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Number of people with difficulty seeing detected by community rehabilitation workers in the Limpopo Province of South Africa, with special reference to cataracts

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NUMBER OF PEOPLE WITH DIFFICULTY SEEING DETECTED BY COMMUNITY REHABILITATION WORKERS IN THE LIMPOPO PROVINCE OF SOUTH AFRICA, WITH SPECIAL REFERENCE TO CATARACTS.

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, in partial fulfillment of the requirements for the degree

of

Masters in Public Health (Community Rehabilitation).

Acornhoek, 2007.

Ethical clearance number MO1-05-37.

DECLARATION

I, Rhian Twine, declare that this research report is being submitted for the degree of Masters in Public Health (Community Rehabilitation), University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at this or any other university.

RTwine ..... Rhian Twine

10th day of May 2007.

DEDICATION

To Robyn for making me finish..."*mom - are you doing MPH tonight...?*", Wayne, long live the "Evans-Twine CRW efficacy index", and Samantha whose imminent arrival gave me the last push.

ABSTRACT

Cataracts are a major cause of blindness in the world, but people with cataracts in South Africa are not accessing surgery in rural areas for a variety of reasons. Community rehabilitation workers (CRWs) should take an active role in identifying clients for cataract surgery, but it appears that this is not the case.

This descriptive cross sectional survey examined the efficiency with which CRWs identify people with difficulty seeing, especially those with cataracts. A house to house survey and an ophthalmic diagnostic clinic provided baseline data about the prevalence and diagnosis of people with difficulty seeing in four villages. CRW records were examined to determine how many people they had identified with difficulty seeing and with cataracts, and their effectiveness determined by comparing that information to the baseline data.

The average prevalence of people with difficulty seeing in the total population was found to be 8.7%, with cataracts the most prevalent cause at 26.7%. The most effective CRW was 96% effective at finding people with difficulty seeing, and 90% effective at finding people with cataracts, and the least effective CRW 0% effective at finding either. The CRW efficacy index developed in this study illustrates that the CRW effectiveness at finding people with difficulty seeing and with cataracts are highly variable.

If CRWs are to be an effective part of the cataract active case finding team, then attention needs to be given to increasing their ability to find cases through in service training, and ensuring that they are part of a team.

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I would like to thank my two patient supervisors, Pat de Witt and Denise Franzsen, and my husband, Wayne Twine. Thanks to Christoffel Blinden Mission for their financial support and to Marj Concha.

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NOMENCLATURE

CBR - Community Based Rehabilitation

CORRE - Wits Tintswalo Community Rehabilitation Research and Education Programme

CRW - Community Rehabilitation Worker

DHS - District Health System

IAPB - International Agency for the Prevention of Blindness

NGO - Non Governmental Organisation

PHC - Primary Health Care

PRA - Participatory Rural Appraisal

WHO - World Health Organisation

DEFINITION OF TERMS

Cataract, difficulty seeing, community based rehabilitation, community rehabilitation workers and households are defined.

Cataract

The International Agency for the Prevention of Blindness (IAPB) defines a cataract as a clouding of the lens of the eye, which obstructs the passage of light. The clinical signs of cataract are gradual deterioration in vision, accompanied with a greying opacity of the pupil, which later becomes white as the cataract becomes mature (IAPB, 2000).

Difficulty seeing

The term 'difficulty seeing', although at first glance cumbersome, is used particularly in this report as it is the term used by the World Health Organisation (WHO) in their series of booklets titled *Training in the Community for People with Disabilities* (Helander, E. et al, 1989) to denote people who have problems seeing or who are blind. It is from these booklets that that the community rehabilitation workers (CRWs) are taught to screen for disabilities and one of the data collection tools for this study - the house to house survey and register (Annexure 3a) - is also derived.

Community based rehabilitation

> "*Community based rehabilitation is a strategy within community development for the rehabilitation, equalization of opportunities and social integration of all people with disabilities. It is implemented through the combined efforts of disabled people themselves, their families and communities and the appropriate health, education, vocational and social services*" (ILO, UNESCO, WHO, 1994:3).

It is therefore a strategy for enhancing the life of disabled people by improving service delivery, providing more equitable opportunities and by promoting and protecting their human rights (Helander, 1993).

Community rehabilitation worker

A CRW is a health worker who has two years of training in elementary occupational therapy, speech therapy and physiotherapy skills, as well as some community development and administration/management skills. In South Africa, CRWs are employed by the Department of Health as specialised auxiliary services officers to work at the community level, usually reporting to the clinics in the areas in which they work. Their main role is to implement CBR, focusing on empowerment of people with disabilities, and ensuring inclusion of people with disabilities in all spheres of life, as well as providing elementary therapy in disabled people's homes, and referring when secondary or tertiary level medical or rehabilitative care is required (Concha, 1993). CRWs are supervised by qualified Occupational Therapists, Physiotherapists and/or Speech and Hearing Therapists from the nearest district hospital. Currently they are registerable with the Health Professions Council of South Africa (HPCSA) as Occupational Therapy Assistants (Community), and will be registered as Occupational Therapy Technicians by the end of 2011, provided they pass the relevant Board exam (Ramakumba et al, 2006).

Household

For the purposes of this study, a household was defined by the researcher as all those people who sleep in the house at least five nights of the week.

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION AND BACKGROUND

The International Agency for the Prevention of Blindness (IAPB) has estimated that six of every ten blind people the world over could be cured by cataract surgery, and that blindness could be avoided in up to 90% of cases were eye care services readily available and accessible (IAPB, 2000). The IAPB also estimates that over 80% of blind people live in the developing world, where services are not always readily available or accessible. Thus the IAPB has introduced a global initiative called "Vision 2020 - The Right to Sight" which aims, through international cooperation, to eliminate avoidable blindness by the year 2020 (Garms, 1998).

Cataract is a major cause of blindness in the rural areas of South Africa and the majority of these clients could be cured by surgery (Bucher and Ijsselmuiden, 1988; Cook and Stulting, 1995). However, relatively small numbers of clients undergo cataract surgery, for reasons that include poor detection, lack of adequate services, limited access, problems of distance, transport and other costs as well as client's perceptions that the operation is dangerous, painful and not successful (Thylefors, 1998). In their study in rural Kwa Zulu Natal in 1999, Rotchford and Johnson (2000) found that the cataract surgical coverage rate was 42.2%. Even in developed countries, detection and therefore treatment of eye problems remains low and Wang et al (1998) report that in the United States, more that 40% of blindness from any cause, not only cataract, could have been prevented by timely treatment.

1.2 STATEMENT OF THE PROBLEM

Community rehabilitation workers (CRWs) are community based health personnel trained in the detection and elementary rehabilitation of people with disabilities and work mostly in rural, poverty stricken areas. They are ideally situated and trained to play an important role in the identification, referral and postoperative rehabilitation of people with avoidable blindness, including cataracts. CRWs can also detect people with eye problems that may lead to difficulty seeing and help prevent these problems developing into impairments or disabilities. Ensuring the most effective use of the CRWs' skills and services is possible and desirable in South Africa, as ophthalmic services, although not always readily accessible, are available and considerable effort is being made by the National Department of Health to make ophthalmic services more accessible. Thus every effort should be made to enable people to make full use of this relatively good (for a developing country) ophthalmic health care service.

Between 1991 and 2002, the Department of Health and Welfare in the Limpopo Province (formerly Northern Province) of South Africa, employed 45 CRWs as specialised auxilliary service officers. The scope of practice of the CRW included detection, referral and intervention for people with all types of disability; prevention of disability; community development and associated administrative tasks (Petrick et al, 2001). CRWs worked mainly in rural areas of the province where there was poor infrastructure and limited access to health care services. Each CRW was responsible for community based rehabilitation (CBR) in one to four villages (Petrick et al, 2001). Each of these villages had an approximate population of

3100 people (Wits/MRC Rural Public Health and Health Transitions Research Unit (Agincourt), 2005), suggesting that CRWs were offering CBR services to between 3 100 and 12 400 people (an average of 7750 people).

CRWs have not been considered key role-players in the identification and management of cataracts in the Limpopo Province as the effectiveness of this category of health worker in detecting, referring and providing appropriate intervention for clients with cataracts is not known. If their role is adequately researched and documented and identified weaknesses remedied, CRWs could make a significant difference to the IAPB "Vision 2020 –The Right to sight" plan, which aims to prevent a further 100 million people worldwide becoming blind by the year 2020 (IAPB, 2000).

1.3 RATIONALE OF THE STUDY

CRWs potentially have a large role to play in identifying and referring people with cataracts. However informal surveys and discussions conducted by staff members of the Wits Tintswalo Community Rehabilitation Research and Education Programme (CORRE), the programme responsible for training all the CRWs in the Limpopo Province, suggest that CRWs are not effective in identifying people with cataracts. This study set out to investigate whether this perception is correct and what intervention is necessary to ensure that all qualified CRWs can fulfill their role and realise their potential in this important service to the community.

Although CRWs are no longer being trained in South Africa, the results from this study would be useful to courses for similar cadres of health care workers, such as

Occupational Therapy Technicians, who could be placed in community settings such as the ones that the CRWs work in currently.

Currently, health services in South Africa are concentrating on increasing the rate of cataract operations as indicated in the *Health Goals, Objectives and Indicators, 2001-2005* (South Africa, 2001a). If CRWs can be encouraged to realize their potential in identifying clients with cataracts, genuine steps can be taken to assist the population to prevent blindness resulting from cataracts in the Limpopo Province.

1.4 PURPOSE OF THE STUDY

This purpose of this study was to determine the effectiveness of CRWs in finding people with difficulty seeing, with special reference to cataract. This was done with a view to guiding further action to improve the CBR services to clients with difficulty seeing in the Limpopo Province.

1.4.1 Study objectives

The primary objective of this study was:

- Determine the effectiveness of the CRWs in identifying people with difficulty seeing, particularly those with cataracts by:
    - Establishing the prevalence of difficulty seeing, with special reference to cataracts, in the population served by the CRWs by house to house survey and attendance at an ophthalmic diagnostic clinic.

- Determining the number of people with difficulty seeing that CRWs have found in the population they served and the number they identified as having cataracts.
- Determining whether there is a difference between the number of potential clients in the community with cataracts as identified by the house to house survey and the ophthalmic sisters and those identified by the CRW.

The findings will be used to inform future plans to improve the service offered by CRWs to clients with cataracts in the Limpopo Province.

1.5 ASSUMPTION

The assumption made with respect to this study was the screening tool used in this study from the WHO series of booklets *Training in the Community for People with Disabilities* (Helander et al, 1989) was a reliable and validated instrument since it was published in training manuals and is used in many countries in the world.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 INTRODUCTION

Literature concerning the demographics of the Limpopo Province, the organization of the health services and the local leadership structures at the village level, the prevalence of people with difficulty seeing globally and in this province, methods of detecting people with difficulty seeing, prevalence, treatment and prevention of cataracts with specific reference to South Africa and CBR and CRWs in the Limpopo Province has been reviewed to inform this study.

