

**A CRITICAL ANALYSIS OF THE SOUTH AFRICAN HEALTH POLICIES AND
PROGRAMMES WITH REGARD TO EYE HEALTH PROMOTION**

by

HLUPHEKA LAWRENCE SITHOLE

submitted in accordance with the requirements

for the degree of

DOCTOR OF LITERATURE AND PHILOSOPHY

in the subject

Health Studies

at the

UNIVERSITY OF SOUTH AFRICA

SUPERVISOR: PROF ON MAKHUBELA-NKONDO

CO-SUPERVISOR: PROF OA ODUNTAN

May 2013

DEDICATION

- In memory of my late fiancé, Stephinah Vusisiwe Ndlovu, who passed away on the 3rd October 2005, for her believe in me during our schooling years since 1994 up to the day she passed on. Your support and encouragement has spurred me on till thus far. *Ndzi ri etlela hi ku rhula ntombi ya ka Zukwa. Ndza khensa;*
- My grandmothers, Rhumisa Mamaila Sithole and N'waMakasela Maringa, for their love and support in my life;
- My father, Sikheto Aubrey Sithole, for his unwavering support and guidance from my childhood. *Mintirho ya nwina ya vulavula papa, inkomu;*
- My mother, Sophie Tshikisa Maringa, for her spiritual support and prayers over the years. *Ndza khensa mhani, mi wa nkonka evuton'wini bya mina;*
- My wife, Tintswalo Adelaide Mathebula, for her love, understanding and emotional support. *Ndza khensa N'waThompson nkatanga;*
- My daughter, Blessing Rivoningo Sithole, and son, Mbuyelo Mpfuxelelo Keenan Sithole, for their presence in my life. *Ndza khensa vananga;*
- My brother, Dr Lyborn Sithole, and my sisters, hahani Pashy and Solva Sithole, without your love, kindness, support and valuable help when needed, I wouldn't be here today. *Ndza khensa swinene vana va le kaya.*

Student number: 4596-254-5

DECLARATION

I declare that **A CRITICAL ANALYSIS OF THE SOUTH AFRICAN HEALTH POLICIES AND PROGRAMMES WITH REGARD TO EYE HEALTH PROMOTION** is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references and that this work has not been submitted before for any other degree at any other institution.

.....

HLUPHEKA LAWRENCE SITHOLE

.....

Date

ACKNOWLEDGEMENTS

I would like to honour the Lord, God Almighty, Jehovha Jireh, who provided me with good health and strength to accomplish this work. Along this journey, I came across a number of great men and women who contributed immensely towards the success of this noble project. Their names follow hereunder albeit with no order of importance. However, I take responsibility for any omissions that I may make:

- My supervisor, Prof ON Makhubele-Nkondo, for nurturing me like a mother in this journey. I have grown so much due to your support and unbelievable trust and believe in my work;
- Co-supervisor, Prof OA Oduntan, for your continued positive criticism of my work. I have learnt a lot from you. I am a good developing researcher today because of your tutelage. There is no amount of money that can buy the research knowledge that you have imparted in me. Thank you once more;
- Prof Tinyiko Sam Maluleke, for your words of wisdom whenever I asked for your input. May the Lord richly bless you;
- The Research Department, for the assistance with funds to run the research project through the Masters' and Doctoral Support Programme. Without your funding, it would have been impossible to travel around the country gathering data. Your assistance is highly appreciated;
- Mr Mpho Kgasi from the National Department of Health for his support and assistance in getting approval to conduct the study across all provinces of South Africa;
- Ms Helene Muller, for her support with the technical aspects of my research work. Your knowledge of statistics is highly acknowledged and your openness and kindness should bring you more blessings in your life and that of your family;
- Ms Dudu Moko, for your support and encouragement. You were like a sister to me. I appreciate the time you took to assist me whenever I requested you to do so;

- Ms Lilian Novela, for your continued support and assistance whenever you were requested to do so. May the Lord richly bless you and meet you at the point of your needs;
- Ms Pascaline Makhubedu, for your assistance when requested. You have always been available to assist me. Your work will be highly rewarded by the Almighty.

A CRITICAL ANALYSIS OF THE SOUTH AFRICAN HEALTH POLICIES AND PROGRAMMES WITH REGARD TO EYE HEALTH PROMOTION

STUDENT NUMBER: 4596-254-5
STUDENT: HLUPHEKA LAWRENCE SITHOLE
DEGREE: DOCTOR OF LITERATURE AND PHILOSOPHY
DEPARTMENT: HEALTH STUDIES, UNIVERSITY OF SOUTH AFRICA
SUPERVISOR: PROF ON MAKHUBELA-NKONDO
CO-SUPERVISOR: PROF OA ODUNTAN

ABSTRACT

Eye health promotion is an important aspect of VISION 2020 campaign that aims to eliminate unwarranted cases of avoidable blindness worldwide by the year 2020. Most developing countries, including South Africa, have a serious burden of eye diseases and unwarranted causes of visual impairment and blindness. The purpose of this research therefore was to highlight the lack of an integrated eye health promotion policy in the South African primary health care system which can play a major role in the elimination of this burden of disease and also to make proposals for eye health promotion policy development in South Africa.

A combination of quantitative and qualitative research methods was used in this study. Questionnaires and interviews were conducted with all national and provincial health managers of portfolios relevant to eye care. Also, various health policy documents were requested from the National and Provincial Department of Health to ascertain claims of any existing guidelines on eye care. The policy documents and guidelines obtained had no specific reference to eye health promotion.

Only 11 (23%) of the managers of provincial health directorates reported that they have integrated vision screening in their health promotion programmes as part of eye health promotion strategies. Eye care managers in the provinces reported that

school visits accounted for 75% of eye health promotion programmes target areas. Also, apart from the Northern Cape Province which has no eye care manager and consequently no eye health promotion programmes, the Western Cape Province also does not have eye health promotion programmes and relies mostly on private sector for eye care services.

