and by a space before each table, but not following each table.
2. The lists are NOT separated by space markers or lines. The only separation is the heading.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. The lists follow the chemical components of each ml or teaspoonful of the elixir. They are followed by the instruction to see the "direction circular" for information on enterobiasis, manufacturing information, including the expiry date of the product, and storage information, which is not as specific as that given on the insert.
1. The tables occur on the insert after the following: information on the contents of the tablets and syrup; explanation of the two types of infections, enterobiasis and ascariasis, which Antepar can be used to treat; and the warning that, in the case of enterobiasis, "all household contacts" should be checked and all "positive cases" should be treated concurrently following a 7 day plan.
2. The information between the two tables contains a warning about possible need of retreatment for enterobiasis and the fact that the treatment for Ascariasis is a single dose.
3. Precautions and storage recommendations and manufacturing information conclude the English component of the instructions. (They end half way through the page.)

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. Neither the tables nor the lists have final punctuation. The first and last item on the list begin with capitals; all headings are given in block language except for

clarification information which is included in lower case letters in brackets. Initial words in the tables begin with capital letters.

2. The headings are in bold.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

As explained above.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The client must integrate information from before and after the tables in order to calculate correct dosages.
2. The information included in the second table for roundworms (ascariasis) is repeated in the lists. The dosage information in the lists, headed, "Treatment for roundworms", is given in teaspoons, whereas in the table, headed, "Treatment for Ascariasis", this dosage information is given in millilitres and the client has to calculate the number of teaspoonfuls.

E. INFERENCES

- a. Treatment I (Enterobiuspinworm....)

- 1 all household contacts should be examined

-household contact refers to....?

-they should be examined in order to....?

-the criteria used to examine these contacts are....?

- 2 all positive cases treated concurrently

(An explanation is given: Since Enterobius vermicularis is readily transmitted....)

-only positive cases should be treated

- 3 Antepar should be taken once daily for 7 days

-the dosage information which follows is the treatment for one of the seven days

-clients could decide to purchase tablets rather than using this syrup

- 4 The following dosage information should be followed:

- 5 In the event of infection persisting a further course of Antepar should be given 7 days after completion of the first course

-the symptoms of infection are....
 -give the correct daily dosage for seven more days
 -if the infection still persists, the patient should see a doctor

6 over 12, over 40 kg (take) 15 ml elixir (or)* 4 tablets.

-children over 12 years and 40 kg should take either 15 ml elixir or 4 tablets
 -the child weighs X
 -if the child is underweight for his/her age do the following..?
 -this bottle contains 30 ml so it is -necessary to give a half bottle every day for seven days
 -Or, since one teaspoonful is 5 ml, give the patient 3 teaspoonfuls

(This information is included at the bottom of the second chart for the treatment of roundworms)

7 5-12 years, 17-40 kg (take) 10 ml elixir (or) 3 tablets.

-give the child 2 tsps. or 1/3 of the bottle

8 2-4 years, 13-16 kg (take) 5 ml elixir (or) 1.5* tablets.

-give the child 1 tsp or 1/6 of the bottle or 1.5 tablets each day for 7 days ...so ? tablets

9 under 2, -(take) 50-75 mg piperazine hydrate*/ kg bodyweight

- piperazine hydrate is Antepar elixir
 - 50-75 mg must be translated to ml: each 5 ml elixir contains the equivalent of 750 mg Piperazine Hydrate BP
 -50 mg equals X ml which equals X tsps.

b. Treatment II (Ascariasis)

-Ascariasis refers to roundworms (information in a previous section)
 -the differences between the symptoms for the two types of infections are...?
 -worms are a type of infection

10 a single dose of Antepar should be taken

11 the following dosage schedule should be followed:

12 over 10, over 34 kg (take) 30 ml (or) 8 tablets

- 5 ml. in a tsp. (This dosage is directly given on box and bottle labels.)
- 5 ml equals 750 gm piperazine hydrate or antepar elixir
- read directions on box or bottle
- give the total of 8 tablets although this seems a lot
- the following age and weight groups take either the required ml of syrup or the required numbers of tablets
- if the child is underweight for his/her age, X dosage is needed
- for babies it is necessary to determine weight and then determine mg of Antepar syrup and change to ml and then to tsps.
- ascaris equals roundworms (this information contained under "presentation" on Circular)

13 6-10, 17-20 kg (take) 20 ml (or) 6* tablets

14 5-6 years, 17-20 kg (take) 15 ml (or) 4.5 tablets

15 2-4 years, 13-16 kg (take) 10 ml (or) 3 tablets

(box/bottle) 12b over 10 years take the full contents of the bottle

13b 6-10 yrs give 4 teaspoonfuls

14b 5-6 yrs. give 3 teaspoonfuls

15b 2-4 yrs. give 2 teaspoonfuls

15c For under 2 yrs see Direction Circular

16 If you are currently receiving attention or treatment from you doctor, you should not take any additional medicine without his knowledge or approval.

-this medicine can have X side effects if taken with other medicine

-one dose (7 day treatment plan) should, however, not present a great risk

17 (Whilst extensive clinical experience has not revealed evidence that the use of Antepar in pregnancy is associated with a risk to the foetus, it is nevertheless advised that, unless symptoms warrant immediate treatment,) administration of ANTEPAR should be postponed until after pregnancy.*

-this medication may hurt the unborn baby

-if the sickness is serious, take this medicine despite the small risk...?

18 Keep out of reach of children

-children could harm themselves by eating this medicine with

the result that they would....?

19 Store (tablets) in a cool dry place

-tablets should not be kept past...?

-light has this effect on tablets:

-moisture has this effect on tablets:

20 Protect (tablets) from light

21 Store (elixir) below 25 degrees C and protect from light

F. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | N |
| (Lines are used to set apart the tables.) | |
| 2. two or more sizes of print | Y |
| 3. two or more colours of print | N |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | N |
| 6. spaces between information in main body of text | N |
| 7. two or more background colours | N |
| 8. different colour or size of print to mark warning information | Y |
| 9. boxes or space marker to set off warning information | Y |

(The warnings on the insert are marked by the headings, "Precautions" and "Storage Recommendations" given in bold, block letters and by a sub-heading, "Pregnancy", also given in bold lettering. The warnings on the box and bottle are separated by space markers and are printed in block letters.)

- | | |
|---------------------------|---|
| 10. use of bold lettering | Y |
|---------------------------|---|

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

BOX

1. Three sides have a picture of worms and the product's name, type and volume followed by use and place and company of manufacture.
2. The fourth side: Name & type/ Contents/Dosage/ Manufacturing information including the expiry date/ storage information.

BOTTLE

1. On the left: Contents / Dosage
2. Middle: Dosage / Volume of bottle / Company and Place of Manufacture / Name & Type/ Use
3. On the right: Storage / Manufacturing Information

INSERT

1. Contents/ Use / Dosage / Warnings / Storage / Name and place of Manufacture / Manufacturing Information

2. DEVICES TO CONNECT THESE TOPICS

1. More detailed information is included on the insert than on the box and bottle.
2. Treatment for roundworms, is given on the box and bottle but not the treatment for pinworms, etc.. The box and bottle will probably be the first text the client encounters.
3. On the insert, the dosage for pinworms, etc. is placed first. This provides continuity with the last dosage information on the box and bottle which instructs the client to see the direction circular for dosage information for enterobiasis.
4. The dosage information on the box and bottle and the second table (insert) are NOT well linked; the headings are different: in one case the disease is called, Roundworms, and in the other, Ascariasis. The client has to read the information under the heading, "Indications", to know that these terms refer to the same disease.
5. Warnings and storage and manufacturing information occur in this order at the end of the text.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. Age in the lists and tables is ordered from old to young. This allows a better connection with the additional information needed concerning the youngest age category.
2. Precautions are organized from more general to less general: first a warning is given to patients who may be taking other forms of medication; then pregnant women are warned.
3. The chemical components and in the storage information are given for tablets before those for the elixir, despite the fact that the medicine being sold is a syrup. In the tables, the dosage for the elixir precedes that for the tablets.

4. TIME WORDS

1. and all positive cases treated concurrently
2. Antepar should be taken once daily for 7 days
3. the following dosage schedule should be followed
4. In the event of the infection persisting
5. a further course ..should be given 7 days after completion
6. ...the following dose should be followed
7. if you are currently receiving...
8. immediate treatment
9. administration of Antepar should be postponed
10. until after the pregnancy

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

a. Treatment I (Enterobiuspinworm....)

- 1 all household contacts should be examined
new/new
- 2 all positive cases treated concurrently*
old(implied)/new
- 3 Antepar should be taken once daily for 7 days
new/new
- 4 The following dosage information should be followed:
new/new
- 5 In the event of infection persisting a further course of Antepar should be given 7 days after completion of the first course (chart information follows on the Direction Circular....)
new/old

(*On the box and bottle the client is advised to do the following for the treatment of this type of infection:)

- 6 See full instruction on Direction Circular
new/new

b. Treatment II (Ascariasis)

new/new 7 a single dose of Antepar should be taken

8 the following dosage schedule should be followed:
(chart information follows....)
new/old

(On the box and bottle the client is advised to follow the procedures which follow [9-13].)

new/new 9 over 10 years take the full contents of the bottle

new/new 10 6-10 yrs give 4 teaspoonfuls

new/new 11 5-6 yrs. give 3 teaspoonfuls

new/new 12 2-4 yrs. give 2 teaspoonfuls

13 For under 2 yrs see Direction Circular

new/new

14 If you are currently receiving attention or treatment from you doctor, you should not take any additional medicine without his knowledge or approval.
new/new

15 (Whilst extensive clinical experience has not revealed evidence that the use of Antepar in pregnancy is associated with a risk to the foetus, it is nevertheless advised that, unless symptoms warrant immediate treatment, administration of ANTEPAR should be postponed until after pregnancy.*
new/new

16 Keep out of reach of children
new/new

old/new 17 Store (tablets) in a cool dry place

old(implied)/new 18 Protect (tablets) from light

19 Store (elixir) below 25 degrees C and protect from light
new/new/old

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. The indefinite article, a, is used 6 times. The definite article, the, is used 14 times.
2. The is used after the first table in the warning instruction so that the reader can know that "the infection" in the instruction, "if the infection persists..." is the one referred to in the preceding table.
3. In giving the remedy the client is told that "a further course of Antepar" should be given 7 days after completion of the first course".

b. ELLIPSIS AND SUBSTITUTION

1. is an orange-coloured cough syrup [*] containing
*[that contains]
2. -as with all medicines keep [Antepar] out of reach of children
3. -contains [the] equivalent ***
4. -store [medicine] in a cool, dry place ***
5. -protect [medicine] from light ***
6. -all positive cases [should be] treated concurrently

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

Inclusions:

1. ..and...(3)
2. Since...,all household contacts should be examined...
3. If..., you should not take...
4. Whilst....it is...
5. ... nevertheless advised that....administration of Antepar should be postponed...
6. ...unless symptoms warrant...
7. As with....keep out of reach of...(2)***

Omissions:

1. Antepar is indicated for the treatment of enterobiasis
[that
is] (oxyuriasis Enterobius vermicularis...
2. ...[such as] pinworm,
3. ...seatworm infections) and ascariasis [that is]
(roundworm...
4. ...[or] Ascaris lumbricoides infections).

2. LEXICAL COHESION

a. REPETITION

1. Repetitions of key words: Antepar (12), elixir (8), syrup (1), roundworms (1), Ascariasis (2), enterobiasis (4), pinworms (1), dosage (8), dose (2), infection (3), infections (1), store (4), treatment (9).
2. The layman's terms, syrup, roundworms, and pinworms are not repeated while the more obscure terms are repeated several times.
3. The word, presentation, is used on the insert to head information concerning the chemical components of this medicine and the equivalences between ml and teaspoons, but the word, formulation, is used on the box and bottle.

b. SYNONYMY

1. antepar (5)/ antepar elixir *** (7) (synonymy)
/elixir (8) (synonymy)
/ piperzine hydrate (incorrectly used as a synonym when it is one component of Antepar.
/orange coloured syrup (synonymy) (1)
2. enterobiasis (4)/ oxyuriasis Enterobius vermicularis* (1)
/enterobius vermicularis infection (1) (synonymy)
/ pinworm, threadworm, seatworm infections (hyponymy)*
(1)
/ infection (1) (hyponymy)
3. ascariasis (2)/ roundworm (1) (synonymy)
/ Ascaris lumbricoides infections (synonymy) (1)
4. dosage (8) *** / dose (2) (synonymy)
5. formulation (2) ***/ presentation (1) (synonymy)

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

The text is written in English on the box and bottle and in English and French (side one) and Arabic (side two) on the insert.

B. TOPICS COVERED IN EACH LANGUAGE

C. OTHER COMPARISONS**I. PUNCTUATION****A. CONSISTENCY AND ACCURACY**

1. Sentences are punctuated correctly with beginning and final punctuation on the insert.
2. On the box and bottle two of the five items in the list are correctly punctuated. The others have no punctuation.
3. Colons are used after headings in all except one case on the insert. They are not used after headings on the box and bottle.

C. USE OF CAPITALS, BRACKETS

1. Capitals are used in a conventional way except for those used with the term, piperazine hydrate, which is capitalized in all cases except for in the tables.
2. Brackets are used to give an equivalent of a metric measure on the box and bottle and to enclose clarifying information such as the common names for the two infections, and the values of numerical information, that is, "(years)", "(kg)", and "(ml)".

Camoquin

I. LEXICAL

A. WORD COUNT

1. ENGLISH 209--DIFFERENT WORDS 65

2. KISWAHILI N/A

--DIFFERENT WORDS

CAMOQUIN ENGLISH WORD FREQUENCY

a 5
above 6
adults 2
age 2
amodiaquine 2
as 8
base 1
bp 2
camoquin 3
children 2
contains 1
daily 4
day 3
days 5
dosage 8
dose 5
each 1
equivalent 1
fever 1
first 3
for 5
g 1
half 3
hydrochloride 1
hyphen 2
immune 3
in 2
malaria 3
mg 3
next 3
non-immune 4
on 3
one 1
parke-davis 2
partially 4
r 3
same 3

see 2
 senegal 1
 single 5
 table 2
 tablet 1
 tablets 6
 tat 10
 then 2
 thiaroye 1
 treatment 1
 time 1
 under 2
 years 2
 1 7
 10 2
 101 1
 11 2
 12 4
 14 2
 15 2
 2 6
 200 3
 3 8
 34 2
 4 2
 5 2
 7 2
 8 2

B. VERB TYPES

- | | | |
|----|----------|----------------------|
| 1. | see | imperative *** |
| 2. | contains | simple present (mfg) |

IMPERATIVE: 1
 SIMPLE PRESENT: 1

C. ABSTRACT AND CONCRETE NOUNS

- | | | |
|-----|-------------------|-------|
| 1. | Camoquin (3) | C* |
| 2. | tablets (6) | C *** |
| 3. | time | A |
| 4. | treatment | A |
| 5. | malaria fever | A* |
| 6. | dosage (4) | A *** |
| 7. | malaria fever (1) | C |
| 8. | malaria (2) | C *** |
| 9. | adults (2) | C *** |
| 10. | dose (4) | A *** |
| 11. | table (2) | C *** |
| 12. | days (4) | A *** |

13.	children(2)	C ***	
14.	day (2)	A ***	
15.	age (2)	A ***	
16.	years (2)	A ***	
17.	tablet		C (mfg)
18.	mg		C
19.	Amodiaquine Hydrochloride B. P.		C
20.	g		C
21.	d'Amodiaquine base		C

ABSTRACT/CONCRETE: 21/23

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Each tablet contains Amodiaquine Hydrochloride BP
Equivalent a 0.2 g d'Amodiaquine base ***

B. MINOR SENTENCES:

None

C. BLOCK LANGUAGE:

1. Camoquin 3 (R) 200 mg (2)
2. 3 tablets
3. one time treatment for malaria fever
4. Parke-Davis
5. Parke-Davis Afrique de l'Ouest
6. B.P. 101 - Thiaroye - Senegal
7. DOSAGE IN MALARIA ***
8. ADULTS***
9. -partially immune, 3 tablets as a single dose ***
10. -non-immune, 3 tablets as a single dose daily for 3 days***
11. Children: ***
12. -partially immune, as a single dose ***
13. (see table)***
11. -non-immune: same dosage as above on first day, then half above dosage daily for next 2 days. ***
12. AGE ***
13. (years)***
14. Under 1 ***
15. TABLETS***

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. Camoquin 3 (R) 200 mg (2)

2. PRODUCT USE

1. one time treatment for malaria fever

3. PREPARATION INFORMATION

None

4. DOSAGE INFORMATION

1. 3 tablets
2. DOSAGE IN MALARIA ***
3. ADULTS***
4. -partially immune, 3 tablets as a single dose ***
5. -non-immune, 3 tablets as a single dose daily for 3 days***
6. Children: ***
7. -partially immune, as a single dose (see table)***
8. -non-immune: same dosage as above on first day, then half above dosage daily for next 2 days. ***

[table follows]

9. AGE (years)***
10. Under 1 ***
11. TABLETS*** 1/4
12. 1-2 [years] 1/2
13. 3-4 3/4
14. 5-7 1
15. 8-10 1 1/2
16. 11-15 2

5. ADMINISTRATION

None

6. STORAGE/WARNINGS

None

7. WARNINGS

None

8. MANUFACTURING

1. Each tablet contains Amodiaquine Hydrochloride BP Equivalent a 0.2 g d'Amodiaquine base ***
2. Parke-Davis
3. Parke-Davis Afrique de l'Ouest
4. B.P. 101 - Thiaroye - Senegal

B. NUMERACY**1. MEASURES/EQUIVALENCES/FRACTIONS****a. MEASURES**

Tablets, years, days

b. EQUIVALENCES

None

c. FRACTIONS

1. The dosage requires the client to divide the tablets into very small pieces, for example, halves and quarters.
2. One treatment requires the client to calculate one half of a half, of three quarters, and of one and one half.

2. CALCULATIONS

1. Adults who are partially-immune must take 3 tablets daily for 3 days: 3 times 3 (or do by addition) = 9 tablets total.
2. Children either take a one dose treatment, or they take half of this dose for one day then the full dose for 2 more days: for example, a child of 3-4 should take $\frac{1}{2}$ of $\frac{3}{4}$ the first day and then $\frac{3}{4} + \frac{3}{4} =$ about 2 tablets.
3. Since a packet has 3 tablets, one packet will do.

3. CONVERSIONS

None

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client must be able to divide and add fractions.
2. The client must be able to deal with tiny pieces of tablets which may splinter in the cutting.
3. The client must be able to integrate information between the points and between these points and the table.

5. STEPS

1. To give the tablets to a child under 2 who is non-immune
2. on the first day give $\frac{1}{4}$ of a tablet
3. on the second day give $\frac{1}{8}$
4. on the third day give $\frac{1}{8}$
5. (total of $\frac{1}{4} + \frac{1}{8} + \frac{1}{8} = \frac{1}{2}$ tablets)

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|---|
| a. Regular intervals | Y |
| b. Same amounts of medication between doses | N |
| c. Same dosage between age levels | N |
| d. Number of age levels distinguished: | 7 |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

None

D. CHARTS/TABLES

1. HEADINGS

1. One table is used. *** (It is repeated.)
2. The horizontal headings are AGE (years) (annees), Under 1 Moins 1, and then numbers representing the 5 other age categories.
3. There is one vertical heading: TABLETS/ COMPRIMES.

UNLIKE THE OTHER THREE MEDICINES FOR MALARIA, THE TABLES DO NOT REPEAT THE DOSAGE TO BE GIVEN EACH DAY.

2. SENTENCE STRUCTURE

1. No sentences are used in the table and only four words in English and 3 in French.

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. The chart is separated from the text by a space before and after. It is also enclosed in a box.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. The table occurs after the name, usage, and some manufacturing information on side one. The table is placed after the French and English versions of the dosage information on side two. It is followed by the chemical components of the product.
2. This first half of side two is repeated except for the chemical components.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. The figures in the chart are small.
2. The two headings on the left are printed in block letters. Only the first heading is translated into English.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

Only one table is used.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The dosages for children require integrating the information from the table and the two treatments, that is, for partially-immune and non-immune which immediately precede the table.
2. In the first instruction, the reader is told to, "(see table)".
3. In the second instruction, the reader is told to refer to the previous point, "same dosage as above...". He/she must also refer to the chart since the dosage depends on age.

E. INFERENCES

1. one time treatment

- this medicine is to cure malaria not to prevent it
- it must be used differently if used as a preventative...?
- this medicine must also be used differently depending on whether patients have been using malaria medicine before...?
- if they have, they are "partially-immune"...?
- if they have not, they are "non-immune"...?
- overdose can have serious side-effects...?
- read ALL the following information to determine the correct dosage
- consider the patient's age, previous use of malaria tablets in order to determine how many tablets to take and for how many days to take them

2. adults (partially immune) 3 tablets as a single dose

- all those over 15 years of age

3. adults (non-immune) 3 tablets as a single daily dose for 3 days

4. Children (partially immune) a single dose

5. See table

6.
 - a. Under 1 year [take] 1/4 (tablets)
 - b. 1-2 [take] 1/2 (tablets)
 - c. 3-4 [take] 3/4
 - d. 5-7 [take] 1
 - e. 8-10 [take] 1 1/2
 - f. 11-15 [take] 2

- store the opened tablets in a dry place because moisture can destroy the effectiveness of the tablets...?

-do not store opened tablets for more than....X days.

7. children (non-immune) same dosage as above on the first day

8. and half above dosage for the next two days

-if symptoms persist after X days, see a doctor

-store unopened tablets in a dark, cool place to maintain strength of tablets

-keep out of reach of children; if children eat these tablets, they may die...?

NO TREATMENT IS GIVEN FOR THE PREVENTION OF MALARIA. UNLIKE THE OTHER MALARIA MEDICINES, TWO TYPES OF PATIENTS ARE SPECIFIED: PARTIALLY IMMUNE AND NON-IMMUNE. THESE TERMS ARE NOT EXPLAINED.

F. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | Y |
| 2. two or more sizes of print | Y |
| (The print is very small and on the shiny background material it is very difficult to read.) | |
| 3. two or more colours of print | N |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | N |
| 6. spaces between information in main body of text | N |
| 7. two or more background colours | N |
| 8. different colour or size of print to mark warning information | N |
| 9. boxes or space marker to set off warning information | N |
| 10. use of bold lettering | Y |

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Name & Amount (in number of tablets and milligrams)/ use / Company and place of manufacture/ Side One
2. Name & Amount in mg / dosage / chemical components of product ***

2. DEVICES TO CONNECT THESE TOPICS

1. On side one the name and amount of the product are on a dark background and the use and manufacturing information are on a light background.

2. Different print is used for name and amount, use and manufacturing information.
3. This information is linked with the dosage information by the product's name which heads the second side of the text.
4. As this product is produced in Senegal, the text begins in French.
5. It is not clear why the manufacturing information is divided into two parts.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The instructions for dosage are given in bulleted point form.
2. The adult dosage precedes the dosage for children which is suitable as the table, which follows the children's dosage only refers to the latter.
3. Treatments for partially-immune are given before non-immune. The means that single dose treatments precede treatments which require several administrations (3).