2.2 DEMOGRAPHICS OF THE LIMPOPO PROVINCE, ORGANISATION OF THE HEALTH SERVICES AND LOCAL VILLAGE LEADERSHIP

The Limpopo Province, formally known as the Northern Province, is in the northeast corner of South Africa, sharing borders with Mozambique, Zimbabwe and Botswana. It covers 123 910 square kilometers and is one of the least industrialized and most rural provinces in South Africa - 80% of the population of this province live in rural areas (Statistics South Africa,1999).

The health services in the province are organised according to a district health system (DHS) . The *White Paper on the Transformation of the Health Services* (South Africa, 1997) describes the functioning of a DHS as follows:

> *"This level of the health care system should be responsible for the overall management and control of its health budget and the provision and/or purchase of a full range of comprehensive primary health care services within its area of jurisdiction. Effective referral networks and systems will be ensured through co-operation with the other health districts. All services will be rendered in collaboration with other governmental, non- governmental and private structures"* (Point 2.3.3).

The rural districts, in which the study took place, are made up of geographically distinct villages. In these villages, two levels of local leadership are in place – traditional and local government. A thesis by Hugh (2004) noted that traditional leadership consists of indunas (headmen) from each village who meet once or twice a week at the tribal authority offices and fall under a hosi (chief) who heads about 15 villages. Traditional leaders are seen to be the custodians of tradition and as promoting democracy (Hugh 2004).

Local government on the other hand, is structured according the *Municipal Structures Act of 1998* (South Africa 1998). At the village level, a Community Development Forum (CDF) (formerly called a civic) is elected, and this forum is responsible for reporting village level concerns to the ward councillors (elected members of local municipalities) and for taking messages from the ward councillors to the village population.

2.3 PREVALENCE OF PEOPLE WITH DIFFICULTY SEEING

2.3.1 Global prevalence

Reskinoff et al (2004), when reviewing visual impairment across the globe, compared data from 55 countries, including only studies that had used the same definition of visual impairment and blindness, had a similar cross sectional study design and had adequate ophthalmic investigations and visual acuity testing. The definition used to define visual impairment in all of these studies came from the *International Statistical Classification of Diseases, Injuries and Causes of Death*, 10th revision (ICD-10):H54 (Reskinoff et al 2004).

The definition included the following aspects:-

- *Visual impairment includes low vision as well as blindness,*
- *Low vision is defined as visual acuity of less than 6/18, but equal to or better than 3/60, or a corresponding visual field loss to less than 20 degrees in the better eye with best possible corrections (ICD-10 visual impairment categories 1 and 2),*
- *Blindness is defined as visual acuity of less that 3/60, or a corresponding visual loss to less than 10 degrees in the better eye with best possible correctio. (ICD-10 visual impairment categories 3, 4 and 5)* (p845).

A study carried out by Moser et al (2002) in Equatorial Guinea, indicated a prevalence of 6.8% for visual impairment, 3.2% for bilateral blindness and 4.2% for unilateral blindness. However, this study was carried out in an area where onchocerciasis (river blindness caused by black fly) is common (IAPB, 2000).

2.3.2 Prevalence of difficulty seeing in Limpopo Province

In a national disability survey commissioned by the National Department of Health and carried out in South Africa by the Community Agency for Social Enquiry (CASE), the reported disability prevalence for all types of moderate to severe disability in the Limpopo Province was 6.5% (CASE, 1999). The reported prevalence of people who had difficulty seeing in the Limpopo Province was 1.7% (CASE, 1999). The assessment included not only prevalence of actual blindness, but also included people with poor vision. Probe questions asked in the CASE survey were:

> *"1. Is anyone in your household blind in one or both eyes?*
>
> *2. Does anyone in your household have difficulty in:*
>
> - *seeing ordinary newspaper print at arms length even when wearing glasses or contact lenses, if usually worn?*
> - *recognizing a person you know across the road?*
> - *recognizing a person you know at arms length?*
> - *recognizing an object at arm's length?"* (p38).

The population of the Limpopo Province from the 2001 Census was 5 273 642, suggesting that there could be 89 652 people with difficulty seeing in the province, using the CASE (1999) prevalence rate.

Concha and Lorenzo 1993 however reported a considerably lower prevalence rate of seeing disorders (0.63%) in their 1987-1988 disability prevalence study in the Mhala

health ward of Gazankulu, which up until April 2006 was part of the Limpopo Province.

2.4 METHODS OF DETERMINING POPULATION BASED PREVALENCE OF DIFFICULTY SEEING

The literature reviewed revealed three main methods to collect population based data on the prevalence of people with difficulty seeing. The first method was house to house surveys in which each household across whole populations was visited and screened for difficulty seeing. The second method involved screening targeted population groups and a third method used random cluster sampling.

2.4.1 House to house surveys

Various house to house surveys to detect people with difficulty seeing have been documented in a number of countries over the world. Studies in Africa to determine the prevalence of visual loss using house to house surveys tend to make use of non-medically trained staff as fieldworkers, supported by small numbers of ophthalmic clinical officers and/or ophthalmologists for making diagnoses.

Mbulaiteye et al (2003) used non-medically trained staff in Uganda to conduct house to house surveys in 15 rural villages. They demonstrated that eye surveys can be carried out cheaply using E-optotype charts (an adaptation of Snellen's eye chart). This study provided information on incidence, not just prevalence of eye disease, since the cohort was revisited 3 years after the first survey. Mbulaiteye et al (2003) made use of an ophthalmologist who ran a diagnostic clinic fortnightly during the

house to house survey, to which clients identified as having difficulty seeing were referred. This study found that over 50% of identified blindness was caused by treatable causes and specifically mentioned cataracts. Mbulaiteye et al (2003) emphasized the importance of accurate data in order to plan services and stated that both prevalence and incidence studies were valuable for planning services, but that this data are often not collected in sub Saharan Africa owing to logistical constraints and lack of trained personnel.

Samanta [u.d.], in West Bengal in India, in the "Eye Clinic at our Door" programme conducted in 1995 and 1996, worked in partnership with government services and NGOs using trained volunteers to conduct house to house surveys. People identified as having visual problems were escorted to screening camps manned by ophthalmologists and ophthalmology assistants and referred to a surgical camp in the district for free surgery if necessary. The screening of 12 518 people in 60 villages took one month. 169 blind people were identified and of these 129 were diagnosed as having a curable cataract, using the WHO classification of blindness. This translates to a cataract prevalence rate of 1.3%. Those patients identified as having curable cataracts were offered surgery and 71 took up this offer.

However, Momm and Köning (1989) pointed out that care should be taken when making use of volunteers as:

- turnover is high, thus necessitating constant training,
- volunteers can drop out at any time,

- they receive limited training and yet are expected to act and take decisions which have a great impact on people's lives and
- there may be the expectation of being hired in the future.

They suggest that volunteers are a valuable resource, but cannot be used as a substitute for trained personnel, they need to be seen as an extension of a service run by people who have received professional training.

Contrary to these concerns there has been a long term and very successful volunteer programme running in South Africa since 1976. This is the Elim Care Group Project (Sutter and Maphorogo, 2001). This project aimed to eliminate trachoma in the northern part of South Africa, using a network of volunteers who were trained to conduct house to house visits, invert eyelids to check for trachoma and administer appropriate eye ointment if necessary. They were also responsible for conducting health education on trachoma in each household they visited. This project now has 250 groups with a total of 10 000 women involved. The impact of these groups on prevalence of trachoma has been measured and reported as highly significant.
One of the differences between this and other volunteer programmes, and to which success of this project can be attributed, is the fact that these volunteers work as part of a group and not as individuals. This provides more stability, especially as the groups are encouraged to network with each other.

2.4.2 Screening targeted population groups

Rather than conducting house to house surveys, another method frequently used is to conduct screening in targeted populations. Wang et al (1998) proposed that

people who were blind or who had poor vision. Concha and Lorenzo (1993) in their survey conducted in 1987/1988, found a total prevalence of disability of 6.46% in a rural population in the Limpopo Province. Of these people with disabilities, 15.75% had difficulty seeing, which was a prevalence of 0.63% in the total population. The CRWs in Dolan's study (Dolan et al 1995) had 6.56% less clients with difficulty seeing as part of their total case load of disabled people than would have been expected from the 15.75% proportion that was reported by Concha and Lorenzo. Both these studies were conducted in the same rural area of the Limpopo Province.

Vanneste (2000 b) however does suggest that in spite of the fact that CRWs appear not to be finding as many clients as they should, CRWs could play an important role in the systematic identification and referral of people with difficulty seeing to the appropriate services. Moulton (1998) presents another perspective, suggesting that CBR may not be a way to achieve greater numbers of people getting treatment, but rather to improve the quality of care of a few.

A major factor identified by CRWs as affecting their ability to find cases (Petrick et al, 2001) was a lack of access to transport. 20 (28.2%) of those surveyed noted this as the biggest problem. This may account for the fact that they are not actively finding cases and even if they do, they are unable to see these people at their homes because of lack of transport.

Of concern in the study conducted by Petrick et al (2002), was that only 3.2% of the CRW subjects regarded identifying people with disabilities as one of their roles. In

the same study, 2.7% listed this as an achievement and suggested now the community knew the role of a CRW they would now refer clients to them. 2.7% mentioned that therapists were responsible for referring clients to the CRW. Lorenzo's (1994) study on continuing education needs as identified by CRWs also found that identification of people with disabilities was not a desired topic for further education.

2.6.5 Community rehabilitation workers' skills for conducting community based rehabilitation for people with difficulty seeing

All CRWs working in the Limpopo Province were trained by the CORRE programme. This training aimed to produce a worker that could contribute in a comprehensive and appropriate manner to a CBR service within primary health care (Lorenzo, 1994). Training methodology used was an integrated, problem oriented approach (Concha, 1993) with three main settings for training of students - classroom, practical work while at the training programme, and practical work in the student's home village. During their training, four weeks were spent in learning about rehabilitation of people with difficulty seeing. This included 5 days in the classroom, 5 days doing practical work while at the training programme and 10 days practical work in their home village. In addition four and a half weeks was spent on training how to identify people with disabilities of all types; 10 days in the classroom, 3 days of practical work while at the training programme and 10 days practical work in their home village This adds up to 15 days classroom work, 8 days practical work while at the training programme and 20 days practical work in their home village.

Training included therapeutic skills, as well as methods of dealing with psychological, social, functional, leisure and vocational aspects of life (Dolan et al, 1995). The CRW is also taught how to:

> *"create a receptive and supportive environment for disabled people, both through passing therapeutic skills directly to the family and through educating the community at large about issues of disability and the desirability of integrating disabled people as fully as possible (into all levels of societal structure)"* (p189).