The lack of an integrated eye health promotion policy and most probably the lack of a dedicated directorate that deals with eye health promotion issues may be a contributing factor to the overwhelming lack of integrated eye health promotion activities in South Africa. It is therefore recommended that an integrated eye health promotion model be developed and be part of the South African primary health care system.

KEY CONCEPTS

Visual impairment; avoidable blindness; VISION 2020; health policies and programmes; community participation; primary health care; eye health promotion policy.

TABLE OF CONTENTS

LIST OF FIGURES.....	ix
LIST OF TABLES.....	xi
LIST OF BOXES.....	xiii
LIST OF ACRONYMS.....	xiv

CHAPTER 1 ORIENTATION TO THE STUDY

1.1	INTRODUCTION.....	1
1.2	CONTEXT OF THE PROBLEM.....	6
1.2.1	Eye health promotion in Africa.....	6
1.2.2	Health promotion in South Africa.....	12
1.2.2.1	Integration of health promotion strategies in the PHC system	15
1.2.2.1.1	Health promotion in nursing.....	15
1.2.2.1.2	Oral health promotion.....	15
1.2.2.1.3	Eye health promotion.....	15
1.3	STATEMENT OF THE PROBLEM.....	18
1.4	RESEARCH OBJECTIVES.....	18
1.5	SIGNIFICANCE OF THE STUDY.....	19
1.6	RESEARCH QUESTION.....	20
1.7	CONCLUSION.....	20

CHAPTER 2 LITERATURE REVIEW

2.1	INTRODUCTION.....	22
2.2	THE CONTEXTUALIZATION OF THE LITERATURE REVIEW.....	23

2.2.1	Defining health policy and the nature and development of eye health promotion.....	24
2.2.2	Health policy development.....	25
2.2.3	Health policy analysis.....	38
2.2.4	Challenges facing health policy development.....	40
2.2.5	Other barriers to effective health policy translation.....	41
2.2.6	The role of equity in health policy analysis.....	41
2.2.7	Strategies to improve equity-driven efforts in health policy.....	44
2.2.8	The nature and development of eye health promotion.....	45
2.2.8.1	Defining eye health.....	47
2.2.8.2	Eye health priority areas.....	48
2.2.8.2.1	Refractive error.....	48
2.2.8.2.2	Age-related macular degeneration.....	52
2.2.8.2.3	Diabetes mellitus.....	55
2.2.8.2.4	Hypertension.....	61
2.2.8.2.5	Glaucoma.....	67
2.2.8.2.6	Cataract.....	71
2.2.8.2.7	Childhood blindness.....	73
2.2.8.2.8	Low vision.....	86
2.2.8.2.9	Trachoma.....	90
2.3	EVIDENCE IN EYE HEALTH PROMOTION.....	92
2.3.1	Strength of this approach in health promotion.....	93
2.3.2	Barriers to evidence-based practice and how to overcome them.....	94
2.3.3	The value of examining health promotion within social systems.....	96

2.4	COMPONENTS OF EYE HEALTH PROMOTION.....	98
2.4.1	Health education.....	98
2.4.1.1	Eye health education.....	100
2.4.1.1.1	Understanding influences on behaviour.....	101
2.4.1.1.2	Choice of setting for health education.....	102
2.4.1.1.3	Methods that can be used.....	104
2.4.2	Reorientation of health services.....	106
2.4.3	Advocacy.....	108
2.5	CONCLUSION.....	111

**CHAPTER 3
CONCEPTUAL FRAMEWORK**

3.1	INTRODUCTION.....	112
3.2	COMPONENTS OF THE CONCEPTUAL FRAMEWORK.....	117
3.2.1	Policy document analysis.....	117
3.2.2	Eye health promotion-related decision making.....	118
3.2.3	Key criteria to address health decision-making.....	119
3.3	CONCLUSION.....	120

**CHAPTER 4
RESEARCH DESIGN AND METHODOLOGY**

4.1	INTRODUCTION.....	122
4.2	RESEARCH DESIGN.....	122
4.2.1	Qualitative research method.....	123
4.2.2	Quantitative research method.....	124
4.2.3	Combined quantitative and qualitative methods.....	125

4.2.3.1	Rationale for the integrated approach.....	126
4.3	RESEARCH METHODOLOGY.....	127
4.3.1	Setting.....	128
4.3.1.1	Population and sampling.....	128
4.3.1.2	Sampling techniques.....	129
4.3.2	Data collection.....	129
4.3.2.1	Questionnaires.....	129
4.3.2.2	Interviews.....	132
4.3.2.2.1	In-depth interviews.....	132
4.3.2.2.2	Telephonic interviews.....	134
4.3.2.3	Policy documents.....	134
4.3.2.3.1	Health policy documents.....	135
4.3.2.3.2	Eye health promotion documents.....	138
4.3.3	Ethical considerations.....	138
4.3.4	Data analysis.....	139
4.3.4.1	Analysis of interview data.....	139
4.3.4.2	Analysis of questionnaire data.....	140
4.3.4.3	Analysis of health policy documents.....	141
4.3.4.4	Analysis of eye health documents.....	142
4.4	EXTERNAL AND INTERNAL VALIDITY OF DATA.....	143
4.5	DISSEMINATION OF RESULTS.....	144
4.6	CONCLUSION.....	145

CHAPTER 5
ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH
FINDINGS

5.1	INTRODUCTION.....	146
5.1.1	Health priorities and eye health promotion programmes	146
5.1.1.1	Health priority areas in South Africa.....	147
5.1.1.1.1	Integrated eye health promotion programmes.....	150
5.1.1.2	Eye health priority areas.....	152
5.1.1.2.1	Risk factors for eye health conditions.....	153
5.1.1.2.2	Eye health promotion programmes.....	154
5.1.1.2.3	Distribution of optometrists in the public sector.....	155
5.1.1.2.4	Distribution of ophthalmic nurses in the public sector.....	156
5.1.1.2.5	Methods used to evaluate eye health promotion programmes.....	157
5.1.1.2.6	Personnel involved in the evaluation of eye health care promotion programmes.....	157
5.1.1.2.7	Eye health care accessibility.....	157
5.1.1.2.8	Eye health policy development.....	157
5.1.2	Eye health promotion-related decision making at national level.....	159
5.1.3	Eye health promotion-related decision making at provincial level.....	166
5.1.4	Locating eye health promotion in eye health related documents.....	169
5.1.4.1	National guideline on prevention of blindness in South Africa.....	169
5.1.4.1.1	Analysis of the document.....	169
5.1.4.2	National guideline on the management and control of eye conditions at primary level.....	171
5.1.4.2.1	Analysis of the document.....	171