4. TIME WORDS

1. one time treatment...***
2. ...daily for 3 days***
3. ...on first day....***
4. ...a single dose daily... ***
5. 2 days...***
6. years***

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The given information must be inferred from the headings which precede each section.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. No articles or demonstratives are used; the information is given in block language.
2. The second instruction for children refers to a preceding instruction twice by the means of the phrases, "as above" and "half above dosage".

b. ELLIPSIS AND SUBSTITUTION

1. [Camoquin is a] one time treatment...
2. Adults [take the following]:
3. [Those who are] partially-immune, [take] 3 tablets...
4. [Those who are] non-immune, [take] 3 tablets....
5. Children [take the following]:
6. [Those who are] partially-immune [take] as a single dose [the dosages presented for which you should] (see table)
7. [Those who are] non-immune [take] same dosage as above on [the] first day, [and] then half [the] above dosage daily for

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

- 1 [Those who are] non-immune [take] same dosage as above on [the] first day, [and] then half [the] above dosage daily for

2. LEXICAL COHESION

a. REPETITION

1. The key terms, "partially immune" (2), "non-immune" (2), "tablets"(2), "dosage" (1), "dose"(3), "days" (2), and "day" (1) are repeated. ***
2. The term "tablets" is not repeated in the children's dosage; the client has to infer the term.

b. SYNONYMY

1. dosage/dose

c. COLLOCATION

1. partially immune/ non-immune
2. daily / for next ...days

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

The text is in English and French.

FRENCH IS NOT A LANGUAGE SPOKEN IN KENYA. THE MAIN BODY OF THE TEXT IS WRITTEN FIRST IN FRENCH AND NO MARKERS SEPARATE THE FRENCH AND ENGLISH SECTIONS.

B. TOPICS COVERED IN EACH LANGUAGE

1. Both languages are used for all the information

C. OTHER COMPARISONS**VI. PUNCTUATION****A. CONSISTENCY AND ACCURACY**

1. No final punctuation is used.
2. Colons are used three times to set off a heading from the information which follows but this use is not consistent. Three headings use commas.

C. USE OF CAPITALS, BRACKETS

1. The points do not begin with capital letters.
2. One bracket is used to set off the instruction to, "see [the] table".
Another bracket is used to set off the French translation of one English heading in the table.

Cosmisol 40

I. LEXICAL

A. WORD COUNT

1. ENGLISH 87--DIFFERENT WORDS 622. KISWAHILI N/A

--DIFFERENT WORDS

COSMISOL ENGLISH WORD FREQUENCY

a 1
adults 1
and 2
anthelmintic 2
batch 1
babies 1
before 1
box 1
bp 3
by 1
children 1
contains 1
cosmisol 2
cosmos 3
date 1
dose 1
dosage 1
each 1
expels 1
equivalent 1
feb 2
hcl 2
hydrochloride 1
hookworms 1
kenya 1
levanmiso 4
limited 1
manufactured 1
mfg 1
mg 1
nol 1
nairobi 1
over 1
po 1
pinworms 1
r 3
regd 1

roundworms 1
 single 1
 tablet 2
 tablets 4
 tat 2
 threadworms 1
 tm 1
 to 1
 treatment 1
 use 1
 whipworms 1
 years 2
 yrs 1
 1 2
 12 1
 13 1
 2 1
 3 1
 4 3
 40 3
 41433 1
 5 1
 90 1
 90134 1
 93 1

B. VERB TYPES

1. expels (2)	Simple Present ***
2. [is] manufactured	Non-finite past participle
3. contains	Simple Present (mfg)

SIMPLE PRESENT: 3

PASSIVE: 0

NON-FINITE: 1

ACTIVE/PASSIVE: 3/1

C. ABSTRACT AND CONCRETE NOUNS

1. babies	C
2. years	A
3. children	C
4. Cosmisol 40	C ***
5. tablets (2)	C
6. hookworms	C ***
7. whipworms	C ***
8. threadorms	C ***
9. pinworms	C ***
10. roundworms	C ***
11. dose	A
12. treatment	A

13.	Levamisole HCL, B.P.	C *** (mfg)
14.	Anthelmintic	A ***
15.	Levamisole Hydrochloride	B.P. C
16.	tablet	C
17.	Levamisole 40 mg.	C
18.	Batch	A
19.	No.	A
20.	Mfg.	A
21.	Date	A
22.	Feb.(2)	A
23.	Regd. T. M.	A
24.	Cosmos Limited	A
25.	P.O. Bag 41433	A
25.	Nairobi, Kenya	C

ABSTRACT/ CONCRETE: 13/15

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Each tablet contains: Levamisole Hydrochloride BP equivalent to Levamisole 40 mg.

B. MINOR SENTENCES:

1. Expels Hookworms, Whipworms, Threadworms, Pinworms and Roundworms.
2. Manufactured by Cosmos Limited PO Box 41433, Nairobi, Kenya

C. BLOCK LANGUAGE:

1. COSMISOL 40 R (2) ***
2. 4 TABLETS (2) ***
3. LEVANMISOLE HCL B.P. (2) ***
4. Anthelmintic (2) ***
5. COSMOS (2) ***
6. A single dose treatment
7. DOSAGE:
8. BABIES:
9. (1 - 4 Years)
10. 1 tablet
11. CHILDREN
12. (5 - 12 Years)
13. 2 tablets
14. ADULTS:
15. (13 Yrs. and over)
16. 3 Tablets
17. Batch No.: 90134
18. Mfg. Date: Feb. 90
19. Use before: Feb. 93

20. R Regd. T.M.

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. COSMISOL 40 R (2) ***
2. Anthelmintic (2) ***

2. PRODUCT USE

1. Expels Hookworms, Whipworms, Threadworms, Pinworms and Roundworms.

3. PREPARATION INFORMATION

None.

4. DOSAGE INFORMATION

1. 4 TABLETS (2) ***
2. A single dose treatment
3. DOSAGE:
4. BABIES:
5. (1 - 4 Years)
6. 1 tablet
7. CHILDREN
8. (5 - 12 Years)
9. 2 tablets
10. ADULTS:
11. (13 Yrs. and over)
12. 3 Tablets

5. ADMINISTRATION

None.

6. STORAGE/WARNINGS

None.

7. WARNINGS

1. Use before: Feb. 93

8. MANUFACTURING

1. Each tablet contains: Levanmisole Hydrochloride BP equivalent to Levanmisole 40 mg.
2. Manufactured by Cosmos Limited PO Box 41433, Nairobi, Kenya
3. LEVANMISOLE HCL B.P. (2) ***
4. Batch No.: 90134

5. Mfg. Date: Feb. 90

6. R Regd. T.M.

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Years, tablets

b. EQUIVALENCES

1. 1 tablet of Levamisole HCl. B.P. = Levamisole 40
(information not necessary to effective use of the medicine)

2. 1 tablet = *
2 tablets = **
3 tablets = ***

c. FRACTIONS

None.

2. CALCULATIONS

None.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client must simply select the dosage for the desired age and then administer the prescribed tablets.

5. STEPS

1. One step: if only one person treated.

(? the packet contains X tablets)

6. UNIFORMITY OF THE APPLICATION PROCEDURE

a. Regular intervals	Y
b. Same amounts of medication between doses	Y
c. Same dosage between age levels	N
d. Number of age levels distinguished:	3

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

a. SUBJECTS

Dosage.

b. REPRESENTATIONS

1. Shadow figures of a "baby", "child" and "adult" and sketches of "tablets".
2. The front of the packet has sketches of worms and tablets, which may, or may not, be possible to recognize without knowing what the name of the product stands for.

c. NUMBER OF SEQUENCES

The text has three sequences representing the three age groups and the corresponding number of tablets to be taken for each.

d. TIME ORDER

The picture sequences are not in time order as each represents a distinct dosage for which only one administration is necessary. No preparation is necessary.

e. SIMILARITY TO ORDER IN PRINT

"Order" is not relevant.

f. STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS

1. The dosage information in print and graphics is one to one except for the information in print about the number of tablets in the packet.
2. The print also has explains the date of expiry, the use of the product, the number of tablets contained in the packet and manufacturing information.

g. INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS

1. The client must infer the age limits of the three human figures.
2. He/she must infer that this is meant to be " a single dosage treatment"...
3. ...and that this dose will expel all types of worms.
4. The client must infer that at some point this medicine will be old and should no longer be used.
5. The client must infer all other information about the best time to administer the tablets, the possibility of more than one person in the household having worms at one time, the procedure if the worms are NOT expelled, possible side-effects, and the best place to store unopened packets.

h. ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT

1. Numbers one to four above (part "g") are explained in the print.

HUMAN FIGURES AND THE FILLED- IN CIRCLES REPRESENTING THE TABLETS ARE FAMILIAR SHAPES.

D. CHARTS/TABLES

There are no charts or tables. The only instructions given are given as captions for the illustrations.

1. HEADINGS
2. SENTENCE STRUCTURE
3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT
4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE
5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING
6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION
7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

E. INFERENCES

1. Cosmisol 40 / Expels hookworms, whipworms, threadworms, pinworms and roundworms

- use these tablets if you have worms
- possible symptoms of worms are x...
- worms are very easily spread by ...x...
- to people living in the same home, so check to see if more than one person has worms
- treat everyone who has worms at the same time

2. A single dose treatment

- to give the correct number of tablets for babies, children and adults see the following chart
- one treatment should expel all the worms

3. Dosage:

- 3a. Babies:/ (1-4 years)/ 1 tablet
- 3b. Children:/(5-12 Years)/ 2 tablets
- 3c. Adults:/ (13 and over) / 3 tablets

- give the tablets at night/with food...?

- take babies under 1 year to a doctor
- it is dangerous to treat small babies with these tablets
- possible side-effects might be X....
- possible side-effects of taking tablets for all age groups may be constipation ...?
- in case of constipation, do X....
- if symptoms persist, do X....
- the family may need retreatment after some time; check for symptoms in X days...?

4. Use before Feb. 93 (this information is not in main body of text)

- these tablets lose their power if they are kept too long...?
- light and heat also cause these tablets to lose their power...?
- store in a dark, cool place
- store in a dry place

F. GRAPHIC MARKERS

- | | | |
|----|--------------------------------|---|
| 1. | boxes | Y |
| 2. | two or more sizes of print | Y |
| 3. | two or more colours of print | Y |
| 4. | lower and upper case lettering | Y |

(Upper case lettering is used for information within the balloon capsule, except for the product type, and for headings.)

- | | | |
|----|---|---|
| 5. | "balloon capsules" | Y |
| 6. | spaces between information in main body of text | Y |

(Each main topic is set off by a space marker.)

- | | | |
|-----|---|---|
| 7. | two or more background colours | Y |
| 8. | different colour or size of print to mark warning information | N |
| 9. | boxes or space marker to set off warning information | N |
| 10. | use of bold lettering | Y |

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

- | | |
|----|--|
| 1. | Side one: name, type, number of tablets and usage information |
| 2. | Side two: chemical components, illustrations (dosage) and then manufacturing information, including the expiry date. |

2. DEVICES TO CONNECT THESE TOPICS

1. The graphics on side one are included in a circle from which proceeds a balloon capsule indicating the product's name, type, main chemical component and the number of tablets.
2. Colour (red, green, and black) is used to highlight different items in the text but it is not clear which criterion are used to determine colour choices. Red is used, for example, for the tablets, the number of tablets and the heading, "Dosage". Green is used for the product's name, the human figures and the lines separating the chemical components from the rest of the text.
3. The information concerning the chemical components is given a prominent position. It precedes the dosage information. The chemical composition of the product is included in an introductory balloon capsule on the first side.
4. The graphic information is introduced by a heading, "Dosage".
5. The graphic information is separated from the text by a space, a heading, and by boxes around each illustration.
6. Lines separate information concerning the chemical components of the product from the rest of the text.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. Each illustration had a sub-heading: "babies", "children" and "adults". All sub-headings are in bold letters and the main heading is also in bold lettering.
2. Age limits are included in brackets on a separate line of text under the sub-headings. The number of tablets for the three dosages follow.
3. The illustrations proceed from young to old across the page.
4. The expiry date is the last item on the label.

IT IS NOT CLEAR WHY THE PACKET CONTAINS FOUR TABLETS WHEN THE MAXIMUM DOSE IS FOR THREE TABLETS.

4. TIME WORDS

1. years (2),
2. yrs.
3. before (manufacturing information)

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The usage information gives only new information, as does

- the phrase, "a one dose treatment".
2. The second side is introduced by given information, the "tablet", but the important given information concerning the name and use of the product are withheld.
 3. Each of the three captions for the illustrations are introduced by given information in the heading, "Dosage".

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. "Each tablet", referring to the word, "tablets", on the cover.

b. ELLIPSIS AND SUBSTITUTION

1. [Cosmisol 40] Expels Hookworms....

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

1. [Cosmisol 40 is] a single dose treatment [for worms].
2. Each tablet contains: Levamisole Hydrochloride B.P. [which is] equivalent to Levamisole 40 mg.
3. BABIES: [who are] (1-4 Years) [take] 1 tablet.
4. CHILDREN: [who are] (5-12 Years) [take] 2 tablets.
5. ADULTS: [who are] (13 Yrs. and over) [take] 3 Tablets.

2. LEXICAL COHESION

a. REPETITION

1. The words "tablets" and "Years" or "Yrs." are repeated in each illustration, the chemical composition information on side two, and on the cover of the product.
2. The name of the product and the product's usage are NOT repeated on the second side.
3. The chemical component, Levamisole HCL. B.P., is repeated on the cover and on side two. On side two the non-abbreviated form, Levamisole Hydrochloride B.P., is used.

b. SYNONYMY

1. dose treatment(1) / dosage (1)

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English only.

B. TOPICS COVERED IN EACH LANGUAGE**C. OTHER COMPARISONS****VI. PUNCTUATION****A. CONSISTENCY AND ACCURACY**

1. No final punctuation used except for with the one minor sentence. Colons, and punctuation marking abbreviations are used correctly, except for, "Each tablet contains: Levamisole... equivalent to...", where the colon is not necessary.

C. USE OF CAPITALS, BRACKETS

1. Capitals introduce the one complete sentence and the one minor sentence.
2. Capitals are also used to mark the word "Years/Yrs." in the illustrations for no apparent reason.
3. The word "Tablets" has a capital in one illustration but not in the other two illustrations.
4. Brackets are used consistently to set apart the age categories.

Dawaquin

I. LEXICAL

A. WORD COUNT

1. ENGLISH 24--DIFFERENT WORDS 212. KISWAHILI 55--DIFFERENT WORDS 27Total Words: 79Kiswahili has 31 more words than English.

DAWAQUIN JUNIOR ENGLISH WORD FREQUENCY

and 1
 be 1
 chloroquine 1
 cure 1
 contains 1
 dawaquin 2
 each 1
 for 1
 in 1
 junior 2
 kenya 1
 ltd 1
 mg 1
 manufactured 1
 malaria 1
 nairobi 1
 of 1
 prevention 1
 pharmaceuticals 1
 tablet 1
 125 1

DAWAQUIN JUNIOR KISWAHILI WORD FREQUENCY

baada 2
 dawa 2
 hadi 2
 kila 1
 kuanzia 1
 kuzuia 1
 kuponyesha 1
 masaa 1
 meza 1
 miaka 2

mwaka 1
 na 2
 pili 1
 saba 1
 sita 1
 siku 2
 tatu 1
 tembe 11
 watoto 1
 ya 3
 zaidi 1
 1 3
 2 4
 3 3
 4 3
 6 1
 8 2

B. VERB TYPES

English:

1. contains simple present (mfg)

Kiswahili:

1. Kuponyesha (to cure)	infinitive
2. Kuzuia (to prevent)	infinitive
3. Kuanzia (to start)	infinitive

INFINITIVE: 3

SIMPLE PRESENT: 1

ACTIVE/PASSIVE: 1/3

C. ABSTRACT AND CONCRETE NOUNS

English:

1. Dawaquin Junior (2)	C ***
2. prevention	A
3. cure	A
4. malaria	C*
5. tablet	C (mfg)
6. Kenya	C (mfg)
7. Dawa Pharmaceuticals Ltd.	A*
8. Nairobi	C

ABSTRACT/CONCRETE: 3/5

Kiswahili:

1.	watoto (children)	A
2.	masaa (hours)	A*
3.	siku (day) (2)	A
4.	meza (measurement)	A
5.	mwaka (year)	A
6.	miaka (years) (2)	A
7.	tembe (tablet(s)) (12)	C

ABSTRACT/CONCRETE: 6/1

TOTAL ABSTRACT/CONCRETE: 9/6

II. SYNTACTIC CATEGORIES**A. MAJOR SENTENCES:**

1. Each tablet contains 125 mg Chloroquine Phosphate

B. MINOR SENTENCES:

1. For prevention and cure of malaria
2. Manufactured in Kenya by DAWA Pharmaceuticals Ltd.,
NAIROBI

C. BLOCK LANGUAGE:

1. Dawaquin Junior (2)***
2. KUPONYESHA
3. KUZUIA
4. WATOTO
5. KUENZIA
6. BAADA YA MASAA SITA
7. SIKU YA PILI NA YA TATU
8. MEZA BAADA NA KILA SIKU SABA
9. MWAKA 1 HADI 4
10. Tembe (12)
11. MIAKA 4 HADI 8
12. MIAKA 8 NA ZAIDI
13. DAWA

III. SEMANTIC CATEGORIES**A. TOPICS****1. NAME AND (TYPE)**

1. Dawaquin Junior (2)***

2. PRODUCT USE

1. For prevention and cure of malaria

3. PREPARATION INFORMATION
- None
4. DOSAGE INFORMATION
1. WATOTO /
2. KUPONYESHA / KUZUIA
3. MIAKA 1 HADI 4
4. KUENZIA TEMBE 2
5. BAADA YA MASAA SITA TEMBE 1
6. SIKU YA PILI NA YA TATU TEMBE 1
- / 7. MEZA BAADA NA KILA SIKU SABA TEMBE 1
8. MIAKA 4 HADI 8
9. ... TEMBE 4
10. ... TEMBE 2
11. ... TEMBE 2
- / 12. ... TEMBE 2
13. MWAKA 8 NA ZAIDI
14. ... TEMBE 6
15. ... TEMBE 3
16. ... TEMBE 3
- / 17. ... TEMBE 3
5. ADMINISTRATION
- None
6. STORAGE/WARNINGS
- None
7. WARNINGS
- None
8. MANUFACTURING
1. Each tablet contains 125 mg Chloroquine Phosphate
2. Manufactured in Kenya by DAWA Pharmaceuticals Ltd., NAIROBI
- B. NUMERACY
1. MEASURES/EQUIVALENCES/FRACTIONS
- a. MEASURES
- Tablets, years
- b. EQUIVALENCES
- None
- c. FRACTIONS

None

2. CALCULATIONS

1. For purchase: add the total tablets for a treatment, for example, for cure of malaria for children 8 and over, add $6 + 3 + 3 = \underline{12}$ tablets.
2. Since there are 2 tablets per packet-- 12 divided by 2 = 6 packets needed for one treatment.
3. For prevention of malaria, to buy tablets to last a month, add (or multiply) the tablets per week for an age group, for example those 8 and over, 3 times 4 = 12 tablets.
4. Divide the number of tablets per packet into the 12 = 6 packets needed per month.

3. CONVERSIONS

None

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client has to read the chart correctly so that he/she notes that the last column is for a different treatment.
2. He/she has to be able to set up the problem: total number of tablets divided by tablets per packet to equal the total needed for one treatment or for a particular length of time.

5. STEPS

1. (for purchasing correct amount for cure)
for a child of 1-4 years
2. to start with give 2 tablets
3. after 6 hours give 1 tablet
4. the second day give 1 tablet
5. the third day give 1 tablet
6. the total needed is $2 + 1 + 1 + 1 = 5$ tablets
7. two tablets in a package so 1 packet (2) + another (2) = 4 tablets so must purchase 2 packets

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | | |
|----|--|---|
| a. | Regular intervals | N |
| b. | Same amounts of medication between doses | N |
| c. | Same dosage between age levels | N |
| d. | Number of age levels distinguished: | 3 |

C. GRAPHIC CATEGORIES**1. ILLUSTRATIONS**

None

D. CHARTS/TABLES

1. HEADINGS

1. There is one table which is meant for the two treatment types: cure and prevention.
2. The main horizontal headings are: Kuponyesha and Kuzuia
2. The sub-headings across the table are: Watoto, Kuanzia, Baada ya Masaa Sita, Siku ya pili na ya tatu, Meza baada ya kila siku saba.
3. Watoto heads the 3 vertical age categories, the last of which is Miaka 8 na zaidi. The client must infer that there is an age limit to the "and over" phrase limited by the heading, "children", after which the client should take the product DAWAQUIN which is for adults.
4. The heading, "amount each seventh day", at first glance, appears to be the fourth administration of the treatment for cure but the client has to note that a vertical line and the heading above mark this as the treatment for prevention of malaria.
5. The age categories begin at one; no mention is given to babies.
6. The text uses the word, hadi, instead of a hyphen to mark age ranges.

2. SENTENCE STRUCTURE

1. No sentences are used in the tables.
2. The two main headings are infinitive verbs.
3. The second sub-heading (horizontal) is also an infinitive verb.
4. The other headings are noun phrases (6) or adverb phrases (1)

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. The chart is in a box with space markers before and after the box.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. The table is the first item on the second side of the packet, following name and usage information on the front of the packet, and preceded by manufacturing information.
2. It is 75 % of the second side of the packet.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. The headings are all in block letters.
2. No punctuation is used.

3. The text is legible, although some of the numbers are slightly unclear because the light pink ink is not clear.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

1. One table has no intervening information.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

2. All procedures are given in the one table; the client has to supply all administration, storage, and warning information.

E. INFERENCES

1. kuponyesha (to cure)/watoto (children)/

1a mwaka 1 hadi 4 (1-4 yrs)/
kuanzia (to start)/ tembe 2 (2 tablets)

1b. baada ya masaa sita (after 6 hrs.)/tembe 1

1c. siku ya pili na ya tatu (the second and third day)/tembe 1

-take with food since child may experience nausea?

-see your doctor if symptoms persist after X days

2. kuzia (to prevent) / watoto

2a mwaka 1 hadi 4

-meza baada na kila siku saba (measurement every 7 days)

-tembe 1

-despite this treatment someone may get malaria

-if someone does, treat them with X...

-if symptoms persist after X days, see a doctor...?