Not only should the CRW be effective in the role of identifying people with seeing difficulties and cataracts, but also in encouraging prospective clients to accept surgery. Indeed, the CRW is well prepared to identify the 'hidden' barriers to cataract surgery and in overcoming these in order to encourage clients to accept surgical intervention (Vanneste, 2000b). "Hidden' barriers include fear and lack of education about the efficacy of surgery (Shah, 2005). CRWs are taught to make use of peer education in order to overcome these fears by getting people who have had successful cataract operations to interact with potential candidates and to encourage them to go for surgery. However, it is not only fear that keeps people from surgery, physical barriers such as lack of transport and cost of treatment (however low these costs may be) are also factors that the CRW needs to consider when motivating clients to go for surgery (Donaghue, 1999).

CRWs should also play an important role in ensuring compliance with post operative procedures, such as early mobilization and follow up appointments (Sandford-Smith, 1995). One of the real benefits that CRWs have is that they understand and can deal with the real barriers that prevent access to cataract surgery owing to their understanding of local beliefs and customs (Vanneste, 2000 b). Since cataract surgery often has dramatic beneficial results, the respect that a CRW will get from the community upon successful referral of such cases will be of great benefit to the CBR services in general. Vanneste (2000b) also states that CRWs could be more effectively used in the post operative care and in orientation and mobility training for those where the operation was not successful, or could not be helped through surgery.

CHAPTER 3

STUDY METHODS

3.1 INTRODUCTION

In order to investigate whether CRWs were adequately identifying people with seeing problems, especially those people with cataracts, a two step research procedure was planned, following a preparatory phase. Table 3.1 sets out the steps that were followed in more detail.

Table 3.1 Steps taken in the research study

	STEP ONE	**STEP TWO**
Preparatory phase.	**Survey to determine prevalence of people with difficulty seeing in a population served by CRWs.**	**Effectiveness of CRW's in detecting people with difficulty seeing, especially those with cataracts.**
Developing data collection forms.	Surveying villages to identify people with difficulty seeing.	Determining the number of people with difficulty seeing that CRWs have previously identified.
Appointing and training research assistants.	Determining the actual number of people with difficulty seeing in the study population.	Differentiating between the numbers of potential clients in the study population with difficulty seeing and those identified by the CRW.
Pilot study.	Diagnosing of people with difficulty seeing.	Determining the number of clients the CRWs have identified as possibly having cataracts.
	Identifying the number of people with cataracts in the study population.	
	Data analysis.	
	Plans for the future.	

3.2 RESEARCH DESIGN

The research method that was used in this study was a descriptive cross sectional survey. The study aimed to describe a situation using data collected at one point in time in order to give service providers information which they could use to improve their services. The main variables compared were how many people there were with difficulty seeing in a population served by a CRW at a point in time and how many of these people the CRW actually knew at that time, with special reference to cataracts.

3.3 STUDY POPULATION

The study population was all persons living in the villages serviced by the CRW's employed by the Department of Health and Welfare in the Limpopo Province, South Africa.

3.4 SELECTION OF THE COMMUNITY REHABILITATION WORKER SAMPLE

The selection of the CRW sample was central to all aspects of the study, as the research took place in the areas served by the CRWs that were selected.

3.4.1 Selection of community rehabilitation workers

A sample of five CRW's was considered ideal for this study by the epidemiologist based on the populations served by CRWs and on the results of the informal, unpublished survey carried out by staff of the CORRE Programme in 1999 on CRW disability registers. James Hargreaves, the epidemiologist who assisted with the development of this study, was working at the Wits Rural AIDS Development and Action Research Project at Tintswalo Hospital in the Limpopo Province at the time.

The following criteria were established for CRWs to be included in this study:

- willingness to participate,
- having the appropriate records available and
- having worked as a CRW for two or more years.

This selection took place at the Limpopo Provincial CBR forum on the 21st August 2001, where most of the CRWs employed in the province were present. Prior to the CBR Forum mentioned above, a list of the 45 CRWs employed for two years or more in Limpopo Province was drawn up and each CRW was allocated a number from 1 to 45. The selection of subjects was then done using a computer generated random numbers table. The first five numbers in the table indicated the five CRWs selected to take part in the study. This selection was done in front of the CRWs to assure the CRWs that the process was random.

One of the selected five CRWs was not willing to participate, a second had had her records destroyed in the floods and a third was going on maternity leave at the time of the study. Hence the next three numbers on the table were used to select three more CRWs. These five CRWs were willing to participate in the study and each signed a consent form (Appendix 2a). For the purposes of confidentiality, this report refers to these five CRWs as A, B, C, D and E.

3.4.2 Selection of Sample Villages

Each CRW selected for the study sent the researcher a list of all the villages in which he/she was actively working at the time of the study. The numbers of villages varied from one to sixteen villages per CRW. One village served by each CRW was randomly selected and this village contained the sample population to be investigated for people with difficulty seeing. Village selection took place by randomly drawing the name of one village for each of the five CRWs out of a hat. For the purposes of the study, the villages selected in this manner were called Villages 1, 2, 3, 4 and 5.

3.5 THE STUDY METHODS

As described in table 3.1, this study consisted of a preparatory step, followed by two studies which each represented a step towards meeting the study objectives. Step 1 involved determining the prevalence of difficulty seeing in the sample villages, with special reference to cataracts. This step laid the foundation for Step 2 which involved determining the effectiveness of CRWs in identifying people with difficulty seeing, particularly those with cataracts.

3.5.1 Preparatory phase

This phase occurred before the two study steps could be started and involved developing data collection forms, translating consent forms, appointment and training of research assistants and carrying out a pilot study.

The following four data collection forms were designed by the researcher and discussed with the epidemiologist:

a. House to house survey and house to house survey register (Appendix 3a),

b..Ophthalmic diagnosis form (Appendix 3b),

c. CRW record analysis form (Appendix 3c) and

d. CRW interview form (Appendix 3d).

Two research assistants were selected and trained by the researcher, who then conducted a pilot study. The pilot study tested the validity of the data collection forms, and was also used to ensure that 100% inter rater reliability was obtained from the field work of both research assistants.

3.5.2 Step 1 - survey of prevalence of difficulty seeing

The purpose of this part of the research was to determine the prevalence of people with seeing problems, with special reference to cataracts, in the population served by CRWs. This step consisted of two data collection processes. The first process was a house to house survey in the sample villages and the second an ophthalmic diagnostic clinic run in each sample village.

3.5.2.1 Data collection process one - survey of villages for people with difficulty seeing

In this process, the research assistants conducted a house to house survey in all five sample villages to identify people with difficulty seeing.

Preparing villages for the house to house survey

Prior to the survey permission was obtained from the relevant district health and village level authorities.

Obtaining maps for the selected villages

A detailed map showing each house in the selected village was required for the study so that each house could be allocated a number in order to organise the house to house data collection.

House to house survey

The research assistants visited every household in each village. The house to house survey took both research assistants between four and ten working days to complete, depending on the size of the village. The research assistants were required to complete a minimum of 20 interviews per day, using the house to house survey form and register (Appendix 3a).

Usually, the head of the household was interviewed, but a proxy was accepted if the head of the household was not at home. The proxy had to be over 18 years of age and resident in the household. The research assistant explained the research and if the person agreed to participate the consent form was signed / marked by the head of the household / proxy prior to each interview (Appendix 2b).

If the person interviewed in the household answered 'yes' to any of the questions on the form, then the name of the person with the problem, his or her age, gender and

length of time living in the village was recorded on the register (Appendix 3a). The house number from the map was noted on the survey register to facilitate the organization of the ophthalmic diagnostic clinic to which all people who had been identified as having difficulty seeing were invited.

The person identified as having a problem was then located. After the research was explained to them and they agreed to participate, the consent form was signed / marked (Appendix 3c). They were then interviewed by the research assistants who also completed simple tests to ascertain whether they in fact had a problem that needed to be referred to the ophthalmic diagnostic clinic. These tests are also from the "*Supervisors Guide*" booklet from the WHO manual *Training in the Community for People with Disabilities* (Helander et al, 1989:23-24) (Appendix 3a).

If the person with difficulty seeing in the household was not at home, the research assistant had to make an appointment to return to carry out the tests. All persons identified as having a problem seeing was given an appointment card with the date to come to the clinic to be seen by the ophthalmic sister (Appendix 2c). If the research assistants found no one was at home for three consecutive visits, the home was not visited again.

The researcher visited the research assistants while they were carrying out the house to house survey in three of the five villages. Time did not allow for two villages to be visited. The researcher accompanied each research assistant for a morning or an afternoon to observe her working. She also randomly selected 10 households

already surveyed and conducted her own house to house survey in those households to check the accuracy of the data collection – no problems were found. The researcher also assisted with various administrative and filing problems during her visit.

3.5.2.2 Data collection process two – ophthalmic diagnostic clinics

The purpose of this process in the data collection was to:

- determine the diagnosis of people identified with difficulty seeing during the house to house survey and
- determine the number of people with cataracts in those people identified as having problems seeing.

Ophthalmic diagnostic clinics

Although an ophthalmic diagnostic clinic was planned in each of the 5 sample villages, due to unforeseen circumstances the ophthalmic sister in village 5 cancelled at the last minute and the clinic could not be rescheduled. As a result all data collected in village 5 was excluded from the data analysis.

Prior to the visit to each village by an ophthalmic sister from the nearest hospital (4 ophthalmic sisters were involved in the study) in order to run the ophthalmic diagnostic clinic, the CRW in the study villages was sent a list of the names and house numbers of the people identified with difficulty seeing by the research assistants in the house-to-house survey. The CRWs were asked to remind these

people to come to see the ophthalmic sisters on the day of the ophthalmic diagnostic clinic.

One day was spent in each study village conducting the ophthalmic diagnostic clinic. The time between conducting the house to house survey and the clinic ranged from 2 to 7 weeks. Table 3.2 details the exact time lapse between the house to house survey and the ophthalmic diagnostic clinic, in each village.

Table 3.2 Time lapse between house to house survey and ophthalmic diagnostic clinic

Village	Date of house to house survey	Date of ophthalmic diagnostic clinic	Period between last day of survey and clinic
1	21st– 31st October 2002	14th November 2002	2 weeks
2	1st – 8th October 2002	13th November 2002	5 weeks
3	14th -18th October 2002	5th December 2002	7 weeks
4	9th-20th September	28th October 2002	5 weeks

The consultations took place in the clinic of villages 1 and 2, in a classroom in village 3 and in the yard of the school of village 4.

The ophthalmic sister examined the people who attended the clinic, using an ophthalmoscope and/or a Snellen's chart and/or a torch, depending on the availability of such items from the hospital. The CRW was there to assist in an organizational capacity and as a translator for the researcher.