5.1.4.3	National guideline on refractive error screening for persons 60 years and older.....	172
5.1.4.3.1	Analysis of the document.....	172
5.1.4.4	National guideline on cataract surgery.....	173
5.1.4.4.1	Analysis of the document.....	173
5.1.5	Locating eye health promotion in other identified health policy documents.....	175
5.1.5.1	National and provincial health policy analysis.....	175
5.2	CONCLUSION.....	178

**CHAPTER 6
DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS**

6.1	INTRODUCTION.....	180
6.2	RESEARCH DESIGN AND METHOD.....	181
6.3	SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS.....	181
6.3.1	Health priorities and eye health promotion.....	181
6.3.1.1	Eye health priorities across the provinces.....	182
6.3.1.2	Eye health promotion.....	189
6.3.1.2.1	Social impact of poor eye health.....	189
6.3.1.2.2	Risk factors for poor eye health.....	190
6.3.1.2.3	Strategies for eye health promotion.....	194
6.3.2	Eye health promotion-related decision making.....	213
6.3.2.1	Eye health promotion in health policy documents.....	218
6.3.2.2	Integrating health promotion strategies.....	222
6.3.2.2.1	The impact of policy process and power in health integration.....	223
6.3.3	Reorienting health delivery in South Africa.....	226

6.3.3.1	Evidence-based eye health promotion.....	229
6.3.3.2	Appropriate set up for health promotion.....	233
6.3.3.2.1	Changes in behavioural patterns.....	234
6.3.3.2.2	Appropriate environment for education.....	235
6.3.3.2.3	Proposed usable methods for health promotion.....	237
6.3.3.2.4	Improving eye care services delivery.....	239
6.4	CONCLUSIONS.....	243
6.4.1	Participants in the study.....	243
6.4.2	Health priorities in South Africa.....	243
6.4.3	Eye health priorities across the country.....	244
6.4.4	Eye health promotion activities.....	244
6.4.5	Eye health promotion in health policy documents.....	245
6.4.6	Integrating eye health promotion strategies.....	245
6.4.7	Reorienting eye health services delivery in South Africa.....	246
6.4.8	Evidence based eye health promotion.....	247
6.5	RECOMMENDATIONS.....	247
6.5.1	Establishment of a Directorate of Eye Health Promotion.....	248
6.5.2	Development of Eye Health Promotion Policy.....	249
6.5.2.1	Health education.....	249
6.5.2.2	Improvements on health services.....	249
6.5.2.3	Medical attention.....	250
6.5.2.4	Empowerment and social change.....	250
6.5.2.5	Advocacy.....	250
6.5.2.6	Programmes evaluation.....	251
6.6	CONTRIBUTIONS OF THE STUDY.....	254

6.7	LIMITATIONS OF THE STUDY.....	255
6.7.1	Weakness of the study.....	255
6.8	CONCLUDING REMARKS.....	257
	LIST OF REFERENCES.....	258
	LIST OF APPENDICES.....	308

LIST OF FIGURES

- Figure 1.1 Organizational structures within the government health system
- Figure 2.1 Evaluation and management of a patient with hypertensive retinopathy
- Figure 3.1 Showing the schematic representation of the conceptual framework
- Figure 5.1 Health priorities in the South African provinces
- Figure 5.2 Health intervention strategies to meet health priority needs
- Figure 5.3 Showing eye conditions with different levels of social impact and effect on eye health promotion
- Figure 5.4 Showing health promotion programmes across the country
- Figure 5.5 Showing the distribution of optometrists across all provinces
- Figure 5.6 Showing the distribution of ophthalmic nurses across all provinces
- Figure 6.1 Nature and amount of participation, barriers and strategies to overcome barriers
- Figure 6.2 Changing map of health care
- Figure 6.3 Health care pyramid and model for health promotion programme
- Figure 6.4 Building capacity to achieve the Institutional Mission of Schooling
- Figure 6.5 An evidence-driven eye health promotion programme
- Figure 6.6 Illustrating a Health Management Structure on Comprehensive Healthy Living
- Figure 6.7 Information needs for implementation and evaluation of eye health promotion
- Figure 6.8 Showing a proposed schematic representation of a new Directorate of Eye Health Promotion and details of new policy development on eye health promotion in South Africa

Figure 6.9 Showing the proposed model for CSD in Eye Health Policy Development. CSD will be important to develop and pilot management strategies before implementation

LIST OF TABLES

Table 1.1	Health of expenditure
Table 1.2	Showing the different areas of activity as adopted in the Ottawa Charter in 1986
Table 2.1	Classification of hypertensive retinopathy
Table 2.2	Estimated magnitude of childhood blindness by region
Table 2.3	Anatomical classification of causes of childhood blindness and low vision
Table 2.4	Etiological classification of childhood blindness and low vision
Table 2.5	Avoidable causes of childhood blindness: from studies in schools for the blind
Table 2.6	Global prevalence of preschool child Vitamin A Deficiency and Xerophthalmia, with numbers of cases, by region and selected country
Table 2.7	Causes of low vision and blindness in different parts of the world
Table 4.1	Study sample at National and Provincial levels
Table 4.2	National health policy documents
Table 4.3	Provincial health policy documents and reports
Table 5.1	Showing trends of health priorities across South African provinces. Each province had six managers who were heads of the various health directorates in their respective provinces
Table 5.2	Showing the trends of strategies designed to meet health priorities across the provinces of South Africa by different health directorates