-see your doctor if you are taking this medicine over an extended period of time

-do not overdose

2b mwaka 4 hadi 8

-tembe 4/ tembe 2/ tembe 2 (to cure)

-tembe 2 (to prevent)

2c mwaka 8 na zaidi

-tembe 5/ tembe 3/ tembe 3 (to cure)

-tembe 3 (to prevent)

-from X years and upward use tablets for adults

- store medicine out of reach of children because....?
- light and heat and moisture can destroy effectiveness of the tablets
- store in a dark, cool, dry place...?
- after X time the tablets are no longer effective
- possible side-effects are X...?
- do not give babies under one year these tablets
- take babies to a doctor

F. GRAPHIC MARKERS

- | | | |
|-----|---|---|
| 1. | boxes | Y |
| 2. | two or more sizes of print | Y |
| 3. | two or more colours of print | Y |
| 4. | lower and upper case lettering | Y |
| 5. | "balloon capsules" | N |
| 6. | spaces between information in main body of text | Y |
| 7. | two or more background colours | N |
| 8. | different colour/size of print to mark warning information N/A | |
| 9. | boxes or space marker to set off warning information (No warning information is given.) | N |
| 10. | use of bold lettering | N |

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side One: Name & Use
2. Side Two: Dosage/ Manufacturing information

2. DEVICES TO CONNECT THESE TOPICS

1. The name and use are on side one and they set the context.
2. The dosage information which follows does NOT refer to either the name or the use of the product on side two.
3. Manufacturing information, which may be the least essential to the consumer, is located in the final position on side two.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The ages are sequenced from youngest to oldest.
2. The longer treatment plan, and possibly the more usual use, cure versus prevention, is given first.

4. TIME WORDS

1. Baada ya masaa sita
2. siku ya pili na ya tatu
3. baada ya kila siku saba

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The words miaka and tembe are repeated, thereby increasing the amount of explicit given information.
2. The given information (the headings) must be inferred in the process of determining dosage information.
3. The main headings, "to cure" and "to prevent", are new information. The old information, "malaria", must be implied.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. No reference words are used.

b. ELLIPSIS AND SUBSTITUTION

1. Kuponyesha [malaria]
2. Kuzuia [malaria]
3. Watoto [take]....
4. Siku ya pili na [siku] ya tatu

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

1. siku ya pili na ya tatu

2. LEXICAL COHESION

a. REPETITION

1. The "key words" in the table, tembe (12), miaka (3) are repeated.
2. The terms, "malaria", and "Dawaquin Junior" are not repeated on the second side of the packet.

b. SYNONYMY

No synonyms are used.

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED**A. LANGUAGES USED**

English and Kiswahili.

B. TOPICS COVERED IN EACH LANGUAGE

English is used for manufacturing information and Kiswahili for name, use, and dosage information.

C. OTHER COMPARISONS**VI. PUNCTUATION****A. CONSISTENCY AND ACCURACY**

1. No final punctuation is used.

C. USE OF CAPITALS, BRACKETS

1. Most of the information in the table is in block letters; the word, Tembe, is the only word in lower case lettering and it begins with a capital letter.
2. The two sentences for the manufacturing information and the minor sentence explaining the product's use all begin with a capital letter.
3. No brackets are used.

Dioralyte

I. LEXICAL

A. WORD COUNT

1. ENGLISH 240--DIFFERENT WORDS 922. KISWAHILI N/A

--DIFFERENT WORDS

DIORALYTE ENGLISH WORD FREQUENCY

a 2
across 2
after 4
and 4
any 2
aromour 2
be 6
bicarbonate 2
boiled 4
bp 10
but 2
children 2
chloride 6
company 2
compound 2
contents 2
cooled 2
cut 2
dextrose 4
dioralyte 2
discarded 2
dissolve 2
eastbourne 2
eire 2
fl 2
for 2
freshly 2
g 8
hor 2
hours 2
if 2
immediately 2
in 4
keep 2
lic 2
limited 2
make 2

mark 2
may 2
ml 4
monohydrate 2
must 2
nol 2
not 2
of 4
one 2
or 2
oral 2
out 2
oz 2
p 4
pa 2
pharmaceutical 2
pl 2
potassium 2
powder 2
prt0043 2
r 4
reach 2
reconstituted 2
reconstitution 2
refrigerator 2
regd 2
should 2
sodium 6
solution 4
solutions 2
stored 2
sufficient 2
sussex 2
ta 2
tear 2
the 2
to 6
trade 2
unused 2
up 4
used 2
water 2
01 2
0142 2
0321 2
1 2
10 2
15 2
2 2
200 2
24 2
3 4

5010101 2

7 2

8 2

B. VERB TYPES

1.	should be discarded	passive; modal ***
2.	Dissolve	imp ***
3.	Keep	imp ***
4.	to make up	non-finite ***
5.	may be used	passive; modal ***
6.	[if they are] stored participle) ***	non-finite (past
7.	must not be boiled ***	passive; modal; negative

PASSIVE (MODAL & NEGATIVE MODAL): 2 & 1

IMPERATIVE: 2

NON-FINITE: 1

ACTIVE/PASSIVE: 4/2

C. ABSTRACT AND CONCRETE NOUNS

1.	Dioralyte Compound Sodium Chloride	C
2.	Dextrose Oral Powder	C
3.	contents	C
4.	water	C
5.	ml	C
6.	oz	C
7.	solution (2)	C
8.	hour	A
9.	solutions	A*
10.	hours	A
11.	refrigerator	C
12.	reconstitution	A
13.	children	A
14.	reach	A
15.	Sodium Chloride B.P. 0.2 g	C (mfg)
16.	Sodium Bicarbonate B.P. 0.3 g	C
17.	Potassium Chloride B.P. 0.3 g	C
18.	Dextrose Monohydrate B.P. 8 g	C
19.	Armour Pharmaceutical Company Limited	C
20.	Eastbourne	C
21.	Sussex	C*
22.	Regd Trade Mark	A
23.	Eire Lic No	A

ABSTRACT/CONCRETE: 8/16

II. SYNTACTIC**A. MAJOR SENTENCES:**

1. Dissolve contents in sufficient freshly boiled and cooled water to make up to 200 ml (7 fl oz).
2. Any solution [that is] unused after one hour should be discarded.
3. Solutions may be used for up to 24 hours if stored in a refrigerator immediately after reconstitution but the reconstituted solution must not be boiled.
4. Keep out of reach of children.
5. TEAR OR CUT ACROSS.

B. MINOR SENTENCES:

None.

C. BLOCK LANGUAGE:

1. DIORALYTE
2. Compound Sodium Chloride and Dextrose Oral Powder B.P.
3. Sodium Chloride B.P. 0.2 g
4. Sodium Bicarbonate B.P. 0.3 g
5. Potassium Chloride B.P. 0.3 g
6. Dextrose Monohydrate B.P. 8 g
7. ARMOUR PHARMACEUTICAL COMPANY LIMITED
8. EASTBOURNE SUSSEX
9. R Regd. Trade Mark
10. A
11. PL 0321/ 0043
12. ML 0142/ 01
13. Eire Lic Nol PA 10/ 15/ 1
14. 5010101

THE BLOCK LANGUAGE CONVEYS NO PROCEDURES.
IT MAKES UP ABOUT HALF OF THE TOTAL TEXT.

III. SEMANTIC CATEGORIES**A. TOPICS****1. NAME AND (TYPE)**

1. Dioralyte
2. Compound Sodium Chloride and Dextrose Oral Powder B.P.

2. PRODUCT USE

None.

3. PREPARATION INFORMATION

1. Dissolve contents in sufficient freshly boiled and cooled water to make up to 200 ml 7 fl oz.
2. Tear or cut across.

4. DOSAGE INFORMATION

None.

5. ADMINISTRATION

None.

6. STORAGE/WARNINGS

1. Any solution unused after one hour should be discarded.
2. Solutions may be used for up to 24 hours if stored in a refrigerator immediately after reconstitution but the reconstituted solution must not be boiled.
3. Keep out of reach of children.

7. WARNINGS

None.

8. MANUFACTURING

1. Sodium Chloride B.P. 0.2 g
2. Sodium Bicarbonate B.P. 0.3 g
3. Potassium Chloride B.P. 0.3 g
4. Dextrose Monohydrate B.P. 8 g
5. Aromour Pharmaceutical Company Limited Eastbourne Sussex
6. Regd Trade Mark
7. A
8. PL 0321/ 0043
9. ML 0142/ 01
10. Eire Lic Nol 1A 10/ 15/ 1
11. 5010101

NO DOSAGE AND ADMINISTRATION IS GIVEN. THE INSTRUCTIONS ARE COPIED TWICE ON THE PACKET. NO EXPLANATIONS ARE GIVEN.

B. NUMERACY**1. MEASURES/EQUIVALENCES/FRACTIONS/****a. MEASURES:**

ml, oz, hours.

b. EQUIVALENCES

200ml = 7 fl oz

c. Fractions used.

None.

2. CALCULATIONS

Any calculation would require inferences about the dosage and administration regime.

3. CONVERSIONS

1. The 200 ml would have to be converted to a common measure such as glass.
2. This would then have to be related to packets for purchasing information.*

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client has to measure out 200 ml or 7 oz of boiled water, or be able to relate these measures to a common household container.
2. She must obtain the dosage information from previous experience or from common sense or another source.
3. She must use this information to calculate how many packets to purchase.

5. STEPS

1. Boil more than one glass of water
2. Fill one glass (200 ml/7 oz) with the boiled water
3. Add the powder and stir till dissolved

(All administration, and dosage procedures must be deduced.)

4. Throw out solution if it is left over after one hour
5. Store it in a refrigerator up to 24 hours but do not reboil

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|------|
| a. Regular intervals | N/A |
| (No dosage information is given.) | |
| b. Same amounts of medication between doses | N/A |
| c. Same dosage between age levels | N/A |
| d. Number of age levels distinguished: | NONE |

C. GRAPHIC

1. ILLUSTRATIONS

NONE

2. CHARTS/TABLES

No Charts or Tables used.

E. INFERENCES

English Procedures/inferences:

1. Dissolve contents
2. in sufficient
3. freshly
4. boiled and cooled water
5. to make up to 200ml (7 fl oz).

-this medicine is used for dehydration associated with diarrhoea

-boil the water or it may increase the diarrhoea

-use the solution immediately or it loses its effectiveness

-200 ml is about one tea glass

-use the WHOLE packet of powder (contents) in each glass of solution which you make

-the dosage for children if mildly to moderately dehydrated is X

-the dosage for adults if mildly to moderately dehydrated is X

-the regime for children is X

-the regime for adults is X

-in cases of sever dehydration see a doctor; dehydration can be quickly fatal

6. any solution unused after one hour should be discarded

-the medicine loses its power after one hour

7. solutions may be used for up to 24 hours if they are stored in refrigerator immediately after reconstitution

-reconstitution means "mixing with the boiled cooled water"

8. the reconstituted solution must not be boiled

-boiling the mixed solution destroys the power of the medicine

9. keep out of reach of children

- if children eat the powder they may ...?
- keep the medicine in a cool, dry place
- keep the medicine in a dark place

3. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | Y |
| (one) | |
| 2. two or more sizes of print | Y |
| 3. two or more colours of print | N |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | N |
| 6. spaces between information in main body of text | N |
| 7. two or more background colours | N |
| 8. different colour or size of print to mark warning information | N |
| 9. boxes or space marker to set off warning information | Y |
| 10. use of bold lettering | Y |

THE NAME AND TYPE OF PRODUCT ARE EMPHASIZED BY THE LETTERING. THE CHEMICAL INFORMATION RECEIVES AS MUCH SPACE AS THE PREPARATION AND STORAGE INFORMATION AND IS GIVEN THE PRIMARY PLACE, BY BEING PLACED ON THE LEFT, AND, THEREFORE, FIRST IN THE LINE OF VISION. NO MARKERS HIGHLIGHT ANY PROCEDURE, EXCEPT THE LAST STORAGE-WARNING INSTRUCTION, WHICH IS SEPARATED BY A BOX AND SPACE.

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

Name & Type/ Chemical Compounds [on the left]/
Preparation/ Storage -Warnings [both on the right].

2. DEVICES TO CONNECT THESE TOPICS

1. The name and type are written in larger letters than the other information.
2. The Preparation and Storage information is written in one paragraph with no break. There is no connecting word between the two topics.
3. The final storage (warning) instruction is separated from the text by a space, box and different lettering. But the text omits the object of the imperative, "Keep [] out of reach of children".

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The chemical compounds are given as a list down the left-hand side of the page.
2. No means are used to sequence the information within the topics in the main body of the text except that, the storage information for the prepared solution follows the preparation information.
3. Storage information for the unopened [inferred] packet is found at the end of the text.

4. TIME WORDS

1. freshly boiled water
2. after one hour
3. up to 24 hours
4. immediately after

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The first piece of given information in the main body of the text must be inferred, that is, that, "contents", refers to "Dioralyte powder".
2. The given information in the second sentence must also be inferred, that is, that "any solution" means "to make up to 200 ml (7 fl oz)".
3. The third sentence begins with given information: Solutions
4. The final sentence contains no given information.

A LARGE AMOUNT OF INFORMATION MUST BE INFERRED. FEW DEVICES ARE USED TO RELATE TOPICS OR PROCEDURES.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. The first use of "contents" in the first sentence has no article which makes the reference less specific.
2. "Any solution" is the first reference to the prepared mixture; the next reference is, "Solutions", and the final reference is "the reconstituted solution".

b. ELLIPSIS AND SUBSTITUTION

Wh- ellipsis:

1. in sufficient freshly boiled and cooled water [...water

which is boiled...water which is cooled]

2. to make 200 ml [which is] (7 fl. oz.)
3. any solution [which is] unused ...

Other forms of ellipsis:

1. ...(7 fl. oz.) [of solution].
2. Dissolve [the] contents [of this package] in...
3. Solutions may be used for up to 24 hours if [they are] stored...
4. Keep [the unopened packets] out of reach of children.

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

1. hours if stored in a refrigerator immediately after reconstitution...***
2.but the reconstituted solution must not be boiled.***

2. LEXICAL COHESION

a. REPETITION

1. Solution (2), solutions, are repeated linking the storage information.
2. reconstitute is used twice in one sentence, the first time as a noun, reconstitution, and the second time as an adjective, reconstituted. In the latter case, it appears to be redundant.

b. SYNONYMY

1. to make up and reconstitution

c. COLLOCATION

None

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

Only English.

VI. PUNCTUATION**A. CONSISTENCY AND ACCURACY**

1. The punctuation is used accurately and consistently.

C. USE OF CAPITALS, BRACKETS

1. The text makes use of one set of brackets to enclose an equivalent for a metric measure.

D.R.F.

I. LEXICAL CATEGORIES

A. WORD COUNT

1. ENGLISH 211--DIFFERENT WORDS 129

2. KISWAHILI

--DIFFERENT WORDS

D.R.F ENGLISH WORD FREQUENCY

a 2
acid 1
add 1
adding 1
adults 1
after 1
always 1
allied 1
and 2
any 1
banana 1
be 3
bicarbonate 1
box 1
boil 1
boiled 1
cases 1
children 1
chloride 2
citric 1
contains 1
container 1
contents 3
cool 1
cooled 1
corrected 1
dehydration 3
diarrhoea 1
dilution 1
discarded 1
dissolved 1
do 1
dosage 1
drf 2
dry 1
drink 1
each 2

electrolyte 3
flavour 1
flavouring 1
fluids 2
for 2
fresh 2
freshly 1
g 6
glass 1
hyphen 1*
hour 1
hourly 1
hours 2

in 5
initially 1
into 1
iv 1
keep 1
kenya 1
kg 3
laboratory 1
losses 1
ltd 1
made 1
maintenance 2
may 1
mild1
mixture 1
ml 5
moderate 1
nairobi 1
need 1
not 1
of 6
open 1
or 1
orlal 1
oral 1
out 1
per 1
place 1
plus 1
po 1
potassium 1
pour 1
powder 2
prt 3
reach 1
replacement 1
recommended 1
sachet 2

severe 1
 should 3
 sodium 2
 solution 3
 stir 1
 stops 1
 store 1
 sugar 1
 tat 2
 the 4
 therapy 1
 time 1
 to 2
 treatment 1
 unused 1
 until 2
 up 1
 use 1
 water 2
 whilst 2
 with 2
 1 2
 100 1
 1000 1
 120 1
 1223 1
 14 1
 15 1
 2 2
 200 1
 24 1
 250 1
 3 2
 38 1
 4 1
 42 1
 42875 1
 44 2
 6 1
 50 1

B. VERB TYPES

1.	add	imp
2.	adding	present participle
3.	do not boil	imp; negative
4.	should be... boiled	passive; modal
5.	should be... cooled	passive; modal
6.	[which are]...corrected	passive present
7.	should be discarded	passive; modal
8.	[they are] dissolved	passive present
9.	Drink	imp

10. Keep	imp
11. should be made	passive; modal
12. may need	present simple; modal
13. Open	imp
14. Pour	imp
15. Stir	imp
16. stops	present (future meaning)
17. Store	imp
18. use	imp
19. contains	Simple present (mfg)

IMPERATIVE (AFFIRMATIVE & NEGATIVE): 8 & 1
 SIMPLE PRESENT TENSE (AFFIRMATIVE & MODAL & PRESENT PARTICIPLE): 2 & 1 & 1
 PASSIVE (PASSIVE & PASSIVE MODAL): 2 & 4

ACTIVE/PASSIVE: 13/6

C. ABSTRACT AND CONCRETE NOUNS

1. adults	C
2. cases	A*
3. children	C
4. container	C
5. contents	C*
6. dehydration (2)	C*
7. diarrhoea	C
8. dilution	A
9. dosage	A
10. banana flavour	A*
11. oral fluids	C
12. I.V. fluids	C
13. glass	C
14. hour	A*
15. hours (2)	A
16. losses	A
17. maintenance therapy	A
18. oral electrolyte mixture	A
19. place	A*
20. powder (2)	C
21. replacement	A
22. sachet	C
23. solution (3)	C*
24. time	A
25. dehydration treatment	A
26. water	C
27. g. (6)	C (mfg)
28. sodium chloride	C
29. Potassium chloride	C
30. Sodium bicarbonate	C
31. Citric Acid	C
32. Sugar Flavouring	C *

- | | |
|-------------------------------------|---|
| 33. Laboratory & Allied Equip. Ltd. | A |
| 34. P.O. Box | A |
| 35. Nairobi, Kenya | C |

ABSTRACT/CONCRETE: 16/29

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Open Sachet.
2. Pour contents into glass or container.
3. Add 250 ml of water
4. (The water should be freshly boiled and cooled).
5. Do not boil solution after adding contents of Sachet.
6. Stir the contents until dissolved.
7. Drink whilst fresh.
8. any unused solution should be discarded. *
9. A fresh solution should be made each time.
10. Always use in the recommended dilution.
11. Adults may need up to 1000 ml per hour.
12. Keep out of the reach of Children.
13. Store in a cool dry place.

Imperatives:

B. MINOR SENTENCES:

1. Contains 14 g. EACH*

C. BLOCK LANGUAGE:

1. D.R.F. ELECTROLYTE POWDER (2)
2. BANANA FLAVOUR
3. ORAL ELECTROLYTE MIXTURE FOR DEHYDRATION TREATMENT
4. LABORATORY & ALLIED EQUIP. LTD. P.O. BOX 42878 NAIROBI-KENYA.
5. Dosage:
6. Mild to moderate dehydration:
7. Replacement of losses 50-120 ml/Kg in 6 hours.
8. Maintenance 100-200 ml/Kg in 24 hours.
9. For maintenance therapy with Oral fluids in cases of severe dehydration initially corrected with I.V. fluids: 15 ml.kg hourly until diarrhoea stops.
10. Sodium Chloride 0.42 g. Potassium chloride 0.38 g.
11. Sodium Bicarbonate 0.42 g. Citric Acid 0.44 g. Sugar 12.23 g. plus flavouring.

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. D.R.F. ELECTROLYTE POWDER***
2. BANANA FLAVOUR

2. PRODUCT USE

1. ORAL ELECTROLYTE MIXTURE FOR DEHYDRATION TREATMENT

3. PREPARATION INFORMATION

1. Open Sachet.
2. Pour contents into glass or container.
3. Add 250 ml of water
4. (The water should be freshly boiled and cooled).
5. Do not boil solution after adding contents of Sachet.
6. Stir the contents until dissolved.

4. DOSAGE INFORMATION

1. Mild to moderate dehydration:/ Replacement of losses 50-120 ml/Kg in 6 hours.*
2. Maintenance 100-200 ml/Kg in 24 hours.
3. Adults may need up to 1000 ml per hour.
4. For maintenance therapy with Oral fluids in cases of severe dehydration initially corrected with I.V. fluids: 15 ml.kg hourly until diarrhoea stops.

5. ADMINISTRATION

1. Drink whilst fresh.

6. STORAGE/WARNINGS

1. any unused solution should be discarded. *
2. A fresh solution should be made each time.
3. Keep out of the reach of Children.
4. Store in a cool dry place.

7. WARNINGS

1. Always use in the recommended dilution.

8. MANUFACTURING

1. LABORATORY & ALLIED EQUI? LTD. P.O. BOX 42878 NAIROBI-KENYA.
2. Sodium Chloride 0.42 g. Potassium chloride 0.38 g.

3. Sodium Bicarbonate 0,42 g. Citric Acid 0.44 g. Sugar 12.23 g. plus flavouring.

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Adults (explicit), children (implicit); kilograms, millilitres.

b. EQUIVALENCES

1. 250 ml = one glass or container (implicit)
2. No equivalents are given for the dosage information, which is given in millilitres.

c. FRACTIONS

None.

2. CALCULATIONS

1. 50 ml times 12 kg = 600 ml IN 6 hours (replacement)
2. 600 ml divided by 250 ml (fluid one packet makes) = 2.4 packets, so at least 3 packages in a 6 hour period
3. 100 ml times 12 kg = 1200 ml IN 24 hours (maintenance)
4. 1200 ml divided by 250 = 4.8 packets (so 5 packets) in the next 24 hours.
5. 3 + 5 = a total of 8 packets must be purchased for one treatment for children.
6. Adults would need 1000 ml per hour or 1000 divided by 250 = 4 packets/glasses an hour for at least 6 hours [this must be implied]
7. 4 times 6 = 24 packets in 6 hours which seems counter-intuitive.

3. CONVERSIONS

1. millilitres must be converted to percentage of a glass
2. convert no. of glasses to number of packets (for purchasing)

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client needs to be able to judge weight or find a way to weigh the patient.
2. She must also be able to deduce that 250 ml is equal to one glass and that since one packet is used per glass, the powder makes 250 ml of solution.
3. She must be able to judge whether to give the minimum or maximum fluid per hour.

4. She must be able to deduce from the text language or previous experience that the "maintenance" dosage should follow the "mild to moderate dehydration" dosage and that for adults the dosage given will precede either of the above dosages.
5. She must judge how long to give the "adult" dosage.
6. She must be able to multiply, divide and add.
7. She must be able to convert ml/kg to numbers of glasses.

5. STEPS

1. identify weight of the patient/or decide if the patient is an adult (i.e., 12 kg child)
2. identify condition of child, that is, if the patient is suffering from mild to moderate or from severe dehydration. (i.e., mild to moderate)
3. consider that now solutions can be used if they are from a previous preparation.
4. judge which amount of the possible amounts for each stage of dehydration will probably be needed, that is, the possible range is from 50 to 120 ml in one situation and from 100 to 200 ml. in another situation and for adults, it 'may be' as high as 1000 ml/hour. (i.e., 50 ml for replacement and 100 ml for maintenance)
5. 50 ml times 12 kg = 600 ml (replacement)
6. 600 ml divided by 250 ml (fluid one packet makes) = at least 3 packages. Therefore 3 packages will be needed in a 6 hour period
7. 100 ml times 12 kg = 1200 ml (maintenance)
8. 1200 ml divided by 250 = 4.8 packets (so 5 packets)
Therefore 5 packages in the next 24 hours.
9. 3 + 5 = a total of 8 packets must be purchased for one treatment.