The researcher completed the ophthalmic diagnosis form (Appendix 3b) for each person with difficulty seeing, by asking the ophthalmic sister, CRW and person with difficulty seeing the relevant questions.

Not all of the people with difficulty seeing who were identified by the research assistants attended the clinic, but some were visited in their homes when it became clear they were not going to come to the ophthalmic diagnostic clinic. However, time restricted the numbers that could be visited at home as the sisters had to get back to the hospital before their duty time was over.

3.5.3 Step 2 – evaluation of community rehabilitation worker effectiveness

The research procedure in determining the effectiveness of CRWs in identifying people with seeing problems consisted of two processes – firstly the CRW records were analysed and secondly the CRW was interviewed. Both processes were necessary since CRW records proved of poor quality and interviews were necessary to compliment the records so as to ensure quality of data. Both processes were conducted by the researcher to ensure consistently. To achieve this, an appointment was made with each of the four CRWs between October and December 2002. On the morning of the appointment day the researcher scrutinized the CRWs' disability registers and case reports and completed the CRW Record Analysis Form (Appendix 3c). The afternoon was used to interview the CRW using the CRW Interview Form (Appendix 3d). The researcher made field notes on the CRW Interview Form during the interview.

3.5.3.1 Determining the number of people the community rehabilitation workers had identified as having cataracts.

The CRW interview and record review allowed the researcher to determine how many people the CRW had identified as having cataracts in the study village prior to the study. This was achieved through looking at the CRW records and interviewing the CRW, noting the names and numbers of people that the CRW had recorded as having cataracts.

This list was compared to the list of people with cataracts identified at the ophthalmic diagnostic clinic. The researcher decided whether people with cataracts identified at the ophthalmic diagnostic clinic but were not known to the CRW should in fact have been known to the CRW. Although this was a subjective decision, it was made by the same researcher for each person with difficulty seeing presenting at the ophthalmic diagnostic clinics, using the following criteria to guide this decision:

- if the difficulty seeing affected the persons sight so that they had to be led to move about the village, including to the ophthalmic diagnostic clinic;
- if the difficulty seeing severely impeded the person's vision so that their activities of daily living were affected and/or
- if the person were totally blind.

If any of the above criteria were met then the researcher was of the opinion that the CRW should have known about that person and should have had him or her on their disability register.

3.6 ETHICAL CONSIDERATIONS

Ethical clearance was obtained for the study from the Committee for Research on Human Subjects (Medical), University of the Witwatersrand, protocol number MO1-05-37 (Appendix 1a), and from the Limpopo Province Department of Health and Welfare Ethics Committee (Appendix 1b).

Three informed consent forms were included as part of the ethical approval process (Appendix 2). Consent forms were required for:

- each CRW who participated in the study (Appendix 2a),
- the head or responsible person in each household that was interviewed during the house to house survey (Appendix 2b) and
- the people who had been identified as having difficulty seeing and were invited to attend an ophthalmic diagnostic clinic in their village (Appendix 2c).

These consent forms explained the purpose of the research, emphasized confidentiality and participants right to refuse to participate at any stage of the research process, as well as making sure that participants understood how much of their time would be required if they participated in the study.

It was made clear to the CRW that there would be no positive or negative consequences for them as a result of their participation in this study revealing their ability to identify people with difficulty seeing.

3.7 DATA ANALYSIS

Data from the house to house survey and the ophthalmic diagnostic clinic were entered into a database using MS ACCESS. Data analysed in MS ACCESS was exported into MS EXCEL which was used to generate descriptive statistics.

The following considerations were important during statistical analysis:

i. Although it was expected that the house to house survey in each study village would identify all the clients with difficulty seeing some people were missed. This was evident because some people who had difficulty seeing attended the ophthalmic diagnostic clinic had not been identified in the house to house survey. Thus the total population of people with difficulty seeing in each village was worked out by adding those who were identified in the house to house survey whether or not they went to the ophthalmic diagnostic clinic, to those who were not identified in the survey but presented at the ophthalmic diagnostic clinic (Figure 3.1).

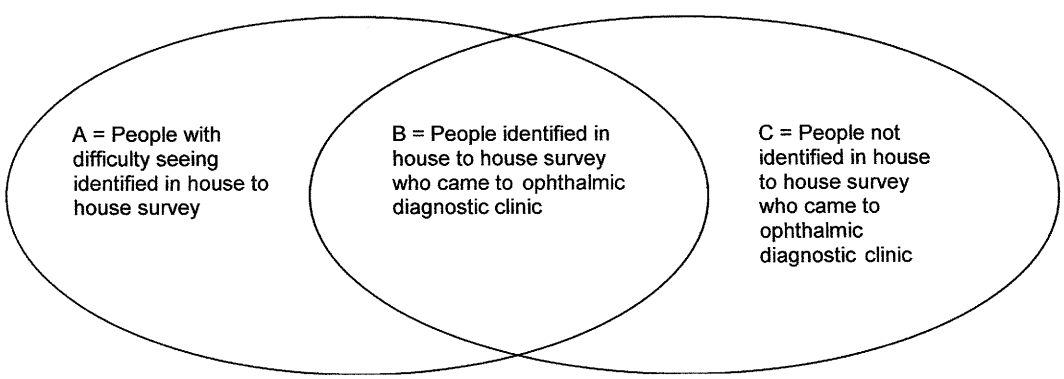


Figure 3.1 Calculating number of people identified with difficulty seeing in each village

ii. The procedure for calculating the effectiveness of a CRW in finding people with difficulty seeing was expressed as an index where 0 indicated least effective and 1 indicated most effective in the CRWs' ability to identify people with difficulty seeing. The formula used to calculate the CRW efficacy index was:

$$E = \frac{x}{(x+y)}$$

Where

- x = number of people who came to the ophthalmic diagnostic clinic who were already known to the CRW
- y = number of people who came to the ophthalmic diagnostic clinic who should have been known to the CRWs, according to the researcher, but were not.

iii. The same formula was used to work out the effectiveness of the CRWs in finding people with cataracts.

$$E = \frac{x}{(x+y)}$$

Where

- x = number of people with cataracts who came to the ophthalmic diagnostic clinic who were already known to the CRW
- y = number of people with cataracts who came to the ophthalmic diagnostic clinic who should have been known to the CRW, according to the researcher, but were not.

CHAPTER 4

RESULTS

4.1 RESULTS OF STEP 1: TO DETERMINE PREVALENCE OF DIFFICULTY SEEING AND CATARACTS

This part of the study was to determine the prevalence of people with difficulty seeing, with special reference to cataracts, in the population served by a CRW.

4.1.1 Demographics of total study population

Table 4.1 Demographic data for each village

Village	Number of households surveyed	Number of households not surveyed	Total number of households	Total population in households surveyed	Mean house hold size	Population in households not surveyed	Population size adjusted for households not surveyed
1	347	60	407	1651	5.8	353	2006
2	157	32	189	641	5.2	171	812
3	234	13	247	1107	5.1	86	1185
4	237	30	267	1052	5.1	157	1198
TOTAL	**975**	**135**	**1110**	**4451**	**5.3**	**767**	**5201**

Table 4.1 shows the demographic data collected for each study village. Village size varied from the least households at 189 and the smallest population of 812 in village 2 to 407 households and a population of 2006 in the largest village, village 1. Mean household size varied from 5.8 in village 1 to 5.1 in villages 3 and 4. Population size was adjusted to account for the households not surveyed.

4.1.2 People reported as having difficulty seeing during the house to house survey

Table 4.2 Prevalence of difficulty seeing found during the house to house survey per village

Village	Population surveyed	Number of clients found with difficulty seeing	Percentage of population with difficulty seeing identified in house to house survey
1	1653	92	5.6%
2	641	49	7.6%
3	1099	141	12.8%
4	1041	76	7.3%
TOTAL	**4434**	**358**	**8.1%**

The prevalence of difficulty seeing in the population surveyed during the house to house survey varied between villages, ranging from 5.6% in Village 1 to 12.8% in village 3 (Table 4.2). The average prevalence was 8.1%.

4.1.3 Actual prevalence of people with difficulty seeing

Table 4.3 Percentage of people with difficulty seeing in each village who were diagnosed in the house to house survey and did not attend the clinic

Village	**1**	**2**	**3**	**4**	**Total**
Found in house to house survey	92	49	141	76	358
Found in house to house survey but did NOT present at clinic	65	20	91	39	215
% not at clinic	**71%**	**41%**	**65%**	**51%**	**60%**

In order to determine the actual number of people with difficulty seeing in the population served by a CRW, account had to be taken of the fact that some people who were not found in the house to house survey came to the ophthalmic diagnostic clinic (Table 4.3). 60% of clients identified as having difficulty seeing in the house to house survey did not come to the ophthalmic diagnostic clinic.

Table 4.4 Actual population of people with difficulty seeing in each village

Source	Village 1	Village 2	Village 3	Village 4
Presented at clinic AND picked up in survey	27	29	50	37
Presented at clinic but NOT picked up in survey	16	16	26	35
Picked up in survey but did NOT present at clinic	65	20	91	39
Total number of people with difficulty seeing	**108**	**65**	**167**	**111**

Table 4.4 shows the actual population of people with difficulty seeing in each village, using the calculation indicated in figure 3.1.

Table 4.5 Total percentage of population with difficulty seeing

Village	Adjusted population figure	Total number of clients found with difficulty seeing	Total Percentage of population with reported difficulty seeing
1	2006	108	5.4%
2	812	65	8.0%
3	1185	167	14.1%
4	1198	111	9.3%
TOTAL	**5201**	**451**	**8.7%**

Table 4.5 shows the prevalence of people with difficulty seeing using the adjusted total population from Table 4.1 as a denominator and the total number of people with difficulty seeing from Table 4.4 as the numerator. The total percentage of the population that were identified during this study as having difficulty seeing was thus 8.7% - varying across villages from 5.4% in village 1 to 14.1% in village 3.