- Table 5.3 Showing health directorates across national provinces that conduct vision screening during their health promotion programmes
- Table 5.4 Showing the estimates for risk factors for eye health conditions that have been identified by eye care managers in the provinces
- Table 5.5 Showing various strategies for eye health promotion employed by eye care managers in the provinces
- Table 5.6 Analysis of the guideline on prevention of blindness in South Africa
- Table 5.7 Analysis of the guideline on management and control of eye conditions at primary level
- Table 5.8 Analysis of the guideline on refractive errors screening for persons 60 years and older
- Table 5.9 Analysis of the guideline on cataract surgery in South Arica
- Table 5.10 Analysis of national health policy documents
- Table 5.11 Analysis of provincial health policy documents

LIST OF BOXES

- Box 3.1 Criteria for guiding the analysis process
- Box 4.1 Summary of questionnaires for provincial eye care coordinators in the provinces
- Box 4.2 Summary of questionnaires for provincial health managers
- Box 4.3 Analysing health policy documents
- Box 6.1: Showing targets for the control of blindness in children in accordance with three components of VISION 2020 programme – measures for disease control, human resources development, and appropriate technology and infrastructure development

LIST OF ACRONYMS

ANC	African National Congress
ARMD	Age Related Macular Degeneration
AV	Arteriovenous Nicking
BHVI	Brien Holden Vision Institute
BP	Blood Pressure
BSc	Bachelor of Science
CBOs	Community Based Organizations
CHL	Comprehensive Healthy Living
CLOs	Community Liaison Officers
CP	Community Participation
CSD	Core Skills Development
CSHP	Comprehensive School Health Programme
DCCT	Diabetes Control and Complications Trial
DDG	Deputy Director General
DM	Diabetes Mellitus
DR	Diabetic Retinopathy
EH	Eye Health
EHP	Eye Health Promotion
GAVI	Global Alliance for Vaccines
GDP	Gross Domestic Product
GDM	Gestational Diabetes Mellitus
GFATM	Global Fund to fight AIDS, Tuberculosis and Malaria

GNP	Gross National Product
DoH	Department of Health
HHPs	Health Promotion Practitioners
HIA	Health Impact Assessment
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HPS	Health Promotion Schools
HR	Hypertensive Retinopathy
HSRC	Human Sciences Research Council
HST	Health Systems Trust
ICEE	International Centre for Eye care Education
IDDM	Insulin Dependent Diabetes Mellitus
IOP	Intraocular Pressure
KAS	Knowledge, Attitude and Skills
KZN	KwaZulu-Natal
LVR	Low Vision Rehabilitation
MCWH	Maternal Child and Women's Health
MDGs	Millennium Development Goals
MoU	Memorandum of Understanding
MRC	Medical Research Council
MSc	Master of Science
NEPAD	New Partnerships for Africa's Development
NDoH	National Department of Health

NGOs	Non-Governmental Organizations
NIDDM	Non-Insulin Dependent Diabetes Mellitus
NHI	National Health Insurance
PACG	Primary Angle Closure Glaucoma
PC	Provincial Coordinators
PHC	Primary Health Care
PPP	Purchasing Power Parity
POAG	Primary Open Angle Glaucoma
RDP	Reconstruction and Development Programme
REWG	Refractive Error Working Group
ROP	Retinopathy of Prematurity
RPE	Retinal Pigment Epithelium
SA	South Africa
SADC	Southern African Development Community
SC	Self Care
SG	Secondary Glaucoma
SGB	Standard Generating Body
STDs	Sexually Transmitted Diseases
SSC	Social Sector Cluster
TB	Tuberculosis
TEM	Traditional Eye Medicines
USA	United States of America
UV	Ultraviolet

UVR	Ultra Violet Radiation
VA	Visual Acuity
VAD	Vitamin A Deficiency
VADD	Vitamin A Deficiency Disorders
WCRE	World Congress on Refractive Error
WHO	World Health Organization

CHAPTER 1 ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Blindness is one of the most tragic but avoidable disabilities in the developing countries (Resnikoff, Pascolini, Etya'ale, Kocur, Pararajasegaram, Pokhorel & Mariotti 2004:844; Pizarello, Abiose, Ffytche, Duerksen, Thulasiraj, Taylor, Faal, Rao, Kocur & Resnikoff 2004:615). There are currently 45 million blind people and 135 million with low vision in the world (Roodhooft 2002:20). The number of blind people increases every year by 2 million and is expected to double by the year 2020 (Roodhooft 2002:20). This poses a serious threat to the 'VISION 2020: The Right to Sight' campaign initiated by the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) together with an international membership of Non-Governmental Organizations (NGOs), Professional Associations, Eye care institutions and Corporations (Resnikoff & Pararajasegaram 2001:224; WHO 2000). This campaign aims to eliminate avoidable cases of blindness by the year 2020 (Resnikoff & Pararajasegaram 2001:224). According to Fotouhi, Hashemi and Mohamed (2006:4), the campaign has three major components as target activities, namely; specific disease control, human resource development and infrastructure, and appropriate technology development. All these components are vital for effective eye care programmes in the developing countries.

In view of the target activities of VISION 2020 campaign, the initial stages focused on disease control of conditions such as cataract,

trachoma, onchocerciasis, avoidable causes of childhood blindness, uncorrected refractive error, and low vision (Hashemi & Mohamed 2006:4). Therefore, with new emerging trends of eye diseases in the developing countries (Resnikoff & Pararajasegaram 2001:224), it is important for African countries to set programmes in place to meet the objectives of VISION 2020 campaign. Failure to set up such programmes may result in the projected possible doubling of the number of people with blindness by the year 2020.