6. UNIFORMITY OF APPLICATION PROCEDURE

- | | |
|---|-----|
| a. Regular intervals | N |
| b. Same amounts of medication between doses | N |
| c. Same dosage between age levels | N/A |
| *dosage calculated in terms of weight | |
| d. Number of age levels distinguished: | two |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

a. SUBJECTS

Preparation and administration

b. REPRESENTATIONS

Packet, scissors, glass, stirring implement, cup with a handle, face

c. NUMBER OF SEQUENCES

There are four sequences.

d. TIME ORDER

The sequences succeed each other in time.

e. SIMILARITY TO ORDER IN PRINT

The illustrations follow the numbered, printed preparation, and administration sequence but with missing information.

f. STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS

1. The illustrations do not indicate that users should boil and cool the water (#3 in the written steps).
2. They leave out the concept of using "freshly" boiled water.
3. They do not indicate that the solution should be stirred "until dissolved".
3. They omit the following warnings: do not boil the solution (#3);
4. drink while fresh (#4);
5. discard any unused solution (#4);
6. and make a fresh solution each time (#4).

g. INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS

1. The person has to infer that she should add ALL the powder to the glass,
2. that she add water to the powder,
3. and that the water should be freshly
4. boiled and cooled.
5. She has to infer that the mixture should be administered immediately and not kept
6. or boiled.
7. She has to infer all dosage information and all storage information about unopened packets.

h. ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT

#'s 2-7 above are explained.

D. CHARTS/TABLES/LISTS

A short list (3 points) for the dosage information.

A list of four numbered procedures for preparation.

1. HEADINGS

1. The main heading, "Dosage:", is found in the left-hand margin immediately above the second list.
2. A second heading, "Mild to moderate dehydration:", refers to one item.
3. The third heading, "Maintenance", refers to one dosage procedure. This term is not set off from the procedure by a text-marker.
4. The last 2 dosage procedures represent two different types of special cases but no headings are given.

2. SENTENCE STRUCTURE

The first list is given in imperative form. Warnings are given in sentence form.

Block language is used in the second list, except for second last procedure. The last procedure is over 3 lines in length.

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

The lists are separated from the text by spaces. The second list has a heading, "Dosage". There is also a space before the last procedure, that is, the one for patients who have previously been on I.V. fluids.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

The preparation procedures follow the illustrations on the second side of the label.

The dosage procedures follow these and precede final storage information.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. Lettering is uniform. Each procedure is punctuated with beginning and final punctuation. The list is legible.
2. Dosage procedures are not numbered or bulleted. Preparation procedures are numbered.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

Two lists are used. There is no intervening information.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The dosage information must be integrated with the preceding procedures for preparation in order to convert millilitres into numbers of packets/glasses.
2. The fact that the solution is not to be kept [it is not clear how long] must be considered in order to determine the correct amount to purchase for the a given treatment.

E. INFERENCES

1. Open Sachet
2. Pour contents into glass or tumbler
 - use the WHOLE sachet (all the powder)
 - boil just over a coke bottle of water...?
 - make sure the water boils in order to make it safe; if the water is not boiled, it may increase the diarrhoea
 - add the water immediately to the powder in the glass
3. Add 250 ml. of water
 - 250 ml. equals a regular tea glass..?
 - stir the water and powder until the powder is dissolved.
4. The water should be freshly boiled and cooled.
(reword this point and include in the correct behavioural sequence)
5. Do not boil solution after adding contents of Sachet.
6. Stir the contents until dissolved.
(reword this point and include before warning)
8. Drink whilst fresh.
 - this mixture (solution) loses its power if it is kept for more than X (hours)...?
9. Any unused solution should be discarded.
 - because it will not work to cure dehydration
10. A fresh solution should be made each time.
 - a new sachet needs to be opened
11. Always use in the recommended solution.
 - make sure to use the whole packet in one glass of water because or the mixture may not help reduce the dehydration
12. Dosage: Mild to moderate dehydration:

- the patient is thirsty and has reduced skin elasticity

12.a. Replacement of Losses: 50-120 ml/kg in 6 hours.

-when you begin treatment, give the patient about 1/4 of the glass for every kg (so if X kg, X glasses) during the first 6 hours.

-keep the mixture covered and in a cool place while not using.
-discard the remaining solution; after X hours because it will not be effective....?

12b. Maintenance 100 -200 ml/kg in 24 hours.

-continue the treatment. Make another mixture and over the next 24 hours give the patient at least a third and, if possible, the whole glass for every kg of their weight (i.e., if X kg, give X glasses) - discard mixture after every X hours and make a new solution...?

-if you keep the mixture in a fridge, it can be kept for X hours....

12c. Adults may need up to 1000 ml per hour.

-adults may need as much as 4 glasses (packets) per hour within the first 6 hours and then for the next 24 hours...?

-adults are 'hose over 15...?

-if you feed the mixture to a baby with a spoon, make sure the spoon is rinsed in boiled water each time you give the medicine or the diarrhoea may increase.

13. For maintenance therapy with Oral fluids in cases of severe dehydration initially corrected with I.V. fluids:
15 ml/kg hourly until diarrhoea stops.

-this applies to adults and children...?

-if the dehydration is severe see a doctor; it can be fatal

14. Keep out of reach of children.

-children may X if they eat the powder....?

15. Store in a cool dry place.

-or the powder may lose its power

-store in a dark place...?

F. GRAPHIC MARKERS

- | | | |
|----|--------------------------------|---|
| 1. | boxes | N |
| 2. | two or more sizes of print | Y |
| 3. | two or more colours of print | N |
| 4. | lower and upper case lettering | Y |

- | | | |
|-----|---|---|
| 5. | "balloon capsules" | N |
| 6. | spaces between information in main body of text | Y |
| 7. | two or more background colours | N |
| 8. | different colour or size of print to mark warning information | N |
| 9. | boxes or space marker to set off warning information | N |
| 10. | use of bold lettering | Y |

(Bold lettering is used for the product name, type and use.)

11. The text makes use of numbering for both pictures and corresponding printed instructions.

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side One: Name & type & use / manufacturing information
2. Side Two: Name & type / preparation interspersed with storage-warnings (for the prepared product) / administration / more storage-warnings for the solution / warning concerning preparation / dosage / storage-warnings associated with the unopened packets.

2. DEVICES TO CONNECT THESE TOPICS

1. For the dosage information the general cases are followed by 2 exceptional cases, first, the most usual, then the less usual.
2. The product name, type, use, chemical components and place and company of manufacture make up the first side of the packet. All the behavioral information is on the second side headed by the name and type of product.
2. Only the name, type, and usage information, and the verb, "contains", are printed in block letters.
3. The preparation procedures, in illustrated form, set the context for the correspondingly numbered written procedures.
4. Temporal order is used to link the preparation and dosage procedures.
5. The storage information for the solution is placed with the steps for its preparation.
6. The storage warnings for the unmixed powder conclude the packet.

3. INFORMATION WITHIN TOPICS (SEQUENCING) /BULLETING AND NUMBERING

1. Preparation procedures are presented in sequence, except

for the procedures concerning the boiling, cooling and measuring of the water.

2. The warnings to discard the unused solution, to refrain from boiling it, and to make a fresh solution every time are out of sequence. They should follow dosage procedures since they refer to situations which will occur after the medicine has been administered at least once.
3. The warning to add exactly the water given in the instructions is out of sequence. It should follow the step where the water and powder are mixed rather than follow warnings concerned with using left-over solutions.
4. The dosage information is presented sequentially (from the first to the second treatment), from general to specific (usual case to exception) and in order of importance (more usual exception to less usual).

4. TIME WORDS

1. ...freshly boiled... (recently)
2. ...after adding...
3. ...until dissolved
4. Drink whilst fresh
5. ...each time
6. Always use...
7. ...in 6 hours
8. ...in 24 hours
9. ...per hour
10. ...initially..
11. ...hourly until diarrhoea stops

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The numbered and printed instructions (Open Sachet, Pour contents into glass or container, Add 250 ml of water, Stir the contents until dissolved, Drink whilst fresh) convey "given" information by virtue of the preceding illustrations.
2. The storage procedures which accompany the above commands begin, 3 out of 5 times with given information.
3. Except for the last procedure in the list, the listed instructions begin with "new" information.
4. The two final warnings are in imperative form and the subject (old information) must be inferred.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. In the initial use of the terms, sachet, contents, glass, and container, no articles are used. The second use of

the term, contents, has no article but the third occurrence is accompanied by a definite article. The second use of water also occurs with, the.

2. "solution" has no article in the first instance; it is modified by "any unused" in the second instance and by "a fresh" in the final instance thus indicating a new referent.
3. The client is encouraged to always use the solution in, "the recommended dilution". The use of the definite article, versus no article, serves to point the reader to the previous explanation of how to mix the solution.

b. ELLIPSIS AND SUBSTITUTION

1. Open [the] Sachet.
2. Pour [the] content [of the sachet] into [the] glass....
3. Do not boil [the] solution after adding [you have added the] contents of [the] Sachet.
4. Drink [the solution] whilst [it is] fresh.
5. Always use [the solution] in the recommended dilution.
6. [For] Mild to moderate dehydration [first, in the case of]
7. Replacement of losses [give] 50-120
8. [Second, in the case of] Maintenance [give] ...
9.initially corrected with I.V. fluids [give]:
10. Keep [medicine] out of the reach of children.
11. Store [unopened packets] in a cool dry place.

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

No conjunctions are used. The text makes use of simple sentences and block language.

2. LEXICAL COHESION

a. REPETITION

1. Repetitions of the key words, Sachet (2), solution (3), water (2), dehydration (3), and Maintenance (2), lend cohesion to the text. However, the equally important words, "glass", and, "diarrhoea", are used once. They must be inferred on other occasions.

b. SYNONYMY

1. The phrase, replacement of losses is used to convey the idea of dehydration. The term "losses" is abstract and may be obscure.
2. Maintenance (1) and maintenance therapy (1).
3. oral fluids (1) is used instead of oral electrolyte

mixture. The second term is used on the package front. This use of a new term allows the client to apply the pertinent instruction to oral rehydration products other than the D.R.F. but this new term also interferes with the cohesiveness of the text. The term solution is another synonym which is used in the steps concerned with preparation and administration.

4. powder and contents, the former used in the heading, the latter in the context of the instructions.
5. glass (1) & container (1)

C. COLLOCATION

1. rehydration & dehydration & diarrhoea
2. solution & dilution
3. dehydration & losses
4. treatment & therapy

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English.

B. TOPICS COVERED IN EACH LANGUAGE

C. OTHER COMPARISONS

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

Sentences, dosage information presented in block language, and manufacturing information are punctuated with beginning and final punctuation.

C. USE OF CAPITALS, BRACKETS

Capitals are sometimes used mid sentence, for example, "Sachet", "Oral fluids", and "Children" have capitals. Brackets are used once to indicate a procedure which is out of sequence.

Diarrhoea Treatment Solution (DTS)

I. LEXICAL

A. WORD COUNT

1. TOTAL WORDS 2712. ENGLISH: 213-DIFFERENT WORDS: 1313. KISWAHILI: 58-DIFFERENT WORDS: 38

155 more English than Kiswahili words.

DTS English Word Frequency

a 7
above 1
add 1
after 2
as 1
and 2
any 1
b 1
be 1
becomes 1
beer 4
body 1
boil 2
boiled 1
bottle 2
box 1
by 1
children 1
cl 1
clean 2
contains 1
contents 1
continuing 2
cool 2
cooled 1
cosmos 1
diarrhoea 5
discarded 1
dissolved 1
dissolving 1
do 1
dose 1

drink 1
dry 2
dts 6
electrolyte 1
elasticity 1
empty 1
enough 1
every 4
fill 1
fluid 1
for 3
from 1
fresh 1
glucose 1
hc03 1
hours 2
hr 1
hrs 2
in 2
into 1
instructions 1
is 1
it 2
k 1
kg 1
keep 1
large 2
less 1
light 1
litre 1
limited 1
manufactured 1
maintenance 1
measure 1
mild 3
ml 9
mmol 5
na 1
not 1
nairobi 1
of 6
one 1
or 1
out 1
oral 1
packet 1
pan 3
per 1
place 1
po 1
pour 1
portion 1

protect 1
 prepared 2
 reach 1
 ready 1
 reduced 1
 rehydration 2
 remaining 1
 replacement 1
 sachet 1
 severe 1
 should 1
 skin 1
 soln 2
 solution 5
 stir 1
 stool 1
 stops 2
 store 1
 tat 3*
 ihan 1
 the 5
 therapy 1
 thirsty 1
 to 2
 two 1
 treatment 1
 until 3
 weight 1
 water 2
 1 3
 100 1
 111 1
 15 1
 120 1
 2 2
 20 1
 200 1
 24 2
 3 1
 30 1
 4 2
 41433 1
 5 1
 50 1
 500 2
 6 2
 90 1

DTS KISWAHILI WORD FREQUENCY

baada 1
 bila 1

cha 2
 chemsha 1
 chupa 2
 dawa 2
 hii 1
 haya 1
 iko 1
 iyeyuke 1
 karaga 1
 kipima 2
 kuyayeyusha 1
 kunywewa 1
 kwa 3
 maji 4
 moja 3
 mpaka 1
 mwaga 3
 pouda 1
 pakiti 1
 safi 3
 sasa 1
 suferia 1
 sufuria 2
 tayari 1
 usichemshe 1
 wacha 1
 ya 4
 yaliyopoeshwa 1
 yapoe 1
 1 1
 2 1
 3 1
 4 1
 5 1
 500 2
 6 1

B. VERB TYPES

English:

1.	add	imp
2.	becomes	simple present
3.	boil	imp
4.	do not boil	imp; negative
5.	cool	imp
6.	empty	imp
7.	should be discarded	passive; modal
8.	[is] dissolved	non-finite past participle
9.	(after) dissolving	non-finite present participle
10.	is (ready for drink[ing])	simple present
11.	to fill	infinitive

12. is	simple present
13. keep	imperative
14. [has been] prepared	non-finite past participle
15. protect	imp
16. remaining	non-finite present participle
17. stir	imp
18. store	imp
19. stops (2)	simple present

IMPERATIVE (AFFIRMATIVE & NEGATIVE): 8 & 1

SIMPLE PRESENT: 4

PASSIVE (MODAL): 1

INFINITIVE: 1

NON-FINITE (PRESENT PARTICIPLE & PAST PARTICIPLE): 4

ACTIVE/PASSIVE: 13/6

Kiswahili:

1. chemsha (boil)	imp
2. iko (is)	simple present
3. iyeyuke (it melts;dissolves)	simple present
4. koroga (stir)	imp
5. kuyayeyusha (to dissolve)	infinitive; causative
6. kunywewa (to be drunk up)	infinitive; passive
7. mwaga (mix) (3)	imp
8. usichemshe (do not boil)	imp; negative; subjunctive
9. wacha (leave; let)	imp
10. yaliyopoeshwa (which was shown)	passive; past
11. yapoe (let it cool itself)	imp; subjunctive

IMPERATIVE (AFFIRMATIVE & NEGATIVE SUBJUNCTIVE & SUBJUNCTIVE):
4 & 1 & 1

SIMPLE PRESENT: 2

INFINITIVE (PASSIVE & CAUSATIVE): 1 & 1

PASSIVE (PAST): 1

ACTIVE/PASSIVE: 8/3

TOTAL ACTIVE TO PASSIVE: 21/9

C. ABSTRACT AND CONCRETE NOUNS

English:

1. body	C
2. bottle (2)	C
3. children	C
4. contents	C
5. diarrhoea (5)	C*
6. dose	A

7.	drink[ing]	A
8.	dts (6)	C
9.	'dts' therapy	A
10.	electrolyte loss tnerapy	A
11.	elasticity	A
12.	hours (2)	A
13.	hr	A
14.	hrs (2)	A
15.	instructions	A
16.	kg	C*
17.	light	A*
18.	maintenance	A
19.	measure	A*
20.	Ml (8)	C
21.	rehydration	A
22.	oral rehydration	A
23.	packet	C
24.	pan	C
25.	portion	A*
26.	replacement	A
27.	sachet	C
28.	skin	C
29.	soln (2)	C*
30.	solution (3)	C
31.	stool	C
32.	diarrhoea treatment solution	A
33.	water	C
34.	weight	A*
35.	Cosmos Limited	A (Mfg)
36.	P.O. Box	C
37.	Nairobi	C
38.	Litre	C
39.	Solution	A*
40.	Na+	C
41.	mmol.(5)	C
42.	K +	C
43.	Cl+	C
44.	HCO	C
45.	Glucose	C

ABSTRACT/CONCRETE: 25/20

Kiswahili:

1.	chupa (container)	C
2.	dawa (medicine)	C*
3.	kipima (measure) (2)	A
4.	maji (water)	C
5.	pouda (powder)	C
6.	pakiti (packet)	C
7.	suferia (pan)	C

ABSTRACT/CONCRETE: 6/1

TOTAL ABSTRACT/CONCRETE: 31/22

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. STORE IN COOL DRY PLACE
 2. PROTECT FROM LIGHT
 3. KEEP OUT OF REACH OF CHILDREN
 4. Pour enough fresh water to fill a large beer bottle (500 ml) into a clean pan
 5. Boil it
 6. Cool it
 7. Empty packet (sachet) of 'dts' in a clean pan
 8. Add 500 ml (a large beer bottle 'a measure) of boiled and cooled water, prepared as above to the pan, *stir until dissolved
 9. The solution is ready for drink*
 10. Do not boil solution after dissolving contents
 11. Any Portion of the solution remaining after 24 hrs should be discarded
 12. 1 Litre of Prepared Solution contains Na+ 90 mmol., K + mmol., Cl+ mmol., HCO -30 mmol., Glucose 111 mmol.
-
1. Mwaga maji safi, kipima cha 500 ml (chupa moja ya beer) kwa sufuria safi.
 2. Chemsha maji haya
 3. Wacha yapoe
 4. Mwaga pakiti moja ya 'dts' kwa sufuria safi bila maji
 5. Mwaga maji yaliyopoeshwa 500 ml (kipima cha chupa moja ya beer) kwa sufuria hii [and] karaga mpaka dawa iyeeyuke*
 6. Dawa sasa iko tayari kunywewa
 7. Usichemshe baada ya kuyayeyusha pouda.

SEVERAL IMPERATIVE VERB FORMS OCCUR IN THIS TEXT.

B. MINOR SENTENCES:

1. Manufactured by COSMOS LIMITED/ P.O. BOX 41433, NAIROBI

C. BLOCK LANGUAGE:

1. dts
2. DIARRHOEA TREATMENT SOLUTION
3. THE ORAL REHYDRATION AND ELECTROLYTE REPLACEMENT FLUID
4. Instructions for 'dts' therapy
5. Dose per Kg of body weight
6. FOR MILD REHYDRATION
7. (Thirsty reduced skin elasticity).
8. MAINTENANCE

9. Mild continuing diarrhoea
10. (less than one stool every two hrs.)
11. Severe continuing diarrhoea
12. 50 ml-120 ml 'dts' (Soln.) every 4-6 hours.
13. 100 ml --200 ml 'dts' (Soln. every 24 hours until diarrhoea stops.
14. 15 ml. every hr, until diarrhoea becomes mild or stops.

THE MAJORITY OF LANGUAGE IS EXPRESSED AS BLOCK LANGUAGE.

III. SEMANTIC CATEGORIES

A. TOPICS:

1. NAME AND TYPE

DTS

2. PRODUCT USE

1. diarrhoea treatment solution
2. the oral rehydration and electrolyte replacement fluid

3. PREPARATION INFORMATION

1. Store in a cool dry place.
2. Protect from light
3. Keep out of reach of children
4. Pour enough fresh water to fill a large beer bottle (500 ml) into a clean pan
5. Boil it
6. Cool it
7. Empty packet (sachet) of 'dts' in a clean pan
8. Add 500 ml (a large beer bottle 'a measure) of boiled and cooled water, prepared as above to the pan [and] stir until dissolved*
9. The solution is ready for drink*
10. Mwaga maji safi, kipima cha 500 ml (chupa moja ya beer) kwa sufuria safi.
11. Chemsha maji haya
12. Wacha yapoe
13. Mwaga pakiti moja ya 'dts' kwa suferia safi bila maji
14. Mwaga maji yaliyopoeshwa 500 ml (kipima cha chupa moja ya beer) kwa sufuria hii [and] karaga mpaka dawa iyeyuke*
15. Dawa sasa iko tayari kunywewa

4. DOSAGE INFORMATION

1. Instructions for 'dts' therapy.
2. Dose per kg of body weight.
3. FOR MILD REHYDRATION.
4. (Thirsty reduced skin elasticity).
5. MAINTENANCE

6. Mild continuing diarrhoea/
7. (less than one stool every two hrs.)
8. Severe continuing diarrhoea.
9. 50 ml-120 ml 'dts' (Soln.) every 4-6 hours.
10. 100 ml --200 ml 'dts' (Soln. every 24 hours until diarrhoea stops.
11. 15 ml. every hr, until diarrhoea becomes mild or stops.

5. ADMINISTRATION

(illustration of child drinking)

6. STORAGE/WARNINGS

1. STORE IN COOL DRY PLACE
2. PROTECT FROM LIGHT
3. KEEP OUT OF REACH OF CHILDREN
4. DO NOT BOIL SOLUTION AFTER DISSOLVING THE CONTENTS
5. Any Portion remaining after 24 hrs should be discarded.
6. Usichemshe baada ya kuyayeyusha pouda.

7. WARNINGS

None.

8. MANUFACTURING INFORMATION

1. Manufactured by Cosmos Limited / P.O. Box 41433, Nairobi
2. 1 Litre of Prepared Solution contains Na+ 90 mmol. K + mmol., Cl+ ? mmol., HCO _ -30 mmol., Glucose 111 mmol.

PREPARATION INFORMATION IS A MAJOR PART OF THIS TEXT. AN INCORRECT RELATIONSHIP IS SHOWN BETWEEN THE ILLNESS, EFFECT, AND 'CURE'. THE INSTRUCTIONS IMPLY THAT 'DTS' WILL CURE DIARRHOEA.

THE INFORMATION ABOUT THE TYPE OF WATER TO BOIL (FRESH' VERSUS CLEAN) IS AMBIGUOUS IN THE ENGLISH VERSION.

THE PROCEDURES FOR MEASURING, BOILING, COOLING AND THEN REMEASURING THE WATER AND ADDING IT TO THE POWDER ARE NOT IN SEQUENCE. KISWAHILI HAS MORE RELATIVE PRONOUNS THAN DOES THE ENGLISH VERSION.

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

A. MEASURES

-hours, ml, beer bottle

B. EQUIVALENCES

-a beer bottle equals 500 ml (preparation information)

-no equivalences are given for the dosage information: 50-120

ml and 100-200 ml and 15 ml.