4.1.4 Diagnosis of people with difficulty seeing

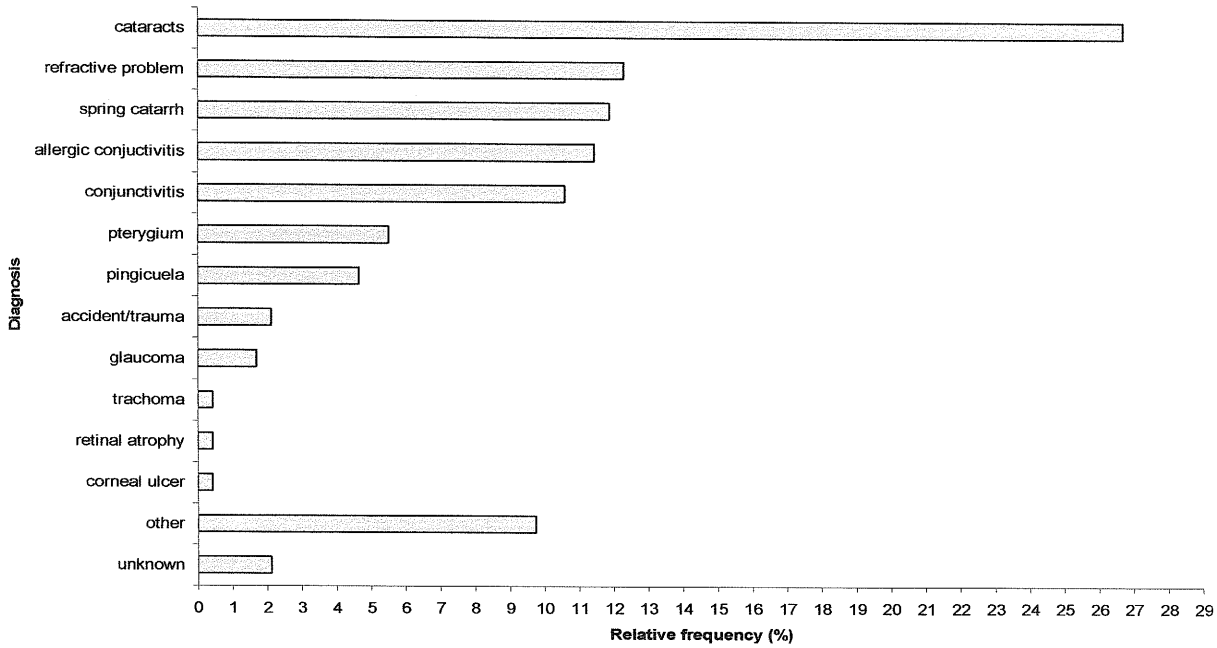


Figure 4.1 Prevalence of causes of difficulty in seeing in people presenting to the ophthalmic sisters in the whole study sample

A total of 236 people with difficulty seeing attended the 4 ophthalmic diagnostic clinics which is 52% of the total number identified (n=451, Table 4.5) as having seeing problems.

Cataracts accounted for 26.7% of eye diseases diagnosed in the clinic (Figure 4.1). This was followed by refractive errors at 12.3% and spring catarrh at 11.9%.

4.1.5 Prevalence of people with cataract

Table 4.6 Number of cataract cases identified by the eye sister, as compared to total population per village

Village	**1**	**2**	**3**	**4**	**Total**
Cataract cases	18	15	24	9	**66**
Village population	2006	812	1185	1198	**5200**
Percentage cataract in population	0.9%	1.8%	2.0%	0.8%	**1.3%**

Cataract cases as a percentage of the adjusted total population ranged from 0.8% to 2.0% of total village population and totaled 1.3% across all four villages (Table 4.6). Number of cataract cases seen by the ophthalmic sister did not relate to village population size (Table 4.6).

4.2 RESULTS OF STEP 2: EFFECTIVENESS OF COMMUNITY REHABILITATION WORKERS

This section reports on the effectiveness of the CRWs in finding people with difficulty seeing, with special reference to cataracts.

4.2.1 Community rehabilitation worker effectiveness in finding people with difficulty seeing

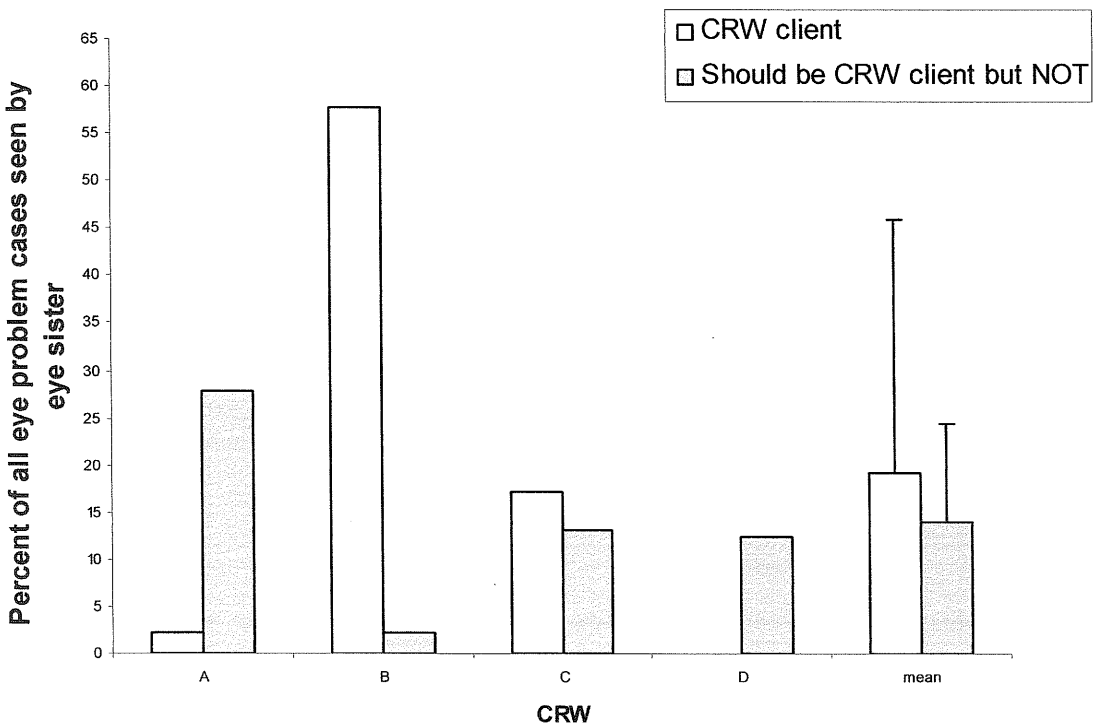


Figure 4.2 People with difficulty seeing who had / had not been identified but should be known to CRWs

The results regarding the CRWS ability in identifying people with difficulty seeing varied greatly between the CRWs. The mean percentage across all four CRWs for people with difficulty seeing that were already identified was 14% with a standard deviation of

27 and for those that the researcher thought should be identified but were not was 19% with a standard deviation of 11 (Figure 4.2). The mean percentages were not significantly different from each other ($p>0.05$).

Table 4.7 Effectiveness indices for CRW ability to find people with difficulty seeing

CRW	A	B	C	D
Already CRW client	1	26	13	0
Should have been CRW client	12	1	10	9
Effectiveness index	**0.08**	**0.96**	**0.57**	**0.00**

Values for the CRW efficacy index for finding people with difficulty seeing varied greatly (Table 4.7). CRW B was the most efficient, with an index of 0,96 (i.e. 96%). CRW C was moderately effective having an effectiveness index of 0.57 (57%). CRWs A and D were ineffective, having indexes of 0.08 (8%) and 0.00 (0%) respectively.

4.2.2 Community rehabilitation worker effectiveness in finding people with cataracts

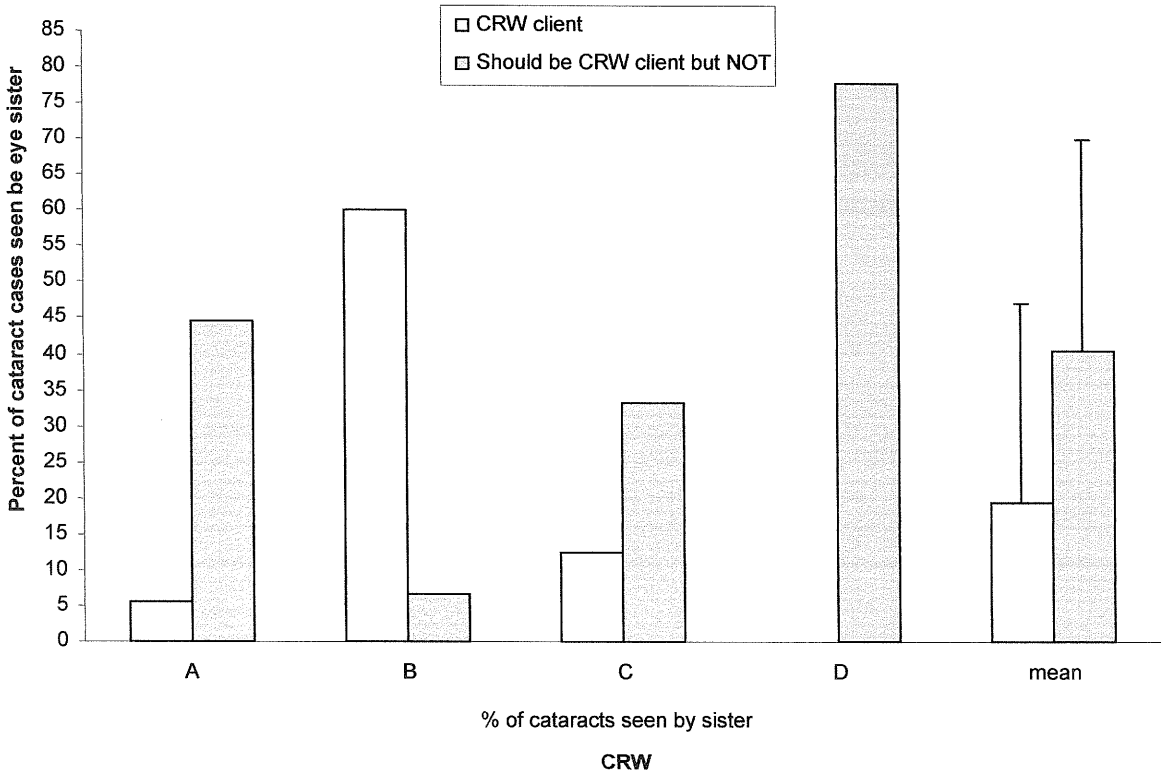


Figure 4.3 People with cataracts/who known / not known to the CRW

People with cataracts that the CRW had identified and the number identified in the ophthalmic diagnostic clinic that should have been known to the CRW according to the researcher varied greatly between CRWs (Figure 4.3). CRW D had again identified none of the people with cataracts that were seen at the ophthalmic diagnostic clinic, whereas CRW B had identified 60% of the people with cataracts. CRWs A and C already knew 5.6% and 12.5% of the people with cataracts respectively.

The mean percentage across all four CRWs for people with cataracts that were already identified was 20% and the standard deviation 27, and for those people with cataracts that the researcher thought should have been known but were not was 41% with a standard deviation of 29 (Figure 4.3). The mean percentages were not significantly different from each other ($p>0.05$).