Despite containing 10% of the world's population, Africa accounts for 19% of the world's blindness (Pararajasegaram 1999:359). The leading causes of blindness in most parts of Africa include trachoma (Kasi & Gilani 2004:1736) onchocerciasis (Etya'ale 2002:844), cataract (Yorston 1998:469), and glaucoma (Quigly & Broman 2006:263). South Africa has an estimated prevalence of blindness of about 0.75% of which 80% is avoidable (DoH 2002). The leading causes of blindness in South Africa are cataract (66%) and glaucoma (14%) (DoH2002). Majority of these people live in the rural areas. It is therefore important that programmes are set in place to assist in the envisaged elimination of unwarranted cases of avoidable blindness.

In view of the current burden of eye diseases in the world, it has been realized that actions by individuals, families and communities, as well as eye care professionals are vital to achieving the ambitious target of 'VISION 2020: the Right to Sight' campaign and this can only be achieved through effective health promotion (Hublely & Gilbert 2006:279). Health promotion is the

process of enabling individuals and communities to increase control over the determinants of health and thereby improving their health (Nut beam 1998:351). The concept of health promotion was first elaborated in 1986 in the Ottawa Charter which set out five areas of activity in order to achieve health for all by the year 2000 and beyond (WHO 1986). These areas include:

- Promoting health through public policy by focusing attention on the impact on health of public policies from all sectors through advocacy for health;
- Creating a supportive environment by assessing the impact on health of the environment and clarifying opportunities to make changes conducive to health;
- Developing personal skills by moving beyond the transmission of information to promote understanding, and to support the development of personal, social and political skills which enable individuals to take action to promote health;
- Strengthening community action by supporting concrete and effective community action in defining priorities, making decisions, planning strategies, and implementing them to achieve better health;
- Reorienting health services by refocusing attention away from the responsibility to provide curative and clinical services towards the goal of health gain.

According to Hubley and Gilbert (2006:280), effective health promotion involves a combination of three components;

- Health education directed at behaviour change to increase adoption of prevention behaviours and uptake of services;
- Improvements in health services such as the strengthening of patient education and increased accessibility and acceptability;
- and advocacy for improved political support for blindness prevention policies.

Most developing countries have adopted the Ottawa Charter and it has been integrated in the Primary Health Care (PHC) approach to deliver health care (Hubley & Gilbert 2006:280). Health promotion is not limited to health education. Health education is any planned activity that promotes health or prevents illness by changing behaviour. It usually depends on experts to inform the public, and it most often is focused on preventing illness (Uys, Majumdar & Gwele 2004:192). In contrast, health promotion includes advocating for health needs, enabling people to achieve their health potential, and coordinating multiple sectors related to health promotion to contribute towards the general health of the population.

De Vries (1998: 98) defined three types of health promotion models:

- Planning models, which are guides in the planning process;
- Behavioural models, which indicate why people adopt certain behaviours; and
- Change models, indicating how behavioural change can be stimulated. Although planning models are useful for

explaining health promotion, they provide little information for the structure and content of health promotion programmes. Behavioural models, such as the health belief model, show which factors influence health behaviour, but they are not guides for implementing health promotion projects at the community level.

Whitehead (2001:312) described five basic approaches to health promotion:

- Medical,
- Behavioural change,
- Educational,
- Empowerment, and
- Social change.

In the medical approach the basic tools are immunization and screening. Immunization works only for some communicable diseases. Screening is effective for illness that have long preclinical phases (Uys et al 2004:193) those for which early treatment improves outcomes; and those for which testing and treatment are cost-effective (Uys et al 2004:193).

In the behavioural change approach, health is an asset that belongs to an individual. The assumption is that, given the relevant and correct information about the protection of this asset, people will take the necessary action. Usually health messages are delivered by clinical or government experts (Uys et al 2004:192).

The educational approach is based on the assumption that, if people have the appropriate knowledge, attitudes, and skills (KAS), they will have health. KAS are developed in people not by teaching facts as much as by giving skilled counselling to individuals or groups to promote informed choice (Uys et al 2004:193).

In the empowerment approach the growth of individuals or groups is promoted through facilitating community or group-based projects. Communities are empowered toward social change, which leads to improved health (Uys et al 2004:193).

1.2 CONTEXT OF THE PROBLEM

1.2.1 Eye health promotion in Africa

The state of eye care in Africa stands in alarming contrast to that in the rest of the world. Poor practitioner-to-patient ratios, absence of eye-care personnel, inadequate facilities, poor state funding and a lack of educational programmes are the hallmarks of eye care in Africa, with preventable and treatable conditions being the leading cause of blindness (Naidoo 2007:415). Eye diseases causing preventable blindness are often the result of a combination of factors such as poverty, lack of education and inadequate health-care services (Naidoo 2007:415). With Africa the only continent to miss on any of the Millennium Development Goals (MDGs) (Easterly 2009:26), presumably due to poverty and most of its people having poor health status (Govender 2005:39), the difficulty in sustaining development and economic viability is substantially increased. This makes African countries to have difficulties in

promoting and maintaining the health of their people (Govender 2005:39).

According to Peters (1997:764), the median annual per capita government expenditure on health in Africa is US\$6. This is averaged at US\$3 per capita in the lowest income countries and US\$72 per capita in the middle income countries (Peters 1997:764). If the African countries are spending an average of US\$6 on curative medical care, this then raises a question of how does these countries incorporate health promotion in their budgetary constraints. African countries with different levels of Gross National Product (GNP) therefore vary in health expenditures, services and health outcomes (World Bank 2003).

Ethiopia is an example of one of the lowest income groups, Kenya, a low income group and South Africa, a middle income group with no high income groups in Africa (World Bank 2003). Table 1.1 shows the statistical profiles on health expenditure in some African countries compared to European countries and the United States (World Bank 2003). The per capita government spending raises serious concerns about the long-term feasibility of governments' financing of a minimum package of health services (Govender 2005:40). In all African governments, secondary and tertiary levels of care can absorb more than 80% of health budgetary location (World Bank 1999). In the lowest income countries, donor contributions accounted for 53% of public sector health expenditures (World Bank 2003). It will be interesting to see if African governments and the New Partnership for Africa's Development (NEPAD) can be able to encourage economic

development and investments, thereby simultaneously improving on health expenditure per capita and build in a health promotion budget.