C. FRACTIONS

2. CALCULATIONS

MILD DEHYDRATION

1. 50 ml times 10 kg = 500 ml
2. 500 ml = one beer bottle
3. 6 hrs (maximum) into 24 = 4 times a day (for X days)
4. one beer bottle (one packet) times 4 = 4 bottles in 24 hrs (for X days)

MAINTENANCE

5. 100 ml times 10 kg = 1000 ml
6. 1000 ml divided by 500 ml (one beer) = 2 bottles needed in [the next??] 24 hours
7. total in two days: 4 + 2 = 6 beer bottles in two days for a 10 kg child with mild rehydration and mild continuing diarrhoea
8. *It is not clear where the treatment for severe continuing diarrhoea fits into the plan.

3. CONVERSIONS

1. ml to beer bottles
2. ml to fractions of beer bottles
3. fractions to ml

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

The client must be able to estimate the weight of a child, judge whether to give the minimum or maximum dosage, judge how long to give the first treatment, and judge if to begin with treatment one, or 2 a or 2 b (see above).

The client must be able to add, divide and multiply. He/she must be able to convert X millilitres into fractions of a beer bottle.

5. STEPS

1. Measure a beer bottle of clean water into a pan
2. boil it
3. cool it.
4. add one packet of powder to another clean, dry pan
5. add the boiled and cooled water and stir until the powder dissolves
6. decide how much to give (50-120 ml) for the first treatment
7. decide if to give the medicine over 4, 5 or 6 hours

8. if 50 ml, decide how much this is in a common measure
9. decide how much medicine to give during the following 24 hours
10. stop administration of the medicine if the diarrhoea stops
11. the specified treatment time is 30 hours; if the patient still has diarrhoea after the first 6 hours or the next 18 hours, and the medicine is not finished, it must be discarded and a new solution mixed
13. if the diarrhoea continues, give 15 ml every hour until the diarrhoea becomes mild or stops
14. remake solution when necessary
15. 15 ml equals X

6. UNIFORMITY OF THE APPLICATION PROCEDURES

- | | |
|---|------|
| a. Regular intervals | N |
| b. Same amounts of medication between doses | N |
| c. Same dosage between age levels | Y |
| d. Number of age levels distinguished: | NONE |

NO EQUIVALENTS ARE GIVEN FOR DOSAGES. THE RELATIONSHIP BETWEEN THE THREE DOSAGES IS NOT CLEAR. KILOGRAMS RATHER THAN YEARS ARE USED AS THE CRITERION FOR CORRECT DOSAGE.

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

a. SUBJECTS

Preparation, administration

b. REPRESENTATIONS

Tap, bottle, suferia, water, fire, packet, powder, spoon, glass, head of child

c. NUMBER OF SEQUENCES

6 numbered picture sequences are placed vertically between the English and Kiswahili preparation procedures. Number 2 and 3 are placed side by side.

d. TIME ORDER

-initial measuring of the water must be inferred
 -the procedure in which the boiled, cooled water is poured into the beer bottle is not illustrated
 -the last picture and the corresponding printed instruction have a slightly different focus: the illustration shows a child drinking from a glass, while the written instruction

says, "the solution is ready for drink"

-the following printed concepts are not clearly illustrated:
use fresh water/ maji safi; measure the water before boiling;
cool the water; use a clean dry pan; and empty the whole
packet into the water.

e. SIMILARITY TO ORDER IN PRINT

The order of the illustrated and printed instructions is the same.

f. STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS

1. All the dosage and warning information are excluded from the illustrations.
2. The print includes the step of measuring the water initially and the step of remeasuring the boiled and cooled water which is to be added to the powder.

g. INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS

1. that the water initially is measured
2. that the water is cooled
3. that the second beer bottle contains the boiled, cooled water
4. that the solution must be stirred until dissolved
5. that the bottle pictured is a large beer bottle.

h. ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT

1. The print explains all the above inferences.

THE PICTURES SET THE CONTEXT FOR THE PREPARATION AND ADMINISTRATION OF THIS PRODUCT. THE POSITION OF THE ILLUSTRATIONS BETWEEN THE TWO LANGUAGE TEXTS AND IN LINE WITH THE INSTRUCTIONS IN THESE MAKES FOR EASY REFERENCE BETWEEN THE PRINT AND GRAPHIC AND LANGUAGE MODES. THE ILLUSTRATIONS ARE PLACED BELOW THE DOSAGE INFORMATION.

D. CHARTS/TABLES/LISTS

1. HEADINGS

1. Headings across: "Instructions for 'dts' soln." and "dose per kg body weight"
2. Headings down: The categories overlap and the sequence is not clear. The headings move from the topic of 'rehydration' to that of 'diarrhoea' and two of these headings include explanations set off in brackets.
3. It is not clear what the following means: "less than one

stool every two hrs.".

2. SENTENCE STRUCTURE

1. Block language is used.

3. MEANS BY WHICH THE TABLE IS SEPARATED FROM THE REST OF TEXT

1. It is separated from the rest of the text by boxes, and spaces before and after.

4. ORDER OF PRESENTATION WITHIN TOTAL TEXT

1. The table occurs on the second side before preparation and administration information and before the illustrations.
2. It is placed after storage, manufacturing, and usage information.

5. USE OF PUNCTUATION/LEGIBILITY / BOLD LETTERING

1. The print is clear; all instances of block language are punctuated as sentences with beginning and final punctuation.
2. Bold lettering is used for the headings.
3. Upper case letters are used for the headings for treatment 1 and the first category of treatment 2.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

1. There is one table. The table covers the top half of the second side; it covers about 1/3 of the second side.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The client has to make sense of the preparation and administration information which follow the dosage information in order to calculate the correct dosage.

THE DOSAGE INFORMATION IS NOT COMPLETE FOR THE FIRST TREATMENT. THE TABLE DOES NOT SPECIFY HOW MANY TIMES THE DOSAGE OF "50 ML-120 ML 'DTS'..." SHOULD BE REPEATED. THE DOSAGE CATEGORIES OVERLAP AND ARE OUT OF SEQUENCE.

E. INFERENCES

1. Store in cool dry place.
2. Protect from light.

3. Keep out of reach of children.
4. For mild rehydration (Thirsty reduced skin elasticity)
[give] 50 ml-120 ml 'dts'(Soln.) every 4-6 hours.

-50 ml-120 ml is equivalent to X teaspoons (1/5 of a large beer bottle)

-read the preparation and warning information before giving the dosage

-start with this treatment and then continue with the Maintenance Therapy treatment until the diarrhoea stops

(Adults may need more of this mixture than recommended here....?)

-if the diarrhoea persists after X days, see a doctor

-dehydration can be fatal

5. Maintenance for mild continuing diarrhoea (less than one stool every two hrs.) [give] 100-200 ml 'dts' (Soln.[])
every 24 hours

- 100 -200 ml is equivalent to X teaspoons

6. until diarrhoea stops.

- this medicine does not stop the diarrhoea but it prevents dehydration which diarrhoea causes

7.severe continuing diarrhoea [give] 15 ml. every hr.

- 15 ml is equivalent to X teaspoons

8. until diarrhoea stops.

9. Pour enough fresh water to fill a large beer bottle (500 ml) into a clean pan.

-the water should be as clean as possible or it may increase the diarrhoea

10. Boil it.

- this makes the water safe so that it will not increase the diarrhoea.

- rinse the beer bottle in some of the boiled water

11. Cool it.

-cool the boiled water

12. Empty a packet (sachet) of 'dts' in a clean dry pan.

-an unclean pan which is wet with unboiled water can increase the diarrhoea

13. Add 500 ml (a large beer bottle) 'a measure) of boiled and cooled water, prepared as above to the pan

-use the large beer bottle to measure out 500 ml of boiled water

14. stir
15. until dissolved
16. the solution is ready for drink
17. Do not boil the solution after dissolving the contents.

-this will cause it to become less effective

18. Any portion of the solution remaining after 24 hrs should be discarded.

-it will have lost its power

Kiswahili:

1. Mwaga maji safi, kipima cha 500 ml (chupa moja ya beer) kwa sufuria safi.
2. Chemsha maji haya
3. Wacha yapoa
4. Mwaga pakiti moja ya 'dts kwa sufuria safi bila maji
5. Mwaga maji yaliyopoesha 500 ml (kipima cha chupa moja ya beer) kwa sufuria hii karaga
6. mpaka dawa iyeyuke
7. Dawa sasa iko tayari kunywewe
8. usichemshe baada ya kuya yeyusha pouda

-for mild rehydration (thirsty reduced skin elasticity) [give] 50 ml-120 ml 'dts'(Soln.) every 4-6 hours.

-50 ml-120 ml is equivalent to X teaspoons (1/5 of a large beer bottle)

-read the preparation and warning information before giving the dosage

-start with this treatment and then continue with the Maintenance therapy treatment until the diarrhoea stops

-adult may need more of this mixture than recommended here....?

-if the diarrhoea persists after X days, see a Doctor

-dehydration can be fatal

-Maintenance for mild continuing diarrhoea (less than one stool

every two hrs.) [give] 100-200 ml 'dts' (Soln. every 24 hours

- 100 -200 ml is equivalent to X teaspoons

-until diarrhoea stops.

- this medicine does not stop the diarrhoea but it prevents dehydration which diarrhoea causes.

-maintenance for severe continuing diarrhoea [give] 15 ml.
every hr.
- 15 ml is equivalent to X teaspoons
-until diarrhoea stops.

-store in cool dry place
-protect from light
-light and heat and moisture can destroy effectiveness of
powder...?
-keep out of reach of children
-any portion of the solution remaining after 24 hrs should be
discarded

F. GRAPHIC MARKERS

- | | | |
|----|--------------------------------|---|
| 1. | boxes | Y |
| 2. | two or more sizes of print | Y |
| 3. | two or more colours of print | Y |
| 4. | lower and upper case lettering | Y |

(Upper case lettering is used to mark some usage, type,
storage, and treatment information.)

- | | | |
|-----|--|---|
| 5. | "balloon capsules" | N |
| 6. | spaces between information in main body of text | Y |
| 7. | two or more background colours | Y |
| 8. | different colour or size of print to mark warning
information | Y |
| 9. | boxes or space marker to set off warning information | Y |
| 10. | use of bold lettering | Y |

ALL BLOCK LANGUAGE AND MANY MAJOR SENTENCES ARE PUNCTUATED AS
SENTENCES. PREPARATION INFORMATION IS NUMBERED FOR BOTH
LANGUAGES VERSIONS BUT NOT FOR THE PICTURES. THE DOSAGE
INFORMATION IS NUMBERED AND THE SECOND CATEGORY IS BROKEN INTO
TWO CATEGORIES AND IDENTIFIED BY "a" AND "b".

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side One: Name/ use/ storage/ Manufacturing information
2. Side Two: Dosage/ Preparation (in 2 languages with
illustrations) and/ Storage

2. DEVICES TO CONNECT THESE TOPICS

1. Name and usage and storage are in block letters.
2. Storage information is broken into two parts.
3. All behavioral information pertinent to immediate use of

packet is on the second side.

4. Preparation follows dosage information.
5. "Solution", is repeated in the final preparation step and the following storage/warning procedures.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The steps concerning measuring, boiling and cooling the water are out of sequence.
2. The relationship between the three dosages is unclear in terms of sequence.

4. TIME WORDS

1. hours,
2. continuing ...
3. every two hrs.
4. until...
5. after 25 hr.

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The second side is introduced by given information.
2. None of the three treatment categories begin with given information.
3. The preparation information is in imperative form with the result that each instruction begins with new information.

MAJOR TOPICS ARE MARKED BY SPACES, LINES OR DIFFERENT LETTERING. EACH TOPIC IS COMPLETED BEFORE ANOTHER BEGINS, EXCEPT FOR THE STORAGE INFORMATION WHERE THERE IS A BREAK BETWEEN THE TWO TYPES OF STORAGE INFORMATION, THAT FOR THE UNOPENED PRODUCT AND THAT FOR THE PREPARED PRODUCT'.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. One pronoun is used: it in steps # 2 & 3.
2. The, in step 5, refers to the previously mentioned pan in step # 4, but a, is also used in the same step, to refer to the previously mentioned beer bottle of boiled and cooled water.
3. The, is used with "solution" the first time it is mentioned and then the second time no article is used and the third time the is used again.
4. Haya (this), # 2, is used to refer to the water mentioned in step one.
5. Yaliyopoeshwa (which was shown) , # 5, is used to refer

to back to steps 1-3.

6. Hii (this), # 5, is used to refer to the suferia mentioned in step 4.
7. In step # 6 and the storage procedure, the term, dawa (medicine) has no definite marker to link the term with the previous reference to the solution in step # 5.

b. ELLIPSIS AND SUBSTITUTION

1. FOR MILD REHYDRATION. [that is] (Thirsty reduced skin elasticity).
2. Mild continuing diarrhoea [that is] (less than one stool every two hrs.)
3. 'dts' [that is] (Soln.) --- this is used for two of the three dosages; the last dosage is just related as '5 ml.'
4. Add 500 ml [that is] (a large beer bottle [which is] 'a measure') of boiled....
5. Mwaga maji safi, kipima cha 500 ml [that is] (chupa moja ya beer)...
6. Mwaga maji yaliyopoesha 500 ml ?? [that is] (kipima cha chupa moja ya beer)....

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

1. becomes mild or [until the diarrhoea] stops.*
2. boiled and cooled water * --water which has been boiled and water which has been cooled
3. prepared as above to the pan [and] stir [the solution] until [it is] dissolved

2. LEXICAL COHESION

a. REPETITION

1. Key words repeated: diarrhoea (5), rehydration (2), solution (5), soln. (2), water (2), dts (6), bottle (2), chupa (container) (2), maji (water) (4), dawa (medicine/solution) (2).

b. SYNONYMY

1. rehydration and diarrhoea are used as synonyms*
2. (diarrhoea treatment solution and the oral rehydration and electrolyte replacement fluid
3. -fluid and solution
4. treatment and therapy
5. 'dts' (Soln.) and solution
6. packet and sachet

c. COLLOCATION

None

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English and Kiswahili

B. TOPICS COVERED IN EACH LANGUAGE

Kiswahili is used for the preparation information and one warning.

C. OTHER COMPARISONS

1. pour, empty and add; compare: mwaga
2. pan; compare: suferia
3. clean, and fresh; compare: safi
4. a; compare: moja
5. cool; compare: wache yapoe (let it cool)
6. it; compare: maji haya (this water)
7. dry; compare: bila maji (without water)
8. contents; compare: pouda (powder)

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

No final punctuation is used for 14 out of 25 instructions given in imperative form. All block language is followed by full stops.

Single quotation marks begin the phrase, " 'a measure", but do not complete it.

C. USE OF CAPITALS, BRACKETS

Complete brackets set apart the symptoms for the first treatment but incomplete brackets mark the symptoms for the second treatment. In the former case the final bracket is before the full stop, but in the second case it is after the full stop. Brackets are used to set off clarifying information such as symptoms, equivalences, and abbreviations.

The first time the abbreviation, " 'Soln.'", is used, it is enclosed in brackets; the second time, the final bracket is missing. All sentences and block language begin with capital letters. The word, "Portion", is capitalized mid-sentence.

Homaquin**I. LEXICAL****A. WORD COUNT****1. ENGLISH 22****--DIFFERENT WORDS 19****2. KISWAHILI 115****--DIFFERENT WORDS 41**

Kiswahili has 93 more words than the English.

ENGLISH WORD FREQUENCY

box 1
 boots 1
 by 1
 chloroquine 1
 company 1
 contains 1
 each 1
 homaquin 4
 kenya 1
 limited 1
 mg 1
 manufactured 1
 nairobi 1
 phosphate 1
 po 1
 tablet 1
 the 1
 250 1
 42569 1

KISWAHILI WORD FREQUENCY

baada 1
 chini 1
 daktari 1
 dawa 5
 kila 3
 kuonyesha 1
 kuzuia 1
 malaria 6
 mara 1
 masaa 1
 mbali 1
 mbili 1
 meza 1

miaka 8
 moja 2
 muone 1
 na 1
 nne 1
 nusu 1
 pili 1
 saba 3
 siku 6
 sita 1
 tat 5
 tatu 1
 tembe 3
 watoto 7
 watu 2
 weka 1
 ya 9
 zaidi 2
 1 9
 10 1
 12 8
 15 4
 2 8
 3 1
 4 1
 5 2
 6 2
 9 1

B. VERB TYPES

English:

1. contains simple present (mfg)

SIMPLE PRESENT: 1

Kiswahili:

kuponyesha (to cure)	infinitive
kuzuia (to prevent)	infinitive
muone (one should see)	present (subjunctive)

INFINITIVE: 2

PRESENT (SUBJUNCTIVE): 1

TOTAL ACTIVE/PASSIVE: 2/2

C. ABSTRACT AND CONCRETE NOUNS

English:

1.	P.O.Box	A* (mfg)
2.	Boots Company Limited	C*
3.	Chloroquine Phosphate	C
4.	Nairobi, Kenya	C
5.	mg	C
6.	tablet	C

ABSTRACT/CONCRETE: 1/5

Kiswahili:

1.	Homaquine (4)	C ***
2.	daktari (doctor)	C
3.	dawa (medicine) (5)	A* ***
4.	malaria (6)	C* ***
5.	mara (time)	A
6.	masaa (hours)	A
7.	meza (measure)	A
8.	miaka (years) (8)	A*
9.	siku (day)	A*
10.	tembe (tablet) (3)	C
11.	watoto (children) (7)	C
12.	watu (people) (2)	C

ABSTRACT/CONCRETE: 17/23

TOTAL ABSTRACT/CONCRETE: 18/28

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Watoto chini ya miaka 2 muone Daktari
2. Weka dawa mbali na watoto
3. Each tablet contains 250 mg Chloroquine Phosphate

B. MINOR SENTENCES:

1. Manufactured by the Boots Company (Kenya) Limited/ PO Box 42569, Nairobi, Kenya

C. BLOCK LANGUAGE:

1. Homaquin (4) ***
2. Dawa ya malaria (3) ***
3. Watoto Miaka 10 - 15
4. Watoto Miaka 6 - 9

5. Watoto Miaka 2 - 5
6. KUZUIA MALARIA:
7. Watu Zaidi miaka 15 Tembe mbili kila siku saba
8. Watoto Miaka 6 - 15 Tembe moja kila siku saba
9. Watoto Miaka 2 - 5 Nusu tembe kila siku saba
10. KUPONYESHA MALARIA:
11. MEZA MARA MOJA
12. BAADA YA MASAA SITA
13. SIKU YA PILI
14. SIKU YA TATU
15. SIKU YA NNE
16. Watu Zaidi Miaka 15

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. Homaquin (4) ***

2. PRODUCT USE

1. Dawa ya malaria (3) ***

3. PREPARATION INFORMATION

None

4. DOSAGE INFORMATION

*[the first table starts with # 9]

1.	Watoto Miaka 10 - 15	3	1 1/2	1 1/2	1 1/2	1 1/2
2.	Watoto Miaka 6 - 9	2	1	1	1	1
3.	Watoto Miaka 2 - 5	1	1/2	1/2	1/2	1/2

4. KUZUIA MALARIA:

[the second table]

5. Watu Zaidi miaka 15 Tembe mbili kila siku saba
6. Watoto Miaka 6 - 15 Tembe moja kila siku saba
7. Watoto Miaka 2 - 5 Nusu tembe kila siku saba

(The following numbers from 9 to 14 are the horizontal headings for the first table.)

9. KUPONYESHA MALARIA:
10. MEZA MARA MOJA
11. BAADA YA MASAA SITA
12. SIKU YA PILI
13. SIKU YA TATU
14. SIKU YA NNE

15. Watu Zaidi Miaka 15

(This is the first vertical heading in the first table.)

5. ADMINISTRATION

None.

6. STORAGE/WARNINGS

1. Weka dawa mbali na watoto

7. WARNINGS

1. Watoto chini ya miaka 2 muone Daktari

(This procedure overlaps with the dosage information.)

8. MANUFACTURING

1. Each tablet contains 250 mg Chloroquine Phosphate
2. Manufactured by the Boots Company (Kenya) Limited/ P.O. Box 42569, Nairobi, Kenya

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

1. tablets, & years

b. EQUIVALENCES

None.

c. FRACTIONS

1. Yes. The tablets for two dosages must be divided in half; the final total for these dosages requires using the 4 halves.

2. CALCULATIONS

1. Add the total for any one dosage treatment: for the 4 day treatment for cure of malaria, this would mean adding 5 figures as the first day's treatment is two dosages. For example, for a child from 10 -15 years, this would mean $3 + 1 \frac{1}{2} + 1 \frac{1}{2} + 1 \frac{1}{2} + 1 \frac{1}{2} = 9$ tablets.
2. Each packet contains 2 (?) tablets so 9 divided by 2 = 4.5 packets needed.
3. For the prevention treatment, the client would buy from

one packet a month for those from 2-5, or two packets a month (6-15 yrs.) or one packet a week (over 15). The first calculation requires adding dividing 2 by $1/2$ to discover for how many weeks a packet will last.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client must read the tables even though the first table is broken by the printing.
2. He/she must be able to add and divide in order to calculate how many packets to purchase.
3. He/she must be able to set up the problem: if the patient requires only $1/2$ a tablet every week, how long will one packet (two tablets) last?
4. He/she must add the halves, or divide 2 by $1/2$, to determine the number of weeks one packet will last.

5. STEPS

1. (cure) first treatment give children (2-5) 1 tablet
2. after 6 hours: 2 tablet
3. the second day: $1/2$ tablet
4. the third day: $1/2$
5. the fourth day: $1/2$
6. add up tablets to calculate how much to purchase: $1 + 1/2 + 1/2 + 1/2 = 3$ tablets needed in total.
7. The packet has ? (2) so will (need 2 packets)

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|---|
| a. Regular intervals | N |
| b. Same amounts of medication between doses | N |
| c. Same dosage between age levels | N |
| d. Number of age levels distinguished: | 5 |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

None.

D. CHARTS/TABLES

1. HEADINGS

1. This label has two tables. The first table is divided in two due to the packaging so that the horizontal headings for the 5 dosages required for one treatment are at the bottom of the page.
2. The three age categories are the vertical headings.
3. The second table has no horizontal headings. It has three vertical headings (age categories).
4. In the first table the main heading is, Kuonyesha Malaria (to cure). In the second table, Kuzuia Malaria (to prevent), is the main heading.

2. SENTENCE STRUCTURE

1. The tables make use of block language.

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. The tables comprise the whole text on the second side, except for manufacturing information, which is separated by spaces. This manufacturing information is found after the second table and the two warnings, and before the first table.
2. The warnings are set apart by spaces. They follow the second table.
3. The tables are separated from each other by a space; in addition, each table has a heading in bold.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. Side one has the name and use of the medicine.
2. Side two has two tables. The warning and manufacturing information is meant to follow both tables, but because of the way the text was cut in packaging, this information is between the end of the second table and the beginning of the first table.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. Block language and major sentences begin with capitals but no final punctuation is used.
2. In addition, capitals are used to mark the words in the vertical headings.
2. Upper case, bold lettering is used for horizontal headings.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

There are two tables. The first vertical heading is at the bottom of the page and the rest of the chart at the top of the page.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. Each table contains all the necessary information except the warning about taking children under to the doctor and keeping the medicine out of reach of children. If the medicine is being used to cure malaria, the client has locate the needed dosage information in the procedures which follow those for preventative treatment.