Table 4.8 Effectiveness indices for CRW ability to find people with cataracts

CRW	A	B	C	D
Already identified by CRW	1	9	3	0
Should have been identified by CRW	8	1	8	7
Effectiveness index	**0.11**	**0.90**	**0.27**	**0.00**

Values for the CRW efficacy index in finding people with cataracts also varied greatly (Table 4.8). The pattern was similar to that observed in the overall effectiveness of CRWs in finding people with difficulty seeing. CRW B was again the most efficient, with an index of 0,90 (i.e. 90%). CRW C was less effective at finding people with cataracts than in finding people with general difficulty seeing, having an effectiveness index of 0.27 (27%). CRWs A and D were ineffective again, having indexes of 0.11 and 0.00 respectively.

CHAPTER 5

DISCUSSION OF THE RESULTS

5.1 INTRODUCTION

This discussion will consider the first study two objectives with the final objective which relates to future plans to improve services offered by CRWs to clients with cataracts in the Limpopo Province being dealt with in Chapter 6.

5.2 PEOPLE REPORTED AS HAVING DIFFICULTY SEEING

The results of the study indicate an overall prevalence rate for people with difficulty seeing of 8.1% for the total study population, which is much higher than the expected rate of 1.7% in the Limpopo Province found in the CASE study in 1999. In this latter study however, different and slightly cruder methods for assessing visual impairment were used.

Other than the type of tool used to measure the prevalence rates, the level of awareness of the population in terms of disability may also have affected the findings. The 1987/88 survey in Limpopo Province by Concha and Lorenzo (1993) when using the same WHO screening tool (Helander et al, 1989) used in this study, found a much lower prevalence rate of difficulty seeing (0.63%). The Lorenzo and Concha (1993) study was done in preparation for the introduction of CRW training and the introduction of CBR into the Limpopo Province. The effect of this category of workers who had since been working in the community on disability awareness in these

communities and referral to the CRWs by the community may have resulted in better reporting of problems like difficulty seeing in this current study.

The higher prevalence rate of visual impairments in this study when compared to others could be explained by looking at the diagnoses of the people who attended the ophthalmic diagnostic clinic. Other studies (Bucher and Ijsselmuiden, 1988; Cook and Stulting, 1995; Rabiu, 2001) through using definitions of visual impairment that involved loss of visual acuity, may not have picked up some conditions e.g. spring catarrh, since spring catarrh may not affect visual acuity. It is not within the scope of this study to assess the efficacy of different methods of determining prevalence of difficulty seeing. However, a comment can be made that it is important for people with eye conditions that are not causing visual acuity problems (e.g. spring catarrh) to come forward for treatment and the WHO screening tool seems to be more effective in finding these clients than tools that rely mainly on measuring visual acuity.

Another difficulty found when comparing other studies with this one is that many studies concentrate on blindness and not on visual impairment (Bucher and Ijsselmuiden, 1988; Cook and Stulting, 1995; Rabiu, 2001; Samanta, [u.d]), whereas this study did not focus solely on blindness.

When compared to more recent studies in Africa the prevalence rate was higher than those found by Mbulaiteye et al in 2003 and Reskinoff et al in 2004. A similar prevalence rate was found by Moser et al (2002) in Equatorial Guinea but this study included onchocerciasis (river blindness caused by black fly) as a cause of eye

problems, a disease not found in Limpopo Province so the studies are not comparable.

Reskinoff et al (2004) agrees that it is difficult to make comparisons with previous studies, owing to the different methods and definitions used, as well as the different populations that are studied. They recommended a global definition for assessing difficulty seeing. However as their study was published after the commencement of this study, this global definition was not used in the assessment of the clients, making it impossible to compare these results to their review of global visual impairment.

The research methodology that was used to calculate the total prevalence of people with difficulty seeing could also have affected the prevalence rate as in each village a proportion of people who were identified in the house to house survey did not come to the ophthalmic diagnostic clinic. This was a large number of people, averaging 60% (n=215) of all people identified as having difficulty seeing across the study population (see Table 4.3). This occurred despite the fact that the CRW was given a list of all people who had been identified in the house to house survey and was requested to inform them of the upcoming clinic, and each of the people with difficulty seeing identified being given an appointment slip by the research assistant at the time of the house to house survey. It is possible that the problems that were affecting these people were too small for them to worry about attending the clinic, that the CRW may not have been very effective in reminding them about the clinic, that their condition may have resolved itself in the interim, or that they may have sought treatment elsewhere as there was a time lapse between the house to house survey and the

ophthalmic diagnostic clinic (see Table 3.2). This was not accounted for in the analysis of the results and these people were all included in the population said to have difficulty seeing.

5.3 CAUSES OF DIFFICULTY SEEING IDENTIFIED

The results of this study show that cataracts, with a prevalence of 26,7% of all causes, were the most common cause of difficulty seeing in the sample population. Refractive error is the next most common diagnosis at 12.3%. Allergies presenting as allergic conjunctivitis (11.4%) and spring catarrh (11.9%) are next, followed by conjunctivitis at 11.4% and pterygium at 5.5%.

Cataracts were also the leading cause of difficulty seeing in many other studies reviewed (Bucher and Ijsselmuiden, 1988; Cook and Stulting, 1995; Thylefors, 2000; Lewallen and Courtright, 2001; Rabiu, 2001; Mbulaiteye et al, 2003; Reskinoff, 2004). Lewallen and Courtright (2001), having conducted a computer based search on relevant literature on causes of visual impairment in Africa, produced a table summarising leading causes of blindness and low vision in Africa. This search included 22 surveys across 17 countries and cataract was the leading cause of blindness and low vision across all countries.

Thylefors (1992), Lewallen and Courtright (2001), and Reskinoff et al (2004) suggest that after cataracts, trachoma and glaucoma are the next leading cause of visual impairment in Africa and worldwide, with glaucoma as being responsible for 12.3% of worldwide blindness (Reskinoff et al, 2004). A high percentage of trachoma and

glaucoma were not found in this study population, with 1.7% of glaucoma and 0.4% of trachoma occurring in the clients with difficulty seeing. This could be due to the success of the Elim Care Group Project (Sutter and Maphorogo, 2001) which had been working in the Limpopo Province since 1976 to eradicate trachoma.

Literature does show that refractive errors, although not a leading cause of blindness, are a leading cause of low vision, accounting for 9% of low vision in one of the South African surveys (Cook et al, 1993, cited in Lewallen and Courtright, 2001). Mbulaiteye et al (2003) was the only other study to find that refractive errors followed cataracts in causing visual impairment in the population. Their rate of 1.2% was still much lower than the rate found in this study.

5.4 EFFECTIVENESS OF COMMUNITY REHABILITATION WORKERS IN IDENTIFYING PEOPLE WITH SEEING PROBLEMS, WITH SPECIAL REFERENCE TO CATARACTS.

As expected from the literature review, CRWs' case finding of people with difficulty seeing varied) Concha and Lorenzo, 1993; Vaneeste, 2000a). This was also expected from the informal survey conducted by the staff of the CORRE Programme and was the main reason for which the study was undertaken. There was one CRW who was very effective, with an efficiency index of .96 and one who had found no people with difficulty seeing in the community in which she worked. Dolan et al (1995) reported that the CRWs caseload of 9.19% of people with seeing difficulties was lower than expected in view of Concha and Lorenzo's (1993) survey (see section 2.4). However, this survey was done in 1997/98, some seven years before Dolan et

al's study and with the advent of HIV related disabilities and illnesses the incidence of seeing difficulties may well have changed, so the comparison may not be a good one.

The means of CRW effectiveness in both finding people with difficulty seeing as well as finding people with cataracts were not significantly different from each other ($p>0.05$). This can be accounted for by the fact that the sample size was so small and the standard deviation was so big. More meaningful results can be found by comparing the four CRWs performance to each other.

Values for the CRW efficacy index varied greatly with CRW B the most efficient, with an index of 0,96 (i.e. 96%). CRW C was more or less effective having an effectiveness index of 0.57 (57%). CRWs A and D were ineffective, having indexes of 0.08 (8%) and 0.00 (0%) respectively.

The researcher was of the opinion that CRW D should have known 12.5% of the people who presented to the clinic, whereas she only thought that 2.2% of the people at the ophthalmic clinic in village 2 should have been known to CRW B, but were not. The researcher was of the opinion that CRW D should have known 77.8% of the people who presented to the clinic, whereas she only thought that 6.7% of the people at the ophthalmic clinic in village 2 should have been known to CRW B, but were not.

CRW effectiveness was not related to prevalence of people with difficulty seeing in the village e.g. the most effective CRW worked in the village with the third highest

prevalence, while the least effective CRW worked in the village with the second highest prevalence.

Once again there was no clear relationship between CRW effectiveness and prevalence of cataracts in their village.

The literature suggests that CRWs should be an invaluable resource for diagnosing and referring clients for cataract operations (Vaneeste, 2000b) and this does not seem to be the case for two of the CRWs in this study. However CRW B was working very closely with an NGO that provided specific services for people with difficulty seeing. This CRW had become experienced in seeing difficulties and this was reflected in the disability register where diagnoses such as "pingicuela" were noted, a term not usually in the vocabulary of a CRW.

The fact that CRW B (effectiveness index 0.96) and CRW C (effectiveness index 0.57) live in the villages where they work may account for them having more people with seeing problems on their disability register than the two others (CRW A effectiveness index 0.8 at and CRW D at effectiveness index 0.0) who had to walk/travel to their work village. At the time of the study, CRWS were not receiving any transport allowance.

The effectiveness indices of the CRWs in finding people with cataracts followed the same pattern as that of their ability to find people with difficulty seeing, although the index for CRW C dropped from 0.57 to 0.27. The same reasons for the differences in

these indices can be applied here. No literature could be found that these results could be compared with.

It is of major concern that three of the four CRWs were not identifying people with cataracts as this is a focus of their training and cataract is a condition that with no treatment leads inevitably to blindness but with treatment, blindness can be prevented. It was also the most prevalent cause of difficulty seeing in the sample population.

If, as Moulton (1998) suggests, CRWs should be concentrating on providing a quality service to the irretrievably blind, then it is perhaps not sensible to expect them to identify all people with difficulty seeing that would be picked up in a house to house survey using the WHO screening tool (Helander et al, 1989), but to focus on those with severe difficulty seeing.

There were two main limiting factors in this study. The first was that although the statistician recommended that 5 villages were used in the study, owing to the untimely and unavoidable withdrawal of one of the ophthalmic nurses, data from only 4 villages were available for analysis. Given the high variability of effectiveness between the four CRWs studied, it is doubtful that the addition of one would have substantially changed the results. Given the variability, future studies of this nature would actually require a study sample of substantially larger size.

Secondly, it could be argued that the CRWs might have felt intimidated and there may have been bias since the researcher both examined the CRW records and interviewed the CRW. However, the perspective taken in this study was that since the researcher was well known to the CRWs, using the researcher for both processes would have put the CRWs at ease in what might have otherwise been an intimidating situation. In fact, the degree to which the CRWs felt at ease is evidenced by their candid responses - even from those CRWs who were found totally ineffective in finding people with difficulty seeing. Comments made by CRWs such as "I had forgotten how important it is to find people with difficulty seeing" are evidence of this fact. Internal validity was improved by having the same person read their reports and interview the CRWs.