Table 1.1: Health Expenditure

Country	Health expenditure Total % of GDP (1997-2000)	% of total health expenditure (1997-2000) Public	Private	Health expenditure per capita \$
DRC (low-income)	1.5	73.7	26.3	9
Ethiopia (low-income)	4.6	39.4	60.6	5
Malawi (low-income)	7.6	47.8	52.2	11
Angola (low-income)	3.6	55.9	44.1	24
Kenya (low-income)	8.3	22.2	77.8	28
Sudan (low-income)	4.7	21.2	78.8	13
Botswana (middle-income)	6.0	63.1	36.9	191
South Africa (middle-income)	8.8	42.2	57.8	255
Europe	9.1	73.4	26.6	1 808
United States	13.0	44.3	55.7	4 499

(World Bank 2003)

In recent decades most African countries have experienced an unprecedented growth in their predominantly low-income settlements of urban populations (Govender 2005:40). The available statistical information suggests that poverty, poor living and working conditions can cause infectious diseases, chronic degenerative diseases, pathogenic conditions associated with stress (often precipitated by social isolation, insecurity, dissolution of family relations and cultural conflict) (World Bank 2003). This is in contrast with the prerequisites for health which include peace, shelter, education, food, sustainable resources, social justice and

equity as adopted in the Ottawa Charter (WHO 1986). All these are well known to be deficient in most parts of Africa. Therefore the core elements of health promotion also cannot be sustained (Govender 2005:40).

The major structural barriers to health in Africa are usually legislative, policy or regulative measures that hinder the practices of good health (Naidoo 2007:416). Poor practitioner-to-patient ratios, poor state funding and lack of educational programs are the hallmarks of health care in Africa (Thylefors, Negrel, Pararajasegaram, Dadziel 1995:120). These barriers may also be physical due to lack of water or adequate sanitation, contamination of water, poorly ventilated housing, overcrowding and improper waste disposal become breeding grounds for infectious and parasitic diseases (Govender 2005:41). The unhygienic conditions in the rural and urban areas serve as enabling environments for infectious diseases which may prove to be difficult to control.

There is an increasing recognition of the need to highlight the link between poverty, development and health care (Naidoo 2007:416). While there is still not enough being done, some initiatives have sought to create a significant shift in this direction. Under their initiative on Global Health and Foreign Policy, the Ministers of Foreign Affairs of Brazil, France, Indonesia, Norway, Senegal, South Africa and Thailand issued a statement (Oslo Ministerial Declaration 2007:1) that stated that, 'In today's era of globalization and interdependence, there is an urgent need to broaden the scope of foreign policy. Together we face a number of pressing challenges that require concerted responses and collaborative

efforts. We must encourage new ideas, seek and develop new partnerships and mechanisms, and create new paradigms of operation. We believe that health is one of the most important, yet still broadly neglected, long-term foreign policy issue of our time. Life and health are our most precious assets. There is a growing awareness that investment in health is fundamental to economic growth and development'. It will be of interest to see the impact of this declaration in the near future.

According to Ham (1997:49), health is a priority goal in its own right, as well as central input into economic development and poverty reduction. The importance of investing in health has been greatly under-estimated, not only by analysts but also by governments of developing countries and the international donor community. Increased investments in health will translate into hundreds of billions of dollars per year of increased income in low-income countries, as poor health leads to a loss in productivity, loss of scarce human resources through death and disability and an increasing diversion of resources from education and other economic development programs. There are potentially large social benefits in ensuring high levels of health coverage of the poor, including a spill-over to wealthier members of society. The links between economic development of a nation and the health of its people have been clearly stated (Anyangwe, Mtonga & Chirwa 2006:218), however, the reality is that health funding in developing countries is constrained by competing demands and poor policies. The incapacity of health officials to implement effective policies has severely hampered access to health care, highlighting the need for:

- Cost-effective, sustainable health-care systems;
- Well trained human resources; and
- Investment in research and development of all aspects of the health care system to duplicate best practices.

Current major public health initiatives have indicated that enormous financial input alone will not solve the chronic inadequacies of the health care crisis in Africa. Comprehensive solutions that address the economic, social and political imperatives of the continent need to be implemented (Naidoo 2007:416). In a pilot implementation of the Global Alliance for Vaccines and Immunisation (GAVI) in four African countries, an ineffective roll-out was found. This is presumed to be due to the major inadequacies in the health system infrastructure, both in resources and human capabilities (Ruairi, Starling & Walt 2002:435). Given the advent of more combined initiatives such as the Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) as well as Vision 2020 (Resnikoff & Pararajasegaram 2001:222), the pressure on African health systems to deliver will only increase. This demonstrates the need for:

- Currently available and potentially relevant knowledge to be translated into programs, policies, practices and appropriate technologies;
- The development of models through researched, monitored, analysed pilot projects that build incrementally to the strengthening of existing health delivery systems (Ruairi et al 2002:436)

1.2.2 Health promotion in South Africa

South Africa has a long history of commitment to a broader concept of health promotion both before and during legislated apartheid, but the introduction of the modern discipline of health promotion to the health system is fairly recent (Onya 2007:233). Health promotion first entered the South African health system in 1990 (Coulson 2000). Since then, the South African Government has both undertaken significant institutional transformation, as well as sought to redefine most of the policies that determine the activities of the state in the management of social relations and service delivery including health services (Onya 2007:233).

Some of the pillars of apartheid policy, which sought the exclusion of the majority from full participation in all aspects of South African society, had begun to crumble by the late 1980s (DoH 2006). However, since 1994, the qualitative difference is that the state set out systematically and deliberately to dismantle apartheid social relations and create a democratic society based on the principles of equity, non-racism and non-sexism (Onya 2007:233). In line with the prescripts of the new Constitution, new policies and programs have been put in place to dramatically improve the quality of life of all the people. Key to this program of action has been the extension of universal franchise and the creation of democratic state (Constitution of the Republic of South Africa, 1996). This has created the requisite environment to address poverty and inequality, and to restore the dignity, safety and security of citizens. A comprehensive constitutional policy and regulatory frame work underpin this program. Defined by the Reconstruction and Development program (RDP), the program

has been elaborated in all post 1994 policies cross cutting all spheres of societal development (RDP 1990).