E. INFERENCES

Kiswahili:

1. Kuponyesha malaria (to cure):

1a. Watu zaidi ya miaka 15 (over 15)

meza ya moja (the first measurement) [take] 4
[tablets]

1b baada ya masaa sita (after 6 hrs) [take] 2

1c siku ya pili (the 2nd day) [take] 2

1d siku ya tatu (the 3rd day) [take] 2

1e siku ya nne (the 4th day) [take] 2

-this medicine can be used for both cure and prevention of malaria

-read both tables and make sure to follow the right method

-if the symptoms still persist after X days, while you are following the treatment for cure, see a doctor

-if the patient has been taking malaria tablets on a regular basis, see a doctor to determine the proper malaria medicine for curing malaria

-wrong use of tablets can be fatal

(The same format is given for

Watu (miaka 10-15): 3: 1 1/2: 1 1/2; 1 1/2: 1 1/2

Watoto (Miaka 6-9): 2: 1: 1: 1: 1

Watoto (Miaka)2-5): 1: 1/2: 1/2: 1/2: 1/2

2. Kuzia malaria (to prevent):

2a. Watu Zaidi miaka 15

[take] tembe mbili kila siku saba (2 tablets every seventh day)

- a person can still get malaria even when taking preventative measures

(The same format is given for

Watoto (Miaka 6-15): tembe moja (1) kila siku saba

Watoto (Miaka 2-5): nusu (1/2) tembe kila siku saba

(Age is broken down into only three groups in the second procedure.)

3. Watoto chini ya miaka 2 muone Daktari (children under 2 see a doctor)

-treating babies with these tablets can have fatal results

4. Weka dawa mbali na watoto (put the medicine far from children)

-if children eat the tablets, it can be fatal

-light, moisture and heat can destroy the effectiveness of these tablets

-store in a dark, dry, cool place

-these tablets lose their power after X (date)...?

F. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | N |
| 2. two or more sizes of print | Y |
| 3. two or more colours of print | N |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | N |
| 6. spaces between information in main body of text | Y |
| 7. two or more background colours | N |
| 8. different colour or size of print to mark warning information | N |
| 9. boxes or space marker to set off warning information | Y |
- (A space sets off the two sentences, which are written as one run-on sentence.)

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Name & Use/ Dosage / Warning/ Manufacturing / Dosage

2. DEVICES TO CONNECT THESE TOPICS

1. The name and use are printed on the first side in block letters.
2. The treatment for cure precedes that for prevention, perhaps because this is the more usual use of the tablets for Kenyan residents.
3. The dosage information is meant to precede the warning information which reminds the client of "dosage" information for children under two, that is, to take these children to the doctor. The second warning concerns precautions about storage of the tablets.
4. The manufacturing information is the last information to appear on the packet

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The age categories are organized from the oldest to the youngest, after which the warning follows for taking those not mentioned, that is, those under two, to the doctor.

4. TIME WORDS

1. ...kila siku saba (3) (each seventh day)
2. ...mara moja (first time)
3. baada ya masaa sita after six hours
4. siku ya pili (the second day)
5. siku ya tatu (the third day)
6. siku ya nne (the fourth day)

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. All the information, except the manufacturing information, is in Kiswahili which does not use articles.
2. No demonstratives are used.

2. LEXICAL COHESION

a. REPETITION

1. The key words miaka (7), tembe (3), siku (6) and watoto (6) are repeated in the tables lending cohesion to the text.
2. In addition, miaka (1), watoto (1) and dawa (5) are repeated in the usage and warning behaviour.

b. SYNONYMY

1. Homaquin / dawa ya malaria / dawa

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English and Kiswahili.

B. TOPICS COVERED IN EACH LANGUAGE

1. English for manufacturing information.
2. Kiswahili for usage, dosage, and warnings.

C. OTHER COMPARISONS

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

No full stops are used.

C. USE OF CAPITALS, BRACKETS

1. Capitals are used consistently to head all block language and to begin all sentences; they are also used on the words in the vertical headings for both tables, except for one omission on the word miaka.
2. Brackets are used to mark years: Watoto (Miaka 10-15).

Ketrax

I. LEXICAL

A. WORD COUNT

1. ENGLISH 118--DIFFERENT WORDS 892. KISWAHILI 90--DIFFERENT WORDS 59

The total words is 208 with 147 different words.
 The English version has 28 more words than the Kiswahili version.

KETRAX ENGLISH WORD FREQUENCY

a 1
 adults 1
 africa 1
 and 7
 another 1
 babies 1
 by 2
 can 1
 chemical 1
 children 1
 dii 1
 distributed 1
 division 1
 dose 3
 easily 1
 east 1
 expels 2
 family 2
 fit 1
 for 1
 from 1
 get 1
 healthy 1
 hookworms 2
 hyphen 1
 ici 2
 in 2
 industries 1
 is 3
 keep 1
 ketrax 7
 levamisole 1
 lot 1

ltd 1
 mark 1
 medicine 1
 modern 1
 need 1
 one 3
 only 2
 packed 1
 person 1
 pharmaceuticals 1
 pinworms 2
 quick 1
 quickly 1
 registered 1
 red 1
 regularly 1
 roundworms 2
 safely 1
 safe 1
 tablet 1
 tablets 2
 take 1
 tat 2
 that 1
 the 4
 them 1
 this 1
 threadworms 2
 to 1
 trade 1
 treat 1
 twiga 1
 use 1
 whipworms 2
 with 1
 worms 1
 you 1
 yrs 2
 1 2
 15 1
 2 1
 3 1
 4 1
 5 1
 89 6
 11 7
 90 8
 260611 1

KETRAX KISWAHILI WORD FREQUENCY

afya 1

aweza 1
cha 1
dawa 1
fanya 1
hadi 2
haraka 2
hiki 1
hivyo 1
huondoa 1
hutibu 2
inayoondoa 1
iwaweke 1
iwe 1
jamaa 1
kawaida 1
kiasi 2
kisasa 1
kimoja 1
kupata 1
kutibu 1
kutoka 1
kutumia 2
kwa 3
kwani 2
mara 1
miaka 1
michango 2
minyoa 1
minyoo 2
mmoja 1
moja 1
mwaka 1
mwingine 1
na 7
ndicho 1
nguvu 1
ni 2
nyekundu 1
safura 2
salama 2
tembe 3
tu 2
tumboni 2
wa 5
wako 1
watu 1
watoto 3
wazima 1
wengine 2
wenye 1
ya 1
yako 1

1 2
15 1
2 1
3 1
4 1
5 1

B. VERB TYPES

English:

1.	expels	simple present
2.	need	simple present
3.	to take	infinitive
4.	can...get	simple present; modal
5.	treat	imp
6.	keep	imp

SIMPLE PRESENT (PRESENT & MODAL): 3 & 1

INFINITIVE: 1

IMPERATIVE: 2

ACTIVE/PASSIVE: 6/1

Kiswahili:

1.	inayoondoa (which expels)	present
2.	huondoa (expels)	present; habitual
3.	hutibu (treat medically)	present; habitual
4.	kutumia (to use)	infinitive
5.	ndicho (which is indeed)	present; emphatic
6.	aweza (it can)	present; modal
7.	kupata (to get)	infinitive
8.	fanya iwe (do)	imp; subjunctive
9.	iwaweke (it will make you)	future; subjunctive

PRESENT (SIMPLE PRESENT & HABITUAL & EMPHATIC & MODAL): 1 & 2
& 1 & 1

INFINITIVE: 2

IMPERATIVE: 1

FUTURE (SUBJUNCTIVE): 1

ACTIVE/PASSIVE: 2 & 7

TOTAL ACTIVE/PASSIVE: 8/8

C. ABSTRACT AND CONCRETE NOUNS

English:

1.	dose	A
2.	roundworms	C
3.	hookworms	C
4.	whipworms	C
5.	pinworms	C
6.	threadworms	C
7.	medicine	C
8.	family	C*
9.	person	C
10.	worms	C

ABSTRACT/CONCRETE: 2/8

Kiswahili:

1.	ketrax	C*	
2.	mara	A*	time
3.	minyoo	C	roundworms
4.	safura	C	hookworms
5.	michango	C	worms
6.	tumboni	C	stomach
7.	dawa	A*	medicine
8.	kiasi	A	amount/dose
9.	jamaa	C*	family
10.	watoto	C	child

ABSTRACT/CONCRETE: 7/3

TOTAL ABSTRACT/CONCRETE: 9/11

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Only one dose expels roundworms, hookworms, whipworms, pinworms, and threadworms.
2. This is the dose you need to take
3. In the family one person can easily get worms from another.
4. Treat the family regularly with Ketrax and keep them healthy and fit.
5. Ketrax is a registered Trade Mark and is packed and distributed in East Africa for ICI Pharmaceuticals Division by TWIGA CHEMICAL INDUSTRIES LTD.
5. Hiki ndicho kiasi cha kutumia
6. Mmoja wa jamaa yako aweza kupata minyoo kutoka kwa mwingine, kwa hivyo, fanya iwe kawaida kutibu watoto wako na Ketrax na iwaweke wenye nguvu na Afya.

B. MINOR SENTENCES:

1. Kutumia Ketrax kwa mara moja tu huondoa minyoo, safura, na michango wengine wa tumboni; kwani hutibu haraka na ni salama.

C. BLOCK LANGUAGE:

1. Ketrax (3) ***
2. Safely, quickly.
3. Levamisole
4. The modern medicine that expels roundworms, hookworms, whipworms, pinworms, and threadworms.
5. Safe and quick.
6. One dose only.
7. Adults - 3 tablets
8. Children (5 - 15 yrs.)
9. 2 tablets
10. Babies (1 - 4 yrs.)
11. 1 tablet
12. ICI (2) ***
13. LOT DII 89 (on the packaging for the tablets)
14. USE BY 11 90 (on the packaging for the tablets)
13. Dawa ya inayoondoa minyoo, safura, na michango wengine wa tumboni; kwani hutibu haraka na ni salama.
14. Kiasi kimoja tu.
15. watu wazima
16. tembe 3
17. watoto wa miaka 5 hadi 15
18. tembe 2
19. watoto was mwaka 1 hadi 4
20. tembe 1.

III. SEMANTIC CATEGORIES**A. TOPICS****1. NAME AND (TYPE)**

1. Ketrax (3) ***

2. PRODUCT USE

1. Only one dose expels roundworms, hookworms, whipworms, pinworms, and threadworms.
2. Safely, quickly.
3. The modern medicine that expels roundworms, hookworms, whipworms, pinworms, and threadworms.
4. Safe and quick.

5. Kutumia Ketrax kwa mara moja tu huondoa minyoo, safura, na michango wengine wa tumboni; kwani hutibu haraka na ni salama.
6. Dawa ya inayoondoa minyoo, safura, na michango wengine wa tumboni; kwani hutibu haraka na ni salama.

3. PREPARATION INFORMATION

None.

4. DOSAGE INFORMATION

1. This is the dose you need to take
2. One dose only.
3. Adults - 3 tablets
4. Children (5 - 15 yrs.) / 2 tablets
5. Babies (1 - 4 yrs.) / 1 tablet
6. Hiki ndicho kiasi cha kutumia
7. Kiasi kimoja tu.
8. watu wazima / tembe 3
9. watoto wa miaka 5 hadi 15 / tembe 2
10. watoto wa mwaka 1 hadi 4 / tembe 1.

5. ADMINISTRATION

None.

6. STORAGE/WARNINGS

None.

7. WARNINGS

1. In the family one person can easily get worms from another.
2. Treat the family regularly with Ketrax and keep them healthy and fit.
3. Mmoja wa jamaa yako aweza kupata minyoo kutoka kwa mwingine, kwa hivyo, fanya iwe kawaida kutibu watoto wako na Ketrax na iwaweke wenye nguvu na Afya.

8. MANUFACTURING

1. Levamisole
2. ICI (2) ***

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Tablets, years.

b. EQUIVALENCES

None.

c. FRACTIONS

None.

2. CALCULATIONS

1. $2 + 2 + 1 = 5$ TABLETS TOTAL (2 children and a baby)
2. 5 divided by 3 = $1 \frac{2}{3}$ packets; 2 PACKETS must be purchased.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client must be able to consider the dosages for more than one person. He/she must be able to add these dosages, and then calculate by addition and subtraction, or multiplication and division how many packets to purchase.

5. STEPS

- 1 to purchase medicine for a 2 children and 1 baby:
- 2 add $2 + 2 + 1$ (each child needs to take 2 tablets and the baby needs to take 1 tablet)
- 3 the total tablets needed are: 2 times $2 + 1 = 5$
- 4 each packet contains 3 tablets
- 5 5 tablets divided by 3 = $1 \frac{2}{3}$ packets
- 6 two packets must be purchased and one tablet will be left over after the treatment

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|-----|
| a. Regular intervals | yes |
| b. Same amounts of medication between doses | yes |
| c. Same dosage between age levels | no |
| d. Number of age levels distinguished: | 3 |

c. GRAPHIC CATEGORIES**1. ILLUSTRATIONS****a. SUBJECTS**

Dosage.

b. REPRESENTATIONS

1. Sketches of worms and tablets on the cover.
2. Shadow sketches of human figures and tablets with dosage information.

c. NUMBER OF SEQUENCES

1. Three boxed in sequences.

d. TIME ORDER

1. Not relevant. This is a one dose treatment.
2. the age decreases from left to right (adult, adolescents, babies)

e. SIMILARITY TO ORDER IN PRINT

1. Not relevant: if more than one person would have to be treated at one time, this would still be one step.

f. STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS

1. treat more than one person at one time
2. give treatments regularly
3. the disease is very infectiousness
4. this treatment is "safe" and "quick"
5. this medicine can be used for several types of worms.

g. INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS

1. The reader has to infer that the three red dots stand for tablets.
2. He/she has to infer the age limits for each figure.
3. He/she has to infer that the sketches on the cover are meant to be of worms.
4. He/she has to infer that one dose is enough to expel worms.

h. ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT

1. All the above inferences are explained in the print.

D. CHARTS/TABLES

None.

E. INFERENCES

English:

1. One dose only

- worms are diagnosed according to X symptoms
 - this packet is enough to treat 2 or 3 people depending on the age
 - worms are transmitted from X to people by touching X

- individuals from X to X age should take X tablets
- the tablets should be taken with X (water, food, before bed)
- possible side-effects are X (constipation)...?

2. This is the dose you need to take:

3. Adults - 3 tablets
4. Children 5-15 yrs / 2 tablets

- babies under a year should be taken to the doctor
- Ketrax tablets are too strong for babies under one year...?
- possible side-effects if a baby under one year is given these tablets are X...?

5. Babies 1-4 yrs / 1 tablet

- at some point in the future, the treatment should be given again because the infection will probably return
- "regularly" equals X
- treat each member of the family at the same time, each time X
- expect symptoms in more than one person in the family
- a "family" refers X
- buy enough packets for one complete family treatment

6. Treat the whole family regularly

(6b. (because) one person can easily get worms from another

- store tablets out of reach of children
- tablets remain good until X
- keep tablets in a cool, dry place
- keep tablets in a dark place

Kiswahili:

1. kiasi kimoja tu (one dose only)
2. kiki ndicho kiasi cha kutumia (this is the dose you need to take)
3. watu wazima tembe 3 (adults, 3 tablets)
4. watoto wa miaka 5 hadi 15 tembe 2 (children of 5-15, 2 tablets)
5. watoto wa mwaka 1 hadi 4 tembe 1 (children of 1-4, 1 tablet)
6. fanya iwe kawaida kutibu watoto wako na Ketrax (do the above regularly)

F. GRAPHIC MARKERS

- | | | |
|-----|---|-----|
| 1. | boxes | yes |
| 2. | two or more sizes of print | yes |
| 3. | two or more colours of print | yes |
| 4. | lower and upper case lettering | yes |
| 5. | "balloon capsules" | no |
| 6. | spaces between information in main body of text | yes |
| 7. | two or more background colours | yes |
| 8. | different colour or size of print to mark warning information | N |
| 9. | boxes or space marker to set off warning information | Y |
| 10. | use of bold lettering | no |

LINES, SPACE MARKERS AND PLACEMENT ON DIFFERENT SIDES ARE USED TO SEPARATE ENGLISH AND KISWAHILI VERSIONS OF THE TEXT FOR BOTH THE USAGE AND DOSAGE INFORMATION.

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side one cover: name/ use (English)
2. Side two cover: name / use (Kiswahili)
3. Inside, side one: name / use & dosage (English and Kiswahili)
4. Inside, side two: dosage / warnings (English and Kiswahili)
5. Information with tablets

2. DEVICES TO CONNECT THESE TOPICS

1. The name and use of the product are repeated with slight variations on the cover and in the introductions to the dosage information.
2. The name and use are on a different coloured background from the dosage and warning information.
3. The dosage and warning information are on different coloured backgrounds.
4. After explaining the use, the dosage information is introduced by the sentence, "This is the dose you need to take".
5. The warning about having to treat more than one member of a family at one time because of the infectiousness of worms and about having to treat with KetraX regularly follow the instructions for correct dosage.
6. The manufacturing information is located on the packaging behind the tablets.
7. The expiry date is also on the wrappers around the tablets.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The dosage information proceeds from old to young.

4. TIME WORDS

1. regularly
2. quick
3. quickly
1. haraka (quickly)
2. kawaida (as usual)

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. "This" and "hiki" are used in the heading for the illustrations. These words point the reader to to the following illustrations.
2. "The", used in the description of what the product is for, emphasizes that this medicine is the best choice.
3. Explicit reference is made in the heading for dosage procedures by the use of the pronoun, "you".
4. This explicit reference to the reader is not made in the Kiswahili version.
5. The label makes explicit reference to the user's family by the use of, "jamaa yako" [your family], in the Kiswahili version, but not in the English version. Family is also called, "wenye" [them], and "Moja wa..." [one of...] and "mwingine" [another].
6. "Family", is referred to as, "them", "one person" and "another" in the English version.

b. ELLIPSIS AND SUBSTITUTION

1. "kwani [Ketrax] hutibu haraka na [ketrax] ni salama" (that's why ketrax) heals quickly and (ketrax) is safe

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

English:

inclusions

1. the modern medicine that expels...
2. pinworms and threadworms

3. safe and quickly

omissions

1. the dose (which) you need

Kiswahili:

inclusions

1. dawa ya kisasa inyayoondoa minyoo (which expels)
2. kwani hutibu
3. safura, na michango wengine (and)
3. haraka na ni salama
4. kiasi cha kutumia (amount which to take)
5. kwa hivyo, fanya iwe...(therefore)
6. watoto wako na Ketrax na iwaweke wenye nguvu na Afya.

omissions

None.

2. LEXICAL COHESION

a. REPETITION

1. The words, "Ketrax" (7), "one dose"(2), "roundworms..." (2), "yrs." (2) and "tablets" (3) in English, and "tembe", "miaka" and "minyoo...", in Kiswahili are repeated.
2. The adverb phrase, "safely, quickly" is repeated in a slightly different form: "safe and quick".
3. In Kiswahili this phrase is included as part of the preceding clause in both cases: "kwani hutibu haraka na ni salama" (2).

b. SYNONYMY

English:

1. worms (1)/ whip-, thread-, hook-, round- and pinworms (2) (HYPONYMY OR SUPERORDINATION)
2. Ketrax (7) / the modern medicine (1)

Kiswahili:

1. minyoo (worms) (1)/ minyoo (roundworms)(2) (ILLOGICAL RELATIONSHIP; synonymy) ?

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English and Kiswahili.

B. TOPICS COVERED IN EACH LANGUAGE

1. Name, usage, dosage, and warning information are in both languages.
2. Manufacturing information and expiry date are in English.

C. OTHER COMPARISONS

1. Michango mwingine wa tumboni (some worms of the stomach) is used in Kiswahili instead of the different types, which are used in English: roundworms, hookworms, whipworms, pinworms, and threadworms.
2. In Kiswahili, instead of the repeated use of the phrases, "Only one dose", and, "one dose only", a paraphrase of "kiasi kimoja tu" [only one dose] is used: "kwa mara moja" [in one time].
3. The average length of the sentences and block language is longer in Kiswahili than in English because of Kiswahili's greater use of conjunctions.
4. In the illustrations the word, "hadi", is used in the Kiswahili version rather than a hyphen, for example, "mwaka 1 hadi 4", versus, "1 - 4 yrs."

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

All complete and minor sentences have beginning and final punctuation. All cases of block language also have beginning and final punctuation, except for the captions with the illustrations. One caption has final punctuation.

C. USE OF CAPITALS, BRACKETS

Capitals are used consistently except for twice: two headings, "watu", and, "watoto", do not have capitals.

Malaraqun

I. LEXICAL

A. WORD COUNT

1. ENGLISH 41--DIFFERENT WORDS 302. KISWAHILI 78--DIFFERENT WORDS 333. Total 119--Different words: 63Kiswahili has 37 more words than English.

MALARAQUIN ENGLISH WORD FREQUENCY

by 1
 chroloquine 1
 combats 2
 contains 1
 each 1
 hyphen 2
 in 1
 international 1
 kenya 1
 ltd 1
 made 1
 malaraqun 3
 malaria 4
 mg 1
 nairobi 1
 of 1
 phosphate 1
 products 1
 reg 2
 registered 1
 syrup
 sterling 1
 tablet 1
 the 1
 tm 2
 trademark 1
 user 1
 02 2
 250 1
 210713 2

MALARAQUIN KISWAHILI WORD FREQUENCY

baada 3
 chini 1
 daktari 1
 dawa 1
 hyphen 2
 ifuatavyo 1
 jumia 1
 kila 1
 kutibu 1
 kuzuia 1
 kwanza 2
 mahauri 1
 masaa 2
 miaka 5
 na 1
 pili 1
 saba 1
 siku 5
 sita 2
 tat 3*
 tatu 1
 tembe 1
 tumba 1
 tumia 1
 ya 10
 zaidi 1
 1 8
 10 1
 11 1
 15 2
 2 9
 3 2
 4 2
 5 1
 6 1

B. VERB TYPES

English:

1.	combats	simple present
2.	contains	simple present (mfg)
3.	[is] made	passive (mfg)

SIMPLE PRESENT: 2

PASSIVE: 1

ACTIVE/PASSIVE: 2/1

Kiswahili:

- | | | |
|----|---------------------------|----------------|
| 1. | ifuatavyo (which follows) | simple present |
| 2. | kutibu (to cure) | infinitive |
| 3. | kuzuia (to prevent) | infinitive |
| 4. | mahauri (consult) | imp |
| 5. | tumia (use) (2) | imp |

SIMPLE PRESENT: 1

INFINITIVE: 2

IMPERATIVE: 3

ACTIVE/PASSIVE: 4/2

TOTAL ACTIVE/PASSIVE: 8/3

C. ABSTRACT AND CONCRETE NOUNS**English:**

- | | | |
|-----|------------------------|---------|
| 1. | Malariaquin (2) *** | C * |
| 2. | syrup | C |
| 3. | Chloroquine Phosphate | C (mfg) |
| 4. | Kenya | C |
| 5. | mg | C |
| 6. | Nairobi | C |
| 7. | Sterling Products Ltd. | A * |
| 8. | tablet | C |
| 9. | trademark | A |
| 10. | user | C * |
| 11. | Malariaquin | A |

ABSTRACT/CONCRETE: 3/9

Kiswahili:

- | | | |
|----|----------------|---|
| 1. | daktari | A |
| 2. | dawa | C |
| 3. | masaa (hours) | A |
| 4. | miaka (years) | A |
| 5. | siku (day) | A |
| 6. | tembe (tablet) | C |

ABSTRACT/CONCRETE: 4/2

TOTAL ABSTRACT/CONCRETE: 7/11

II. SYNTACTIC CATEGORIES**A. MAJOR SENTENCES:**

1. Malariaquin Combats Malaria (2)***

2. Made in Kenya by STERLING PRODUCTS INTERNATIONAL LTD. Nairobi
3. Each tablet contains 250 mg Chroloquine Phosphate
4. Tumba dawa ifuatavyo kila baada ya siku saba 2 1 1
5. Miaka 2 - 5 tumia syrup na chini ya miaka 2 mahaari daktari.