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

6.1 INTRODUCTION

The final study objective was to inform future plans to improve the service offered by CRWs to clients with cataracts in the Limpopo Province.

6.2 RECOMMENDATIONS

One of the study CRWs said:

> *"at the moment I only help the blind, which is a good thing as they are often lonely and frustrated and I can help them to be independent. They are often old and family members lack education about blindness. But to improve services CRWs need to focus on preventing blindness to"'.*

The primary objective of this study was to determine the effectiveness of the CRWs in identifying people with difficulty seeing, particularly those with cataracts, with the aim of informing future plans to improve the service offered by CRWs to clients with cataracts in the Limpopo Province. Considering the findings of this research and taking the literature reviewed for this research report into account, the researcher would make the following recommendations regarding the CRWs role in order to meet this challenge.

6.2.1 Improve the case finding capacity of community rehabilitation workers

Thylefors (1992) stated that the WHO advocates detection of cataracts at the community level by trained auxiliary staff. This study found that the case finding

ability of CRWs, who can be classified as trained auxiliary staff, needs to be improved if this is to be achieved. It is recommended that the case finding abilities could be improved by including the Snellen chart in the screening kit and using this when doing home visits especially with people over 50 years of age and referring any person with visual acuity of 6/18 or lower in both or one eye to the ophthalmic sisters (Mbulaiteye et al, 2003). Case finding may be further improved by checking people with low acuity by using a pinhole and by also counting fingers at progressively shorter distances and referring those with less than 3/60 to the ophthalmic sisters. These recommendations need to be included in the *Northern Province CBR Management Manual* (NP Task Team on CBR, 1998).

6.2.2 Focusing community rehabilitation worker case finding and rehabilitation to people with cataracts

Although a CRW could play a part in directing people with any difficulty seeing to the ophthalmic services, identifying and attending to all these people would create an unreasonable case load for a CRW, who has to work with people with all types of disability. It is therefore recommended that their specific role would be most effective were they to concentrate their case finding and rehabilitation efforts on people with cataracts and facilitating them to access cataract surgery and thus preventing curable blindness. More systematic detecting to identify the estimated 15-20% of people needing cataract operations is required (Khan et al, 1998). Better screening and improved knowledge about services and treatment available would be needed by CRWs to encourage people to access surgery.

Concerns that an increase in the CRWs' case finding capacity will lead to an increased demand for cataract surgery are unfounded as there is political will to improve the uptake of cataract surgery (South Africa, 2001a) and policies supporting this are being put into practice.

If CRWs were better able to convince clients to have cataract surgery and there was a dramatic improvement in their sight, this would increase the CRWs credibility and their respect in the community (Vanneste, 2000b).

6.2.3 Collaboration between community rehabilitation workers and ophthalmic nurses

Although it would appear that the house to house survey is effective in identifying people with seeing problems it is time consuming and could take 2-4 weeks for one person to conduct house to house surveys in a village, depending on the village size. It is not recommended that house to house surveys conducted by CRWs except when initiating a new service when the house to house survey is required to identify people with disabilities of all types. It is however recommended that house to house surveys be used to identify persons with seeing problems but that this should be a collaborative effort of the ophthalmic team. Volunteers could be used but the house to house survey should not be left to the CRW to plan, implement and monitor. In the Limpopo Province it would be feasible for the ophthalmic nurses and the CRWs to work together with the existing Care Groups who are volunteers already involved in blindness prevention (Sutter and Maphorogo, 2001). Making use of an existing network of volunteers may dispense some of the concerns about using volunteers

(Momm and Könning, 1989) and the Care Groups could certainly be motivated to work on prevention of blindness due to cataracts.

Workshops needs to be conducted by opthalmologists employed by the Department of Health in the province jointly for the ophthalmic sisters, the CRWs and the Care Groups in each district to determine how they can help each other to ensure that the greatest numbers of people who require cataract surgery are accessing it. Various ideas, specific to each district, but within National and Provincial guidelines can be discussed regarding how these health service providers can identify people with cataracts and encourage them to access surgery.

6.2.4 In-service training for community rehabilitation workers

Regular in-service training for all existing CRWs is recommended to raise their level of awareness and hone their identification skills of cataracts and the rehabilitation of the visually disabled, which seems to be such a crisis in Limpopo. There also needs to be some input for the supervisors of CRWs who also seem to be lacking in expertise regarding cataracts and ophthalmic services in general in the province, and the role of the CRW in identifying and referring cataract cases.

6.2.5 Community rehabilitation workers to focus attention on health promotion regarding cataract detection and treatment

It is further recommended that the CRWs must be able to fully inform clients on the cost, duration and implications of cataract surgery, as well as their rights as, for example, sometimes people are afraid to take time off work to have surgery as they

think they may lose their jobs (Shah, 2005). Health education to prevent disability is a key component of the *National Rehabilitation Policy* (South Africa, 2000c). CRWs can also increase awareness across the community regarding available eye care services Communication and health education are an essential concept in primary health care as it is one way to achieve one of the key practical elements of the *Ottawa Charter for Health Promotion* (WHO 1986), that of community participation. Without increased knowledge and awareness, community members cannot be empowered to take their own decisions regarding health care and community members themselves cannot try to improve access to services such as cataract surgery. It is hard to evaluate the impact that health education has – in the words of Moulton (1998)

> "*how will we know if the school lesson given by the Community Rehabilitation Worker (CRW) is the reason why the former schoolgirl will come to the eye clinic when she gets cataracts in 50 years time?"* (p51).

CRWs must also try to use clients who had successful operations to identify and motivate clients who need operations. In addition, CRWs could ensure that people actually go for surgery by helping them to overcome barriers such as fear, and encouraging family members to help with barriers e.g. in the Rabiu (2001) study which found that 61% of those who should have sought surgery for cataracts had not because of the cost of the treatment and 10% said that they did not know about the treatment.

6.3 CONCLUSION

In conclusion, CRWs do, indeed, have a role to play in assisting to achieve the goals of the global initiative Vision 2020. However, their role should focus on the rehabilitation needs of the irretrievably blind and those disabled by problems seeing but they have an important function in the identification and referral of clients who have cataracts for surgery. Their role should not be extended to identifying all people with difficulty seeing.

The results of this study strongly suggest that if CRWs are to be an effective part of the cataract active case finding team, then attention needs to be given to increasing their ability to find cases, and attention paid to ensuring that they are part of a team. Furthermore, these findings suggest that factors such as the local presence of NGOs specializing in delivering eye services alternative to the usual government services could have a significantly positive influence on the efficacy of CRWs.

The evidence from the interviews conducted with all three CRWs was that this study raised the awareness of all four CRWs regarding the role they could play with people with cataracts. It is highly likely that were in service training to be conducted to remind the CRWs of their role with clients with cataracts, their efficacy would be greatly enhanced.

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LETTER OF ETHICAL APPROVAL FROM THE COMMITTEE FOR RESEARCH ON HUMAN SUBJECTS (MEDICAL), UNIVERSITY OF THE WITWATERSRAND

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

Division of the Deputy Registrar (Research)

COMMITTEE FOR RESEARCH ON HUMAN SUBJECTS (MEDICAL)
Ref: R14/49 Evans

CLEARANCE CERTIFICATE **PROTOCOL NUMBER** M01-05-37

PROJECT Number of People With Difficulty Seeing Detected By Community Rehabilitation Workers In The Northern Province of South Africa, With Special Reference To Cataracts

INVESTIGATORS Ms R Evans

DEPARTMENT School of Therapeutic Sc., Johannesburg Hospital

DATE CONSIDERED 01-05-25

DECISION OF THE COMMITTEE *

Approved unconditionally

DATE 01-06-16 **CHAIRMAN** .....(Professor P E Cleaton-Jones)

* Guidelines for written "informed consent" attached where applicable.

c c Supervisor: Prof M Concha
Dept of School of Therapeutic Sci, Johannesburg Hospital

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DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10001, 10th Floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee.

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

20-SEP-2006 09:51 FROM: TO:0137955076 P:1/1

APPENDIX 1b

ETHICAL APPROVAL FROM THE RESEARCH COMMITTEE, LIMPOPO PROVINCE DEPARTMENT OF HEALTH AND WELFARE



Limpopo
PROVINCIAL GOVERNMENT

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Enquiries: Sinah Mahlangu
Reference: Research & Quality Improvement
10 September 2002

Department of school of therapeutics
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University of the Witwatersrand
JOHANNESBURG, 2000

Ms R Evans

NUMBER OF PEOPLE WITH DIFFICULTY SEEING DETECTED BY COMMUNITY REHABILITATION WORKERS IN THE NORTHERN PROVINCE OF SOUTH AFRICA, WITH SPECIAL REFERENCE TO CATARACTS.

1. Permission is hereby granted to Ms R Evans to conduct a study on "Number of people with difficulty seeing detected by community rehabilitation workers in the northern province of South Africa, with special reference to cataracts."
2. The Department of Health & Welfare needs a copy of the research findings for its own resource centre.
3. The researcher should be prepared to assist in interpretation and implementation of the recommendations where possible.
4. Implications: Permission should be requested from hospital management to do research.

Sincerely,

HEAD OF DEPARTMENT
DEPARTMENT OF HEALTH & WELFARE
LIMPOPO PROVINCE

DEPARTMENT OF HEALTH & WELFARE

APPENDIX 2a

CRW CONSENT FORM

My name is Rhian Evans and I am from the CORRE programme. I am investigating how many people with difficulty seeing CRWs are detecting in the Limpopo Province. The Limpopo Province Department of Health and Welfare has agreed to allow me to conduct this survey.

I am randomly selecting five CRWs from the province, who have been working for two or more years, who have their records available, and who are willing to participate. If you are not willing to participate, there will be no negative consequences – participation is entirely voluntary, and you can also decide not to participate at any time during the process.

1. We are trying to improve the services to people with difficulty seeing particularly those with cataracts (Vision 2020). In order to do this, we need to determine accurately how many people have difficulty seeing and how many are being detected by the methods we have taught you to use. I will be doing this by using a house to house survey in a village you work in. I will find out how many people with difficulty you have already identified by looking at your records, and by interviewing you.

2. If you participate in this study, I would need you to agree to assist with the following:
3. A random selection of one village from your active CBR service site
4. Assist me to find somewhere my research assistant could stay during the week for the month that he/she will be doing a house to house survey in that village
5. Help me gain permission from the local authority to allow the survey to take place
6. Allow me access to your disability register and case reports
7. Allow me to interview you – the interview should not take longer that one and a half hours

8. This will all take up about two days of your time, not one after the other – one day for organizing in your village, and one day for the interview and looking at your records.