The healthcare provided by the apartheid government was racially based with large well equipped hospitals emerging in Afrikaner strongholds such as Pretoria, Stellenbosch and Bellville, while the facilities in the homelands were under funded, under equipped and under staffed (Onya 2007:234). The legacy for health education and promotion in government was both didactic and racist. In the 1980s progressive health organization started to emerge (Coulson, Goldstein & Ntuli 1998:12). People were beginning to be organized through community and workplace issues such as poor housing, lack of health services, poor transport services and campaigns around health were being linked to the broader social and political issues (Onya 2007:234).

Today, there is a Directorate of Health Promotion located within the Social Sector Cluster (SSC) within Primary Health Care (PHC), District and Development operations which falls under the Deputy Director General for Health Service Delivery in the National Department of Health (NDoH) as shown in Figure 1. The action area for the SSC include among others:

- Promotion of national identity and social cohesion;
- Comprehensive health care which addresses challenges of communicable and non-communicable diseases;
- Meeting the increasing challenge of housing and human settlement and;
- Food security and nutrition.

The government departments that constitute the SSC are Health, Social Development, Provincial and Local Government, Water Affairs, Tourism, Statistics South Africa, Transport, Labour, Education, Public Works, Public Services and Administration, Human Settlement, Minerals and Energy, Agriculture, Forestry and Fisheries, the Presidency and National Treasury. The Directorate of Health Promotion is one of several sections representing the NDoH in the SSC and is headed by a Director. Each of the nine provincial governments has Health Promotion Focal Persons (Onya 2007:234).

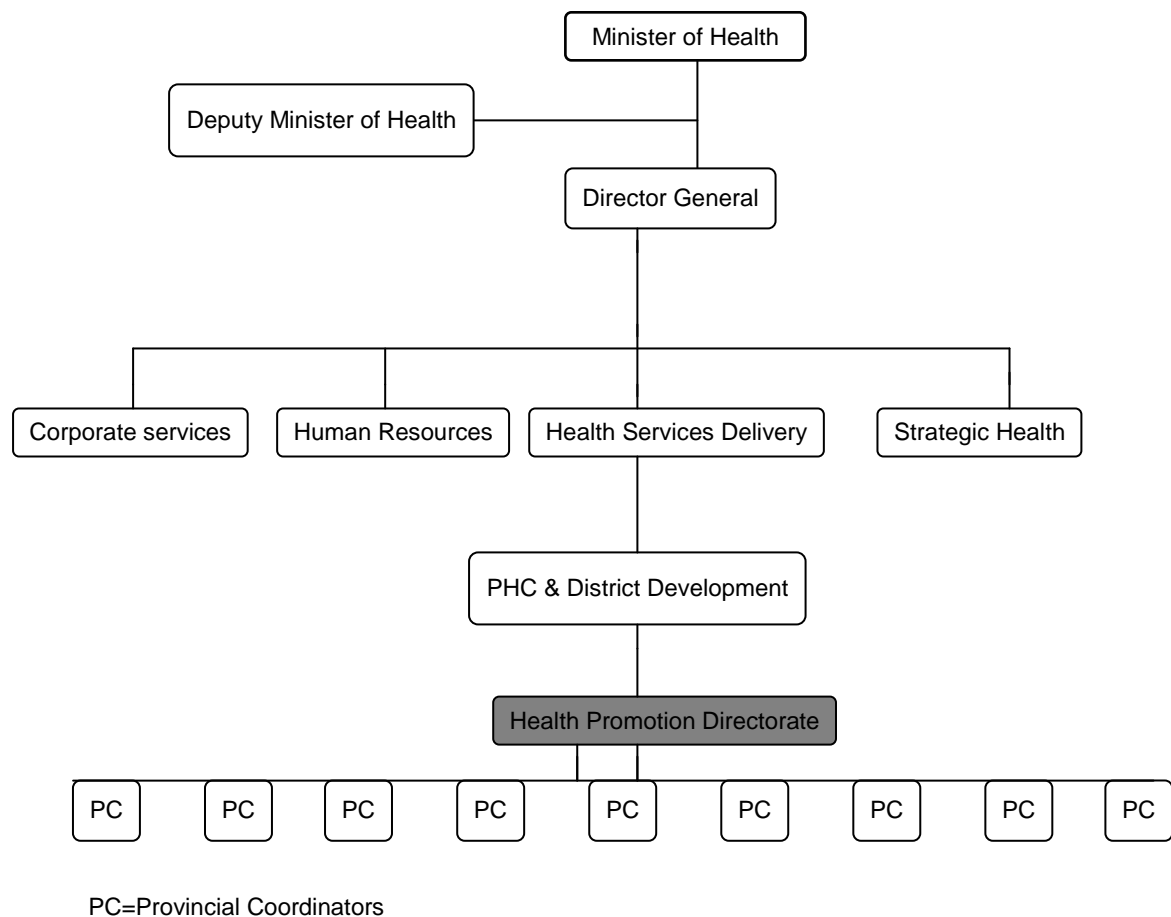


Figure 1.1: Organizational structure within the government health system (Adapted from Onya 2007:234)

1.2.2.1 Integration of health promotion strategies in the PHC system

1.2.2.1.1 Health promotion in nursing

A typical example of health promotion in nursing is the one reported in a study by Uys et al (2004:193). The study reported that health promotion in the KwaZulu-Natal (KZN) province is focused on change and how changes in factors influencing the health of a community can be initiated. The major assumption of the KZN health promotion model is that health is dependant not only on health behaviour or health care, but also on the socioeconomic and cultural contexts within which people live (Uys et al 2004:194).