B. MINOR SENTENCES:

None.

C. BLOCK LANGUAGE:

1. 210713 - 02 (2) ***
2. Reg TM (2) ***
3. Registered User of the trademark Malarquin
4. Siku ya kwanza 4 3 2 (2) ***
5. Baada ya masaa sita 2 1 1 (2) ***
6. Siku ya pili 2 1 1
7. Siku ya tatu 2 - -
8. Jumia ya tembe 10 5 6
9. Kuzuia Malaria
10. Kutibu Malaria
11. Zaidi ya miaka 15
12. miaka 11-15
13. miaka 6-10
14. Malarquin (2) ***

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. Malarquin (2) ***

2. PRODUCT USE

1. Malarquin Combats Malaria (2)***

3. PREPARATION INFORMATION

None.

4. DOSAGE INFORMATION

1. Kutibu Malaria
2. Zaidi ya miaka 15
3. miaka 11-15
4. miaka 6-10 [these are the headings for the three columns]
5. Siku ya kwanza 4 3 2 (2) ***
6. Baada ya masaa sita 2 1 1 (2) ***
7. Siku ya pili 2 1 1
8. Siku ya tatu 2 - -

9. Jumia ya tembe 10 5 6
10. Kuzuia Malaria
11. Tumba dawa ifuatavyo kila baada ya siku saba 2 1 1

5. ADMINISTRATION

None.

6. STORAGE/WARNINGS

None.

7. WARNINGS

1. Miaka 2 - 5 tumia syrup na chini ya miaka 2 mahauri daktari.

8. MANUFACTURING

1. Made in Kenya by STERLING PRODUCTS INTERNATIONAL LTD. Nairobi
2. Each tablet contains 250 mg Chroloquine Phosphate
3. 210713 - 02 (2) ***
4. Reg TM (2) ***
5. Registered User of the trademark Malaraquin

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Tablets, years, hours, days

b. EQUIVALENCES

None.

c. FRACTIONS

None.

2. CALCULATIONS

1. The totals for each administration are given. So the total for those over 15 is 10 divided by 2 tablets per packet = 5 packets needed.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. This text is unusual in that it gives the totals for the number of tablets to be taken for each treatment.
2. The client then needs to only set up the problem of how many packets to buy for one treatment. This can be done through division or addition or even multiplication.

5. STEPS

1. CURE: for "zaidi ya miaka 15" [take] 4 [tablets] siku ya kwanza (the first day)
2. [take] 2 baada ya masaa sita
3. 2 siku ya pili
4. 2 siku ya tatu
5. Total tablets are 10 (this is given): packages contain 2 each; 10 (total) divided by 2 tablets equals 5 packages

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | | |
|----|--|---|
| a. | Regular intervals | N |
| b. | Same amounts of medication between doses | N |
| c. | Same dosage between age levels | N |
| d. | Number of age levels distinguished: | 6 |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

None.

D. CHARTS/TABLES

Two tables

1. HEADINGS

1. The headings for each table are written in bold and words begin with capital letters.
2. The first heading shares the same line as the heading for the age categories. It is separated by a space.
3. The second table's heading shares the same line as the sentence explaining the new treatment (prevention). It is separated from the sentence by a period.
4. The horizontal headings (2 age categories) apply to both tables although there is intervening information written in prose.
5. The vertical headings for the first table are the 4 administration times (the first time, after 6 hours, the second day, and the third day).
6. The second table has only one row to explain the relationship between age, and dosage. One treatment is to be given every 7 days.

2. SENTENCE STRUCTURE

1. The first table has only block language; the second table has one sentence.

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. No no spaces separate the table from the rest of the text.
2. The first table has a line under it setting apart the total tablets for each dosage. The table appear, however, to end with this line.
3. The second table follows with no break.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. Side one has the name and use of the product.
2. Side two begins with the first table but due to packaging the headings are at the bottom of this side.
3. The second table immediately follows the first.
4. It is followed without a break by dosage information and warnings for children under 2 and for babies.
5. This is followed by manufacturing information which immediately precedes the headings for the first table.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

1. The numbers are small but clear.
2. All headings begin with capital letters.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

1. There are two tables.
2. There appears to be intervening information because totals are given for the first table and then the time and age information for the second "table" is given in sentence form.

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The information for the first table is self-contained but in order to make sense of the second table, the client has to skim the previous text and the following text in order to locate the horizontal headings which apply.

E. INFERENCES

1. The usage information, "combats malaria", is in English only.

Kiswahili:

1. Kutibu malaria (cure):
 - 1a. zaidi ya miaka 15 (more than 15 yrs) [take]

siku ya kwanza (1st day): 4 [tablets]
 1b baada ya masaa sita (after 6 hrs.): 2
 1c siku ya pili (2nd day): 2
 1d siku ya tatu (3rd day): 2
 (The same for two other age groups)

miaka 11-15 [take] 3: 1: 1: 0
 miaka 6-10 [take] 2: 1: 1: 0

-this medicine can be used in two ways: to cure and to prevent malaria

-be sure to follow the correct treatment plan

-if the symptoms do not clear up in X days, see a doctor...?

-make sure to read information which follows concerning children under 2 years

-if the patient has been using malaria tablets as a preventative treatment make sure to consult a doctor to see which malaria tablets can safely be used for a cure treatment

-incorrect use of tablets can be fatal

2. Kuzuia malaria (prevent):

2a zaidi ya miaka 15 [take]
 2 [tablets]

(the other two age groups are to take the following)

miaka 11-15 [take] 1 [tablet]
 miaka 6-10 [take] 1 [tablet]

-people who are using these tablets to prevent malaria can still get malaria

-side-effects may be X...?

3. Miaka 2-5 tumia syrup.

4. na chini ya miaka 2 mahauri daktari

-"syrup" refers to malaria medicine (dawa)

-babies can die from incorrect use of these tablets

-light, moisture and heat can destroy the effectiveness of these tablets

-store tablets in a dark, dry and cool place

-these tablets lose their effectiveness after X date...?

F. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | |
| 2. two or more sizes of print | Y |
| 3. two or more colours of print | |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | |
| 6. spaces between information in main body of text | |
| 7. two or more background colours | |
| 8. different colour or size of print to mark warning | |

- | | |
|---|---|
| information | N |
| 9. boxes or space marker to set off warning information | N |
| 10. use of bold lettering | Y |

(There is very little difference between the bold and regular lettering. All the print is very small.)

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Name & use (side one).
2. dosage / warning / manufacturing/ (dosage)

2. DEVICES TO CONNECT THESE TOPICS

1. The name and use set the context.
2. The dosage information precedes the warning not to treat children under 5 with the tablet form of this product.
3. Manufacturing is placed last.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. Within the dosage information, the most usual use of the medicine -for cure of malaria- precedes the treatment for prevention.
2. Age categories proceed from oldest to youngest; the warnings for children under 5 are last.
3. Administration times are given in a temporal order.

4. TIME WORDS

1. Siku ya kwanza (the second day)
2. baada ya masaa sita (after 6 hours)
3. siku ya pili (the second day)
4. siku ya tatu (the third day)
5. kila baada ya siku saba (after each seven days)

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. Old information, the name of the product, is not repeated on the second side of the packet.
2. The heading for the first table (new information) is given midway through side two.
3. In the tabular headings the words, siku and miaka, are repeated (old information).
4. The word, tembe (new information), is not repeated.

B. COHESION**1. GRAMMATICAL COHESION****a. REFERENCE**

1. ...ifuatavyo... which follows

KISWAHILI DOES NOT USE ARTICLES.

b. ELLIPSIS AND SUBSTITUTION

1. ...na [children] chini ya miaka 2...

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

1. ...na [and] chini ya...

2. LEXICAL COHESION**a. REPETITION**

1. The key words, siku (4), and miaka (5) are repeated in the tables.
2. There is no repetition of the name of the product on the second side of the text, but the word malaria (2) is used in each table's main heading.
3. The product name, Malaraquin, is repeated twice on the front of the packet and once in small print in the manufacturing information.

b. SYNONYMY

1. dawa (1) / tembe (1) / Malaraquin (2)

c. COLLOCATION

1. tembe and dawa *

V. LANGUAGE(S) EMPLOYED**A. LANGUAGES USED**

English and Kiswahili.

B. TOPICS COVERED IN EACH LANGUAGE

English is used for usage and manufacturing information and for words which do not have translations in Kiswahili: malaria, & syrup.

C. OTHER COMPARISONS**VI. PUNCTUATION****A. CONSISTENCY AND ACCURACY**

Sentences are punctuated with capitals and full stops.

C. USE OF CAPITALS, BRACKETS

1. All block language headings begin with capital letters.
2. Capitals are also used on the second word of each main table heading.
3. The company is in block letters.
4. No brackets are used.

m

Oralite

I. LEXICAL

A. WORD COUNT

1. ENGLISH 257--DIFFERENT WORDS 1362. KISWAHILI N/A

--DIFFERENT WORDS

ORALITE ENGLISH WORD FREQUENCY

a 2
 add 2
 adding 1
 adults 1
 after 1
 again 1
 all 3
 always 1
 and 3
 anhydrous 1
 as 3
 babies 1
 baby 2
 beecham 2
 begin 1
 between 1
 bicarbonate 1
 body 2
 boil 2
 boiled 1
 bp 4
 by 2
 c 1
 children 2
 chloride 2
 clean 1
 contains 1
 cool 1
 cooled 1
 days 1
 dextrose 1
 dehydration 1
 diarrhoea 3
 directed 1
 do 3
 doctor 2
 dose 2

doses 1
drinks 1
during 4
each 1
every 1
feeding 1
fill 1
first 1
following 1
for 3
from 3
g 5
give 10
has 1
hours 6
how 1
if 2
important 1
in 3
into 1
instructed 1
is 2
it 2
kenya 1
let 1
licence 1
limited 1
lost 1
manufactured 1
mark 1
mix 1
ml 2
more 4
next 1
normal 1
not 4
of 4
old 2
or 3
oral 1
oralite 4
otherwise 1
over 2
plain 1
possible 1
potassium 1
pour 1
powder 4
prevent 1
products 1
protect 1
replaces 1

sachet 2
 salts 1
 see 1
 severe 1
 slowly 2
 small 1
 sodium 2
 soon 1
 spoon 1
 stir 2
 stopped 1
 tat 3*
 than 2
 the 3
 this 1
 thirsty 1
 to 6
 treatment 2
 tumbler 3
 tumblers 4
 uk 1
 under 1
 unless 1
 up 2
 use 3
 vomiting 1
 warning 1
 water 6
 whenever 1
 with 2
 within 1
 years 2
 your 2
 10 1
 18 1
 2 5
 200 1
 23 1
 24 4
 3 4
 300 1
 4 2
 5 3
 5 1
 6 2
 7 1

B. VERB TYPES

1.	add	imp
2.	adding	non-finite present participle
3.	begin	imp

4.	cool	imp
5.	unless [you are] directed	non-finite past participle
6.	fill	imp
7.	give (10)	imp
8.	is	simple present
9.	use	imp
10.	as [you are] instructed	non-finite past participle
11.	[which is] lost	non-finite past participle
12.	mix	imp
13.	pour	imp
14.	to prevent	non-finite infinitive
15.	protect	imp
16.	replaces	simple present
17.	stir (2)	imp
18.	has not stopped	present perfect negative

IMPERATIVE: 20

SIMPLE PRESENT: 2

PRESENT PERFECT (NEGATIVE): 1

NON-FINITE (PRESENT PARTICIPLE, & PAST PARTICIPLE &
INFINITIVE): 1 & 3 & 1

ACTIVE/PASSIVE: 23/5

C. ABSTRACT AND CONCRETE NOUNS

1.	adults	C
2.	babies	C
3.	baby (2)	C
4.	body salts	C
5.	body	C
6.	children (2)	C
7.	days	A
8.	hydration	A*
9.	diarrhoea (3)	C
10.	doctor	C
11.	dose (2)	A
12.	doses	A
13.	drinks	C*
14.	feeding	C*
15.	hours(6)	A
16.	oralite (4)	C*
17.	powder (4)	C
18.	sachet (2)	C
19.	spoon	C
20.	treatment (2)	A
21.	tumbler (3)	C
22.	tumblers (4)	C
23.	vomiting (gerund)	C*
24.	warning	A
25.	water (6)	C
26.	years (2)	A

27.	Beecham of Kenya Limited	C* (mfg)
28.	Licence	A
29.	Beecham Products UK	C
30.	dose	A
31.	Anhydrous Dextrose B.P.	C
32.	Sodium Chloride B.P.	C
33.	Sodium Bicarbonate B.P.	C
34.	Potassium Chloride B.P.	C

ABSTRACT/CONCRETE: 19/45

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Boil water
2. Let it cool
3. Pour into tumbler
4. Add ALL powder and stir
5. Give slowly
6. Do not boil water after adding powder
7. Protect your baby during Diarrhoea
8. Fill tumbler with water up to mark (300 ml).
9. Add ALL powder from sachet.
10. Stir.
11. Give 2 or 3 tumblers during the first 4 to 6 hours.
12. Give 2 or 3 more tumblers over the next 18 to 24 hours.
13. Give 2 more tumblers in the following 24 hours.
14. Do not give more than 6 tumblers in 24 hours.
15. Mix ALL powder from sachet with 2/3 of a tumbler of water (200 ml).
16. Give this dose every 2 or 3 hours.
17. Do not give more than 10 doses in 24 hours.
18. Always use as instructed unless otherwise directed by your doctor.
19. Give slowly to prevent vomiting during treatment.
20. Use clean spoon to give Oralite to small babies.
21. If baby is thirsty between drinks of Oralite, give plain boiled and cooled water.
22. Begin normal feeding again as soon as possible.
23. Each 5.5 g dose contains: Anhydrous Dextrose BP 4 g
Sodium Chloride BP.7 g Sodium Bicarbonate BP .5 g
Potassium Chloride BP.3 g.
24. See a doctor whenever diarrhoea is severe or if it has not stopped within 2 days.

B. MINOR SENTENCES:

1. REPLACES BODY WATER AND BODY SALTS LOST DURING DIARRHOEA
2. Manufactured by Beecham of Kenya Limited under Licence from Beecham Products, UK.
3. How to use Oralite.

C. BLOCK LANGUAGE:

1. Oralite Oral Treatment For Dehydration
2. For children up to 5 years old.
3. For adults and children over 5 years old.
4. Important
5. Warning:

THIS PRODUCT HAS LESS BLOCK LANGUAGE THAN THE OTHER 3 ORAL REHYDRATION PRODUCTS. MANUFACTURING INFORMATION IS PUT IN SENTENCE FORM. HEADINGS ARE SOMETIMES IN SENTENCE FORM. DOSAGE INFORMATION IS GIVEN IN LIST FORM IN WHICH EACH COMMAND IS WRITTEN IN FULL WITH THE NECESSARY VERB. THE PREPOSITION TO IS USED INSTEAD OF THE HYPHEN MARKER.

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. Oralite / Oral Treatment for Dehydration

2. PRODUCT USE

1. REPLACES BODY WATER & BODY SALTS LOST DURING DIARRHOEA
2. Protect your baby during Diarrhoea

3. PREPARATION INFORMATION

1. Boil water
2. Let it cool
3. Pour into tumbler
4. Add ALL powder and stir
5. Fill tumbler with water up to mark (300 ml).
6. Add ALL powder from sachet.
7. Stir.
8. (For Adults and Children over 5 years old.) Mix ALL powder from sachet with 2/3 of a tumbler of water (200 ml). * (overlap with dosage information)

4. DOSAGE INFORMATION

1. Give 2 or 3 tumblers during the first 4 to 6 hours.
2. Give 2 or 3 more tumblers over the next 18 to 24 hours.
3. Give 2 more tumblers in the following 24 hours.
4. Do not give more than 6 tumblers in 24 hours. * (overlap with warning information)
5. (For Adults and Children over 5 years old.) Mix ALL powder from sachet with 2/3 of a tumbler of water (200 ml). * (overlap with preparation information)
6. Give this dose every 2 or 3 hours.

7. Do not give more than 10 doses in 24 hours. * (overlap with warning information)

5. ADMINISTRATION

1. Give slowly (illustration- a baby)***
2. Give slowly to prevent vomiting during treatment.***
3. Use clean spoon to give Oralite to small babies.

6. STORAGE/WARNINGS

1. Do not boil water after adding powder

7. WARNINGS

1. Do not give more than 6 tumblers in 24 hours. * (overlap with warning information)
2. Always use as instructed unless otherwise directed by your doctor.
3. If baby is thirsty between drinks of Oralite, give plain boiled and cooled water.
4. Begin normal feeding again as soon as possible.
5. See a doctor whenever diarrhoea is severe or if it has not stopped within 2 days.

8. MANUFACTURING

1. Manufactured by Beecham of Kenya Limited under Licence from Beecham Products, UK.
2. Each 5.5 g dose contains: Anhydrous Dextrose BP 4 g Sodium Chloride BP .7 g Sodium Bicarbonate BP .5 g Potassium Chloride BP .3 g.

UNLIKE THE OTHER ORAL REHYDRATION LABELS, THIS TEXT HAS SEVERAL WARNINGS UNRELATED TO STORAGE. THE DOSAGE INFORMATION IS EXPLICIT. THERE IS OVERLAP BETWEEN PREPARATION, DOSAGE AND WARNINGS. FOR EXAMPLE, THE DOSAGE PROCEDURE FOR BABIES INCLUDES PREPARATION INFORMATION, AND THE TOTALS FOR THE DOSAGES FOR EACH AGE GROUP ARE PRESENTED AS WARNINGS.

B. NUMERACY

1. MEASURES/EQUIVALENCES/FRACTIONS

a. MEASURES

Tumblers, millilitres,

b. EQUIVALENCES

1. tumbler = 300 ml. (this is implicit)

2. one Sachet makes one tumbler of fluid (implicit)
3. $\frac{2}{3}$ tumbler = 200 ml (explicit)

c. FRACTIONS

1. For the child/adult dosage the client is advised to fill the cup $\frac{2}{3}$ full.

BECAUSE ONE PACKET MUST BE MIXED INTO TWO THIRDS OF A CUP OF WATER AND ALL GIVEN AT EACH ADMINISTRATION, THE CLIENT DOES NOT HAVE TO USE FRACTIONS IN ANY CALCULATIONS.

2. CALCULATIONS

1. 3 (the maximum dosage) in 6 (the maximum time span) + 3 in the next 24 hrs (day one) + 3 more in next 24 hours (day two) = 9 tumblers in two days.
2. In each 24 hour period a maximum of 6 tumblers is given (3 + 3 day one) which equals the maximum dosage (6) allowed.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. Decide how many tumblers to give and how often to give them when minimum and maximum options are given.
2. Keep track of how many tumblers the patient has been given.

5. STEPS

1. boil water
2. cool the water
3. pour it into a tumbler
4. add ALL powder and stir
5. give 2-3 during first 4-6 hours (day one)
6. give 2 or 3 more in next 18-24 hrs (day one)
7. give 2 more in next 24 hours (day two)
8. give a maximum of 8 tumblers (8 packets)
9. do not give more than 6 in a 24 hour period

6. THE APPLICATION PROCEDURE

- | | |
|---|-----|
| a. Regular intervals | N |
| b. Same amounts of medication between doses | N |
| c. Same dosage between age levels | N |
| d. Number of age levels distinguished: | two |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

a. SUBJECTS

Preparation and administration

b. REPRESENTATIONS

Suferia or pan with a lid, boiling water and steam, hand, glass, container from which water is being poured, packet, spoon, powder, mother giving child the glass of fluid.

c. NUMBER OF SEQUENCES

1. Five: boiling water, cooling water, water being added to a glass, packet being added to a glass and stirred, mother giving child a glass of fluid.*
2. The illustrations are not numbered.

d. TIME ORDER

1. The pictures are arranged sequentially.

e. SIMILARITY TO ORDER IN PRINT

1. The printed captions for the illustrations are in concord with the illustrations.
2. The written steps do not contain the instruction to boil and cool the water.
3. The client is instructed both in print and through the illustrations to fill a tumbler with water, and to add ALL the powder and stir.

f. STEPS (CONCEPTS) IN PRINT BUT NOT IN ILLUSTRATIONS

1. No dosage, administration and warning information, except instruction to give the medicine to the child, is illustrated.
2. Preparation steps are illustrated; however, the idea of how full to make the tumbler depending on the dosage is not illustrated.

g. INFERENCES NECESSARY WHEN USING ONLY ILLUSTRATIONS

1. The glass is drawn differently in two sketches.
2. The pot looks like a suferia in the picture where the water is being boiled; there is no lid. In the second illustration the pan has a lid. This step is ambiguous; someone could be putting the lid as well as taking it off.

3. It is not clear that it is the boiled and cooled water which is being added to the empty glass. (With the other ORT products, the water is added to the powder.
4. The client has to infer that the glass should be filled with water.
5. He/she has to infer that all the powder is to be added.

h. ABOVE INFERENCES WHICH ARE EXPLAINED IN PRINT

1. The captions below the illustrations explain that the water must be boiled cooled and added to a tumbler to which the powder is added, stirred and given slowly to the child.

THE ILLUSTRATIONS ARE ON THE FIRST SIDE OF THE TEXT AND ARE ACCOMPANIED BY CAPTIONS.

D. CHARTS/TABLES/LISTS

1. HEADINGS

1. The dosage information is given in the form of a list. The main heading is expressed in two sentences expressing the benefits of using the product ("protect your baby during diarrhoea") and reinforcing the link expressed on the first side between dehydration and diarrhoea. The second sentence, "how to use Oralite", is an alternative to the heading, "dosage".
2. The headings for the two age groups are not separated from the rest of the text by spaces. They are printed in bold lettering and are in block language unlike the rest of the dosage information. The idea of purpose is expressed by the initial word, "for", in each of the two headings.
3. The warning information is listed in point form.

2. SENTENCE STRUCTURE

1. Except for the headings, the information is given in imperative form. The sentences are all simple.
2. The warnings are in sentence form. The sentences are complex (2), compound (2) or simple (1).