All of the information that you give me will remain confidential – only I shall know what information was given by each CRW by the end of the study. This information will not affect your employment in any way but will help us determine future training and service needs. If you agree to participate, please could you sign below? Thank you for your cooperation.

Signed CRW.....Date.....Place.....

Signed researcher.....Date.....Place.....

APPENDIX 2b

HOUSEHOLD CONSENT FORM
(Needs to be translated, and may need to be read out if illiteracy is an issue)

My name is (*name of field assistant*) and I am working for the Wits Tintswalo CORRE Programme, Limpopo Province on an investigation to see how many people with difficulty seeing Community Rehabilitation Workers CRWs) are finding in the community. We are trying to improve the services to people with difficulty seeing particularly those with cataracts.

In order to do this, we need to determine accurately how many people have difficulty seeing and how many are being found. We are visiting all of the houses in (*name of village*) and we are asking the head of the household, or someone who knows all the family members, some questions about how the family members can see. Then, we will look at how many people with difficulty seeing the community rehabilitation worker who works in your community has found. We can then check if the CRW is finding all the clients with difficulty seeing. If not, we need to help him/her to find more people with difficulty seeing.

I would like to ask you some questions about the people who live in this house, especially about how they see. If we find that there is someone in the house who has a problem seeing, we will do a short test, and ask that person to go to see the eye sister on (*date of clinic visit*). The eye sister will have a look at his or her eyes, ask them some questions, and give some advise to the person with a difficulty seeing.

This will take about half an hour of your time if we find someone with difficulty seeing. If not, it will take about 10 minutes

All of the information that you give me will remain confidential. We give numbers to people when we write the reports so that people cannot be traced, except by the researchers. Taking part in this survey will not affect you in any way, except we will need some of your time, and hopefully, if there is a client with a problem seeing, we will be able to give them some advice about their problem.

If you agree to participate, please could you sign below? Participation is voluntary, and nothing at all will happen to you if you decide you do not want me to interview you.

Thank you for your cooperation.

Signed/marked .....Date.....Place.....
Household head

Signed field assistant.....Date.....Place.....

APPENDIX 2c

CLIENT APPOINTMENT CARD AND CONSENT FORM

My name is (*name of field assistant*) and I am working for the Wits Tintswalo CORRE Programme, Limpopo Province in an investigation to see how many people with difficulty seeing CRWs are finding in the Limpopo Province. We are trying to improve the services to people with difficulty seeing particularly those with cataracts. In order to do this, we need to determine accurately how many people have difficulty seeing and how many are being found.

In order to do this, we need to determine accurately how many people have difficulty seeing and how many are being found. We are visiting all of the houses in (*name of village*) and we are asking the head of the household, or someone who knows all the family members, some questions about how the family members can see. Then, we will look at how many people with difficulty seeing the community rehabilitation worker (CRW) who works in your community has found. We can then check if the CRW is finding all the clients with difficulty seeing. If not, we need to help him/her to find more people with difficulty seeing.

The person we interviewed in your house said that you had some difficulty seeing. I would like to ask you some questions about your difficulty seeing, and do some simple tests with you. This should take about 15 minutes of your time. I will also ask you to go to see the eye sister on (*date of clinic visit*). The eye sister will have a look at your eyes, ask you some questions, and give some advise to you about your eyes. The visit will not cost you anything.

All of the information that you give me will remain confidential – we give numbers to people when we write the reports so that people cannot be traced, except by the researchers. Taking part in this survey will not affect you in any way, except we will need some of your time, and hopefully, we will be able to give them some advice about your difficulty seeing.

If you agree to participate, please could you sign below? Participation is voluntary, and nothing at all will happen to you if you decide you do not want me to interview you.

Thank you for your cooperation.

Signed/marked .....Date.....Place.....
client/guardian if under 18

Signed research
assistant.....Date.....Place.....

Your appointment is on

Date ..... Time.....

Place.....

APPENDIX 3a

HOUSE TO HOUSE SURVEY AND REGISTER (filled in by research assistant at each house surveyed)

Number of house (see your map).....
Name of household head.....Person interviewed if household head not available.....
Total number of people in household.....Under 15 years.....Over 15 years.....Female.....Male.....

Ask the household head/other family member the following questions about the household members who sleep in the house for at least five nights every week. Also carry out the disability tests on the relevant person in the household if the answer to any question is yes. Write the answers in the column provided.

Question	YES/NO	Name of household member with this difficulty	Length of time living in village	Age	Sex	Test result
1. Does any person have difficulty seeing?						
2. Is there a person in the family who cannot see as well as the others?						
3. Is there a person in the family who cannot see as well when it is dark?						
4. Is there a person in the family who cannot see objects that are far away, such as trees or birds?						
5. Is there a person who cannot see things that are very close, such as seeds held in his or her hands?						
6. Is there a person whose eyes look very different from other people?						

HOUSE-TO-HOUSE SURVEY REGISTER

CRW number.....Village.....

House number	Client name	Age	Reminded to go to clinic	Seen at clinic	Seen at home	Not seen – give reason

How to identify different disabilities

People who have difficulty seeing

■ Training Package 1 has information about the problems of a person who has difficulty seeing. Read this again if necessary.

■ Ask the household head and family the following questions. Their answers will tell you if any household members have difficulty seeing.

Is there a person in the family who cannot see as well as the others?

Is there a person in the family who cannot see well when it is dark?

Is there a person in the family who cannot see objects that are far away, such as trees or birds?

Is there a person who cannot see objects that are very close, such as seeds held in his or her hands?

Is there a person whose eyes look very different from other people's?

■ If the answers to these questions tell you that a person in the household has difficulty seeing, speak to the person. Observe him or her.



If you are still not sure whether the person has difficulty seeing, do the following tests.

Test for children from 3 months to 3 years

■ Let the child sit on the mother's lap. Hold a burning candle about 30 to 50 cm (12-20 inches) in front of the child. Move the candle from side to side and up and down. Observe.



■ Do the child's eyes follow the candle as you move it?

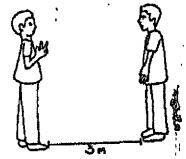
If the answer is "Yes", then you know that the child can see.



■ If the child's eyes do not follow the candle, repeat the test 3 times. When you are sure that the child's eyes do not follow the candle, you will know that this child may have difficulty seeing.

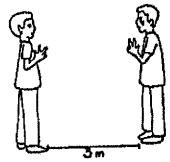
Test for children 3 years and over, and adults

■ Stand at a distance of 3 metres in front of the person. Hold up three fingers of one of your hands.



Ask the person to hold up the same number of fingers.

■ If the person holds up three fingers, you then know that he or she has no difficulty seeing.



■ If the person does not hold up three fingers, then repeat the test with two fingers. Then repeat it again with four fingers. If the person does not respond correctly to each of these tests, you know that he or she may have difficulty seeing.

Other things to look for

■ If a person has difficulty seeing, look into his or her eyes, one at a time. Look for the following:

Eyes that look red or are full of tears.

Eyes that have a grey area over the coloured part of the eye.



■ If a person shows one of the above, refer him or her to the health worker.

Tests to be run in the house to house survey
(Helander et al, 1989:Booklet 2 *Guide for Local Supervisors*:23-24)

APPENDIX 3b

OPHTHALMIC DIAGNOSIS FORM (Completed by ophthalmic nurse on each client with difficulty seeing identified in the survey)

CODE 1 = yes 2 = no 3 = not applicable

CRW Number..... Date.....Client number.....

1. Do you know this client from before?		
2. In your opinion, what is the diagnosis of this client's visual problem?	i. cataracts	
	ii. trachoma	
	iii. glaucoma	
	iv. spring catarrh	
	v. accident/trauma	
	vi. other (please specify)	
If the answer to question 2 is cataracts, carry on with questions 4,5,6,7,and 8. If not, go directly to question 9.		
3. For how many years has this client had cataracts?	Left..... Right.....	
4. If this client had surgical intervention, please supply the date	Left..... Right.....	
5. If yes, was it successful?		
6. Does the client wear spectacles?		
7. In your opinion, should this client still be referred for surgery if he/she was not?		
8. In your opinion, if the client had been referred earlier, could the operation have been successful?		

7. What further intervention should take place with this client?
   .....
   .....
   .....
   .....

8. Please ask this client if he/she knows the CRW (*put in CRW name*.....)

   [ ]

9. What has the CRW done with this client, in his/her own words

APPENDIX 3c

CRW RECORD ANALYSIS FORM (completed by researcher on each CRW's records)

CRW number..... Date.....

1. For how long has the CRW been working/	

2. Fill in the following information from the disability register

Client number	Client's name	Age	Address	Diagnosis from disability register	CRW comments from register e.g. client died	Researcher's comments on register

Fill in the following information from the case records for each client with a difficulty seeing from the selected village

Code
1 = yes
2 = no
3 = not applicable

Client name		
Client number		
		Insert appropriate code
a. Diagnosis from case report	i. cataracts ii. trachoma iii. glaucoma iv. spring catarrh v. accident/trauma vi. other (please specify)	
b. Intervention taken by CRW and recorded in case report	i. Home visit	
	ii. If yes, then how many	
	iii. Education about condition	
	iv. Referral for cataract operation	
	v. Follow up to check if gone for operation	
	vi. Encouraged client to go for operation	
	vii. Follow up visits after cataract operation	
	viii. Referral to Rivoni	
	ix. Referral to eye sisters	
	x. Healthy lifestyle independence training	
	xi. Mobility and orientation training	
	xii. Integration into the community xiii. If yes, specify	
	xiv. Nothing	
	xv. Other (please specify)	
c. For how long has the CRW known about this client	i. Under one year	
	ii. One to two years	
	iii. Two to five years	
	iv. Five to ten years	

APPENDIX 3d
CRW INTERVIEW (completed by researcher with each CRW)

CRW number..... Date.....Client number.....

Code
1 = yes
2 = no
3 = not applicable

Insert code or text in applicable spaces as necessary

1. Have you found any clients in (name of village) who have difficulty seeing?	
2. List the clients names	3. What visual problems have these clients had?
4. How many of these clients had cataracts?	
5. Have you sent any of these clients with cataracts for operations?	
6. If yes, how many?	
7. Have any of the operations been successful?	
7. If yes, how many?	
8. Did any client you referred not get an operation?	
9. If yes, how many?	

10. If the answer to question 6 was no – please comment on why you, the CRW, think the operation was not successful

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11. If the answer to number 8 was yes, please say why you, the CRW think clients do not get operations?

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12. Can you remember whether there are any clients with cataracts that you have seen or helped in any way, that you did not record in your disability register or case notes?

13. List the clients names

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14. If yes, please tell me what intervention was undertaken?

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15. For what reason were these interventions not recorded in your disability register or case notes?

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