3. MEANS BY WHICH CHART IS SEPARATED FROM REST OF TEXT

1. The list is the first item on the second side of the text.
2. A space marker marks the end of the list and another heading, this time located centrally on the page follows to mark the next topic.

4. ORDER OF PRESENTATION IN THE TOTAL TOPICS AND PRESENTATION OF TABLE ON PAGE

1. The dosage information follows the preparation information (side one) and precedes the warning information which is not specifically associated with the correct dosage to administer.
2. Warnings are followed by the chemical components; the last two items are a warning and more manufacturing information.

5. USE OF PUNCTUATION/ LEGIBILITY /BOLD LETTERING

The print is clear. All verbs are explicit. Information occurring in list form (dosage and warning procedures) is written in sentence with beginning and final punctuation. The preparation information is given in a short paragraph.

6. NUMBER OF TABLES AND USE OF HEADINGS AND INTERVENING INFORMATION

The list for the warning information is preceded by a heading, "Important".

7. NECESSITY TO INTEGRATE INFORMATION FROM BEFORE AND AFTER TABLE IN ORDER TO USE CHART INFORMATION

1. The first list must be read in conjunction with the preparation information on side one of the packet and the extra warnings which follow in the second list.
2. The second list is dependent on all the preceding information and the final warning which follows.

E. INFERENCES

1. Boil water

- measure the water by a glass or soft-drink bottle
- pour into a clean pot
- boil water in order to kill the germs

2. Let it cool.

3. Pour into tumbler (*repeated on the second side with additional information: Fill tumbler with water up to mark (300 ml))

- use a regular clean tea glass or a clean soft-drink bottle

4. Add ALL powder and stir (*repeated with additional information: Add ALL powder from sachet. Stir.)

- do not leave any powder; Oralite loses its effectiveness if it is kept open
- the patient needs the full strength
- * (dosage information inserted here on the second side)

5. Give slowly

The SECOND SIDE

6. For children up to 5 yrs. Give 2 or 3 tumblers during the first 4-6 hours.

- give one tumbler (bottle), every 2 hours
- total of 3 bottles (3 packets of Oralite) in the first 6 hours

7. Give 2 or 3 tumblers over the next 18 to 24 hours.

- give 1 bottle every 8 hours (early morning, early afternoon and early evening)
- total of 3 tumblers (3 packets of Oralite in the next 24 hours)

8. Give 2 more tumblers in the following 24 hours.

- the next day give 2 more tumblers, one in morning and one at night
- total of 2 tumblers (2 more packets of Oralite)
- the total for the 3 days is 8 packets

9. Do not give more than 6 tumblers in 24 hours.

- too much Oralite can?

10. For adults and children over 5 years old. Mix ALL powder from sachet with $\frac{2}{3}$ of a tumbler of water (200 ml).

11. Give this dose every 2 or 3 hours.

- treat the patient for 2 days...?
- give 6 glasses (use 6 packets of Oralite) during the first day
- give 6 more the second day

12. Do not give more than 6 tumblers in 24 hours.

13. Always use as instructed unless otherwise directed by your doctor.

14. Give slowly to prevent vomiting during treatment

15. Use clean spoon to give Oralite to small babies.

- so the baby will not get more germs

16. If baby is thirsty between drinks of Oralite, give plain boiled and cooled water.

- do not give other liquids, since this might cause X symptoms....?

-if mothers are breastfeeding, continue breastfeeding....?

17. Begin normal feeding again as soon as possible

-the baby needs to quickly build up strength

18. See a doctor whenever diarrhoea is severe or if it has not stopped within 2 days.

-severe dehydration can be fatal

F. GRAPHIC MARKERS

- | | | |
|----|---|---|
| 1. | boxes | Y |
| 2. | two or more sizes of print | Y |
| 3. | two or more colours of print | Y |
| 4. | lower and upper case lettering | Y |
| 5. | "balloon capsules" | N |
| 6. | spaces between information in main body of text | Y |
| 7. | two or more background colours | N |
| 8. | different colour or size of print to mark warning information | Y |

Both the warning about not boiling the solution and about seeing a doctor if the diarrhoea is severe or lasts longer than 2 days are given in red. Other ORT products do not give the last two warnings.)

9. boxes or space marker to set off warning information Y
(The warning about seeing the doctor is enclosed in a box.)

10. use of bold lettering Y
(The use of bold lettering for the headings increases the legibility of the lists.)

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side One: Name & type & use/ illustrations of preparation with captions/ warning information/ use
2. Side Two: Use/ dosage (some preparation) and administration & warnings related to giving the correct dosage/ warnings concerning dosage, administration and patient care/ chemical contents of product/ warning/

manufacturing information

2. DEVICES TO CONNECT THESE TOPICS

1. The name and use act as a heading for the illustrations.
2. The illustrations and captions are joined by boxes.
3. The warning on the first side is highlighted by red lettering and the usage information is marked by uppercase lettering. This information is printed across the first side so that it spans the length of the illustrations.
4. The headings for dosage procedures refer back to the usage information on side one. The preparation procedures, which are repeated, also link the two sides of the packet.
5. The relationship between dosage and the final warnings is specific to general. The first warning on the second side sums up the dosage information.
6. It is not clear why the chemical components are inserted before the final warning and this before the manufacturing information.
7. This is the only label of the four ORT medicines which has the manufacturing information at the end.

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

1. The steps in the first two main topics are ordered sequentially; the dosage information is from young to old.
2. The first warning sums up the preceding dosage information; the next warnings add more detail, and the final warning is a the most crucial warning.

4. TIME WORDS

1. give slowly (2)
2. protect your baby during diarrhoea
3. during the first 4 to 6 hours
4. over the next 18 to 24 hours
5. in the following 24 hours
6. in 24 hours
7. every 2 or 3 hours
8. between drinks
9. as soon as possible
10. whenever diarrhoea
11. within 2 days

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. picture captions (old information)
2. subjects of commands (old information); implicit
3. the first heading (new and old information); the baby was pictured on side one and the term, diarrhoea, has also been used
4. other headings for the dosage categories (new information);
5. the age group (implicit old information throughout the chart)
6. the first warning (given and new information)
7. the next two warnings (new information)
8. the following two (given information)
9. the final two warnings (new information)

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. None of the nouns in the captions have articles but they immediately follow the pictures.
2. The first use of the word, "water", on the second side does not have a definite article. The link between this water and the water in the illustrated procedures is, therefore, not made.
3. "Give this dosage every 2 or 3 hours." In this instruction the reader is referred to the preceding preparation procedures.

b. ELLIPSIS AND SUBSTITUTION

1. [Oralite] replaces...
2. Oralite [is an] oral treatment...
3. boil [enough water to make at least 3 tumblers]
4. pour [boiled and cooled water] into a tumbler
5. add All powder [to the tumbler] and stir
6. give slowly [to the patient]
7. always use [oralite] as directed
8. give [oralite] slowly
9. use as [you are] instructed
10. unless [you are] otherwise directed

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

Inclusions

1. add all powder and stir

2. do not boil...after adding...
3. body water & salts
4. for adults and children...
5. unless otherwise directed
6. If baby...
7. as soon as possible

2. LEXICAL COHESION

a. REPETITION

1. The key terms Oralite (4), tumblers (4), tumbler (3) and give (10) are repeated several times which lends cohesion.
2. The repetition of for in the dosage headings lends cohesiveness.
3. The instruction to "Add ALL powder" is repeated three times.
4. The phrase "Do not give more than..." is repeated twice.

b. SYNONYMY

1. Oralite (4)/ powder (4)
/powder from sachet (1)
2. 2/3 tumbler (1)/ this dose (1)

c. COLLOCATION

None.

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English

B. TOPICS COVERED IN EACH LANGUAGE

C. OTHER COMPARISONS

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

1. The punctuation is accurate.
2. The captions have initial capitals but no final punctuation.
3. Block language is not punctuated except in two instances.

C. USE OF CAPITALS, BRACKETS

1. The use of capitals is accurate.
2. Brackets are used twice to give a metric equivalent for a household container.

Padrax**I. LEXICAL****A. WORD COUNT****1. ENGLISH 42****--DIFFERENT WORDS 33****2. KISWAHILI 88****--DIFFERENT WORDS 69**Total Words: 130Kiswahili has 46 more words than English.**PADRAX ENGLISH WORD FREQUENCY**

bp 1
 by 1
 brand 1
 citrate 2
 g 2
 glass 1
 hexahydrate 1
 hyphen 1
 in 1
 international 1
 kenya 1
 ltd 1
 made 1
 mark 2
 medicine 1
 ml 1
 new 1
 nairobi 1
 of 2
 padrax 3
 piperazine 3
 products 1
 powdered 1
 reg 1
 registered 1
 roundworm 1
 sterling 1
 the 1
 trade 2
 user 1
 worm 1
 210901 1
 02 1
 Padrax

KISWAHILI WORD FREQUENCY

ambayo 1
baada 2
chini 1
choo 2
daktari 1
dawa 2
hadi 1
huendi 1
hujalala 1
hutengeneza 1
huondoa 1
ikiwa 2
ina 1
inayoonja 1
joto 1
kabla 1
kiki 1
kila 1
kipimo 2
kwa 1
kufungua 1
kunywa 2
lazima 1
masaa 1
maji 1
miaka 4
minyoo 1
na 5
ndani 1
ni 1
pahali 1
pakavu 1
pakiti 4
pasipo 1
pasipofikiwa 1
poda 1
rudia 1
shauri 1
siku 1
tat 1
upes 1
ukamilifu 1
vizuri 1
wakubwa 1
watoto 2
watu 1
weka 1
ya 8
yeyusha 1
zaidi 1

1 1
 1 1
 2 2
 150 1
 2 4
 200 1
 24 1
 3 1
 6 2

B. VERB TYPES

- | | | |
|-----|--|---|
| 1. | hutengeneza (repairs, puts right) | simple present;
causative;
habitual |
| 2. | inayoonja (heals) | simple present |
| 3. | huondoa (expels) | simple present;
habitual |
| 4. | yeyusha (cause to melt, melt, make a solution) | simple present;
causative |
| 5. | kunywa (drink) (2) | imp |
| 6. | hujalala (have not slept) | present perfect;
negative |
| 7. | shauri (ask counsel, get advice, consult) | imp |
| 8. | ikiwa ni lazima (if it is necessary) | present; modal;
conditional |
| 9. | rudia (repeat) | imp |
| 10. | kufungua (to open) | non-finite infinitive |
| 11. | ikiwa huendi (if it doesn't go) | present; conditional;
negative |
| 12. | ina (it has) | simple present |
| 13. | [Is] Made | non-finite past
participle (mtg) |

SIMPLE PRESENT (PRESENT, & CAUSATIVE, & CAUSATIVE/HABITUAL, & HABITUAL & CONDITIONAL & MODAL/CONDITIONAL): 2 & 1 & 1 & 1 & 2 & 1

IMPERATIVE: 3

PRESENT PERFECT (NEGATIVE): 1

NON-FINITE (INFINITIVE & PAST PARTICIPLE): 1 & 1

ACTIVE/PASSIVE: 12/2

C. ABSTRACT AND CONCRETE NOUNS

English:

- | | | |
|----|---------------|----|
| 1. | worm medicine | A* |
| 2. | Padrax (2) | C* |

3.	glass	C
4.	Kenya	C (mfg)
5.	Sterling Products International Ltd.	A*
6.	Nairobi	C
7.	User	A
8.	trade mark	A
9.	Padrax	A*
10.	brand	A
11.	piperazine citrate, B.P. (2)	C
12.	piperazine hexahydrate	C
13.	g (2)	C (mfg)
14.	ml	C

ABSTRACT/CONCRETE: 6/11

Kiswahili:

1.	Poda (powder)	C
2.	dawa (2) (medicine)	A
3.	minyoo (roundworms)	C
4.	Kipimo (2) (measure)	A
5.	watu wakubwa (adults)	C
6.	watoto (2) (children)	C
7.	miaka (2) (years)	A
8.	pakiti (4) (packet(s))	C
9.	maji (water)	C
10.	daktari (doctor)	C
11.	siku (day)	A
12.	choo (2) ("to the bathroom")	C
13.	masaa (time)	A
14.	pahali (place)	A
15.	joto (heat)	A
16.	pakavu (dry place)	A

ABSTRACT/CONCRETE: 11/11

TOTAL ABSTRACT/CONCRETE: 17/22

II. SYNTACTIC CATEGORIES

A. MAJOR SENTENCES:

1. Made in Kenya by STERLING PRODUCTS INTERNATIONAL LTD., Nairobi
2. Poda ya Padrax hutengeneza dawa inayoonja vizuri ambayo huondoa Minyoo (Roundworm) upesi na kwa ukamilifu.
3. Yeyusha ndani ya glass ya maji (200 mL) na kunywa kabla hujalala.
4. Chini ya miaka 2 shauri daktari.
5. Ikiwa ni lazima, rudia kipimo kiki baada ya siku 2.
6. Kunywa dawa ya kufungua choo ikiwa huendi choo baada ya masaa 24.

7. Kila pakiti ina 'piperazine citrate', 1.65g. (iliyo sawa na 'piperazine hexahydrate' 1.50g)
8. Weka pahali pasipo na joto, pakavu pasipofikiwa na watoto.

B. MINOR SENTENCES:

None.

C. BLOCK LANGUAGE:

1. New Powdered Padrax
2. REG TRADE MARK
3. brand of piperazine citrate, B.P.
4. worm medicine
5. Registered User of the trade mark Padrax 210901 - 02
6. Kipimo:
7. Watu Wakubwa na Watoto zaidi ya miaka 12 pakiti 3.
8. Miaka 6 - 12 pakiti 2.
9. Miaka 2 hadi 6 pakiti 1.

III. SEMANTIC CATEGORIES

A. TOPICS

1. NAME AND (TYPE)

1. New Powdered Padrax
2. brand of piperazine citrate, B.P.

2. PRODUCT USE

1. worm medicine
2. Poda ya Padrax hutengeneza dawa inayoonja vizuri ambayo huondoa Minyoo (Roundworm) upesi na kwa ukamilifu.

3. PREPARATION INFORMATION

1. Yeyusha ndani ya glass ya maji (200 mL)....

4. DOSAGE INFORMATION

1. Kipimo:
2. Watu Wakubwa na Watoto zaidi ya miaka 12 pakiti 3.
3. Miaka 6 - 12 pakiti 2.
4. Miaka 2 hadi 6 pakiti 1.

5. ADMINISTRATION

1. ...na kunywa kabla hujalala.

6. STORAGE/WARNINGS

1. Weka pahali pasipo na joto, pakavu pasipofikiwa na watoto.

7. WARNINGS

1. Chini ya miaka 2 shauri daktari.
2. Ikiwa ni lazima, rudia kipimo kiki baada ya siku 2.
3. Kunywa dawa ya kufungua choo ikiwa huendi choo baada ya masaa 24.

8. MANUFACTURING

1. Made in Kenya by STERLING PRODUCTS INTERNATIONAL LTD., Nairobi
2. Kila pakiti ina 'piperazine citrate', 1.65g. (iliyo sawa na 'piperazine hexahydrate' 1.50g)
3. REG TRADE MARK
4. Registered User of the trade mark Padrax 210901 - 02

B. NUMERACY**1. MEASURES/EQUIVALENCES/FRACTIONS****a. MEASURES**

Glass, millilitres, packets

b. EQUIVALENCES

1. a glass = 200ml

The client has to deduce this from the use of brackets around the metric measure which follows the word, "glass".
The equivalent is given in English only.

c. FRACTIONS

None.

2. CALCULATIONS

No calculations: The client takes the correct number of glasses (3, 2 or 1) and mixes a packet in each glass. So, for example, 3 packets need to be purchased for a full treatment for someone over 12 years.

3. CONVERSIONS

None.

4. PROBLEM-SOLVING INVOLVING NUMERACY SKILLS

1. The client simply has to mix the designated number of packets in an equal number of glasses one time.

5. STEPS

1. decide on age category (i.e., a 6-12 year old)
2. take two packets and mix in two glasses of water

6. UNIFORMITY OF THE APPLICATION PROCEDURE

- | | |
|---|---|
| a. Regular intervals | Y |
| b. Same amounts of medication between doses | Y |
| c. Same dosage between age levels | N |
| d. Number of age levels distinguished: | 4 |

C. GRAPHIC CATEGORIES

1. ILLUSTRATIONS

None except the sketch of the worms on side one.

D. CHARTS/TABLES

None.

E. INFERENCES

1.
 - a. Watu Wakubwa na Watoto zaidi ya miaka 12 pakiti 3.
 - b. Miaka 6-12 pakiti 2.
 - c. Miaka 2 hadi 6 pakiti 1.

-this "worm medicine" expels worms if the correct dosage information is followed

-symptoms of worms may be X

-worms are easily spread between people living in the same household so check whether more than one person may have worms

-treat everyone who has worms at the same time

-each age group should take the full required dosage

2. Yeyusha ndani ya glass ya maji (200ml).

-do not mix more than one packet in one glass of water

-use the larger tea glass rather than the very small ones

3. na kunywa kabla hujalala

-it is important to take the medicine before sleeping because of X

-if the patient cannot drink all the liquid at one time, store left over mixture in a cool place...?

-do not keep for more than X hours if there is no refrigeration

4. Chini ya miaka 2 shauri daktari.

-this medicine is too strong for babies...?

5. Ikiwa ni lazima, rudia kipimo hiki baada ya siku 2.

-if X symptoms persist give the full dosage again

-do not give again before the two days because....?

-if the symptoms still persist, see a doctor

6. Kunywa dawa ya kufungua choo ikiwa huendi choo baada ya masaa 24.

-one possible side-effect of Padrax is constipation

7. Weka pahali pasipo na joto, pakavu pasipofikiwa na watoto.

-light and heat can destroy the effectiveness of this medicine

-if children eat this medicine, it may cause X

-keep in a dry place

F. GRAPHIC MARKERS

- | | |
|--|---|
| 1. boxes | N |
| 2. two or more sizes of print | Y |
| 3. two or more colours of print | N |
| 4. lower and upper case lettering | Y |
| 5. "balloon capsules" | N |
| 6. spaces between information in main body of text | N |
| 7. two or more background colours | N |
| 8. different colour or size of print to mark warning information | N |
| 9. boxes or space marker to set off warning information | N |
| 10. use of bold lettering | N |

THIS LABEL HAS FEW GRAPHIC MARKERS. THE TEXT CONSISTS OF ONE PARAGRAPH CONTAINING USAGE, DOSAGE, WARNING, MANUFACTURING AND STORAGE INFORMATION.

IV. RHETORICAL ORGANIZATION

A. COHERENCE

1. ORDER OF 'TOPICS'

1. Side One: Name & Type & Use
2. Side Two: Use/ Dosage/ Preparation/ Administration/ Warnings/Manufacturing (chemical contents)/ Storage/ Manufacturing Information

2. DEVICES TO CONNECT THESE TOPICS

1. On the first page the name and use are written in large bold lettering to distinguish from the type.
2. The second side is introduced by more complete information on the use and benefits of the product.
3. Dosage precedes preparation information. Warnings concerning dosage precede those dealing with possible side-effects and the treatment of these. The information is ordered sequentially.
4. The product's chemical components are interspersed with the procedures.
5. Storage information concludes the paragraph.
6. The least essential information to the consumer, the company and place of manufacture, conclude the label.
7. Dosage information is introduced by the word, "Kipimo:".

3. INFORMATION WITHIN TOPICS (SEQUENCING)/BULLETING AND NUMBERING

No markers are used in the paragraph to mark the points.

4. TIME WORDS

1. ...upesi... quickly
2. ...kabla...before
3. ...baada ya...(2) after
4. ...siku 2... two days
5. ...kunywa dawa...ikiwa huendi... drink medicine...if you can't go...

5. THEMATIC STRUCTURE: OLD AND NEW INFORMATION

1. The second side is linked to the first by the repetition of the usage information and name of the product.
2. The first dosage procedure begins with new information. The second and third procedures begin with old information, that is, the term, miaka (years).
3. The procedures for preparation begin with new information.
4. The next statement, contains given information which was given two statements earlier.
5. Each warning begins with new information although one procedure contains the phrase, "this dosage", which refers to previous dosage information.
6. The final warning begins with new information.

B. COHESION

1. GRAMMATICAL COHESION

a. REFERENCE

1. Kiswahili does not have articles.
2. The procedure concerning retreatment refers to the first treatment by the phrase, 'rudia kipimo hiki' (repeat this dosage),...but due to to intervening text between the this demonstrative and the referent, the reference is not clear.
3. Several relative clauses are used: "...iliyo sawa na ...".
This is used to explain the equivalence between two different chemical components; ...inayoonjo (which heals); ...ambayo(who); and ...iliyo(which is).

b. ELLIPSIS AND SUBSTITUTION

1. ...zaidi ya miaka 12 [take] pakiti 3...
2. ...miaka 6-12 [take] pakiti 2...
3. ...miaka 2 hadi [take] 6 pakiti...
4. Yeyusha [poda] ndani...
5. Kunywa [dawa] kabla...
6. Weka [pakiti ya Padrax] pahali...

c. CONJUNCTION WITH AND WITHOUT ELLIPSES

inclusions

1. ...upesi na kwa ukamiliifu... quickly and safely
2. ...Watu Wakubwa na Watoto.... adults and children
3. ...na kunywa... and drink
4. ...ikiwa ni... if it is
5. ...ikiwa huendi... if you can't go

omissions

10. ...pakavu [na] pasipofikiwa.. dry and which can't be reached

A LARGE NUMBER OF WORDS AND PHRASES ARE OMITTED.

2. LEXICAL COHESION

a. REPETITION

1. The key words are: "The New Powdered Padrax" (1, Side One), "Poda ya Padrax" (1, Side Two), "pakiti" (4), "miaka" (4), "dawa" (2), and "kipimo" (2).

b. SYNONYMY

1. "Poda wa Padrax" (1)/ "dawa" (2)
The second use of "dawa" refers to another type of medicine.
2. "New powdered Padrax" (1) on side one is translated into Kiswahili, Poda wa Padrax, on side two.
3. "Pakiti" (4) is used instead of the product's name.
4. "Minyoo" is translated into English, "Roundworms" and included in brackets after the Kiswahili term.
5. The hyphen marker is replaced in one instance by the word hadi (to).
6. No Kiswahili term is given for "glass".

c. COLLOCATION

1. Minyoo and Roundworm
2. glass is used in Kiswahili to express, bilauri

V. LANGUAGE(S) EMPLOYED

A. LANGUAGES USED

English and Kiswahili.

B. TOPICS COVERED IN EACH LANGUAGE

1. English is used for the product's name, and use, and for the name of the company and the place of manufacture.
2. Kiswahili is used for the chemical components of the product, and for dosage, preparation, administration, warning and storage procedures.

C. OTHER COMPARISONS

1. The Kiswahili term for roundworms is translated into English.
2. The English terms, "glass", and, "ml", are used without translation.

VI. PUNCTUATION

A. CONSISTENCY AND ACCURACY

1. Full stops end all sentences, and conclude block language concerned with dosage procedures.
2. Full stops are used erroneously twice in the place of a comma or brackets.

C. USE OF CAPITALS, BRACKETS

1. Capitals are not used consistently.
2. Brackets set apart a translation, a metric equivalent and a chemical equivalent.