1.2.2.1.2 Oral health promotion

Another example of an integrated health promotion strategy into the PHC is the one on oral health promotion. According to Sithole (2008), the first draft of the South African National Oral Health Strategy was done in 2004 and is still being reviewed by Professor N Myburgh of the University of Western Cape (Sithole 2008). The aim of this oral health strategy is to improve the oral health of the South African population by promoting oral health and to prevent, appropriately treat, monitor and evaluate oral diseases (Singh & Myburgh 2005).

1.2.2.1.3 Eye health promotion

South Africa has an eye health promotion unit under the Directorate of Chronic Diseases, Disabilities and Geriatrics. Under

this directorate, there is a national guideline on the prevention of blindness in South Africa (DoH 2002) which concentrates on prevention of avoidable blindness as a component of the vision 2020 global initiative. It sets out four levels of prevention which include;

- Primary prevention: it consists of measures to prevent diseases, injuries or conditions that can result in complications, impairments or disabilities. Such measures include health education, immunization, maternal and child health services, and safety promotion. All these measures comprise a major component of primary health care.
- Secondary prevention: consists of early identification and intervention in the treatment of diseases, injuries or conditions to prevent the development of complications or impairments.
- Tertiary prevention: consists of measures to limit or reduce impairments or disabilities.
- Quaternary prevention: consists of measures to reduce the effect of untreatable disease or disability.

The objectives of the National Prevention of Blindness Programme include;

- Provision of support to the Prevention of Blindness Programmes in South Africa and SADC countries.
- Coordination of the Prevention of Blindness Programmes in South Africa.
- Promotion and protection of the rights of blind persons.

- Reduction of the prevalence of blindness in the country from 0.75% to 0.50% by the year 2005. It is not known whether this has been achieved or not.

From the above mentioned objectives, measures to limit or reduce impairments or disabilities refer to health promotion. However, according to Croasdale (2008), unlike in nursing and oral health, there is no eye health promotion strategy in South Africa. It is therefore important that an eye health promotion model that includes areas of activity as shown in Table 1.2 be developed.

Table 1.2: Showing the different areas of activity as adopted in the Ottawa Charter in 1986

Components of eye health promotion		
Health education: directed at individuals, families and communities to promote:	Service improvement: improvement in the quantity and quality of services	Advocacy: for policies that promote eye health;
Eye health promoting behaviours, eg. Face washing	Eye care	Support for expansion of eye health services and disease prevention
Uptake of services	Patient education	Economic support to increase affordability of preventive actions
Support for mass treatment	Community outreach	Provision of water, housing, and land
Promotion of awareness, knowledge, decision making, beliefs, attitudes, empowerment	Supplies of drugs	Safety legislation
	Vector control	Food policy/fortification
	Eye screening, provision of spectacles	
	School health	

(Hubley & Gilbert 2006:280)

1.3 STATEMENT OF THE PROBLEM

Health promotion has been integrated within the PHC system in South Africa. As a result, the National Health Promotion model for nursing and the National Oral Health Promotion policy have been developed with view to integration within the PHC system. Unfortunately, there is no Eye Health Promotion policy in the South African PHC system (Croasdale, 2008). The consequences of such a lack of an important policy range from unwarranted cases of visual impairment to avoidable blindness.

Visual impairment and blindness are potentially debilitating and limit the affected individuals on education and employment opportunities. Such cases also have potential for serious adverse effects on the economy and consequently put a major burden on scarce resources. Furthermore, the lack of a policy on eye health promotion will affect South Africa's efforts, if there are any, of meeting the requirements for the VISION 2020 campaign that aims to eliminate avoidable blindness by the year 2020. It is therefore necessary that a proposal for the development of eye health promotion policy be made.

1.4 RESEARCH OBJECTIVES

The objectives of the study were;

- To determine if there are any eye health promotion activities being done by health promotion focal persons in the provinces.

- To identify eye health promotion strategies and programmes in specific health policy documents.
- To examine and locate the form and context of eye health promotion related strategies and programmes in specific health policy documents.
- To determine the practicality of implementing evidence-based eye health promotion related policies in South Africa.

1.5 SIGNIFICANCE OF THE STUDY

Eye health promotion is an important area in public health. It contributes positively to the visual wellbeing of the population by eliminating unwarranted causes of avoidable blindness. Also, in order to achieve the aim of VISION 2020, it is important that the implementation of eye health promotion and health education strategies is taken seriously by governments. Therefore, the study is significant in that since there is a lack of eye health promotion policy and programmes in South Africa, the study aims;

- To determine if the provision for eye health promotion in the national guidelines on eye care are adequate.
- To critically analyse the potential for policy proposals on eye health promotion strategies in South Africa in order to contribute to improved community eye health.
- To make formulations and proposals for the development of eye health promotion policy in South Africa.

1.6 RESEARCH QUESTION

Research questions are questions that researchers ask themselves about what they need to find out in the area of interest (Kumar 2005:46). As confirmed by Croasdale (2008), there is no eye health promotion strategy or policy in South Africa. The study therefore sought to find out if there were any activities that were undertaken by the South African National Department of Health directed to the aspect of eye health promotion.

The research questions in this study were:

- Is there any policy on eye health promotion in South Africa?
- Are there any eye health promotion activities across the country?
- If there is no policy on eye health promotion and possibly no eye health promotion activities, what are the barriers that contribute to the lack of this policy and the subsequent lack of eye health promotion activities?

1.7 CONCLUSION

This study presents the results of an analysis of the South African health policies and programmatic experience, and decision making to determine the nature and provision for eye health promotion within the South African health policy. It reports the use of conceptual framework to examine eye health promotion elements within a wide range of health policy documents and their

implementation as reported by health managers across the country.

The literature examines health policy development and analysis, challenges facing health policy development, the role of equity in health policy analysis, the nature and development of eye health promotion model, defining eye health and impact of visual impairment.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

Literature review is a broad term that includes two major types of reviews (Khan, ter Riet, Glanville, Sowden & Kleijnen 2001:12). These types include non-systematic reviews that provide background information for research articles, demarcate the scope of an investigation, present evidence to support a claim or justify the importance of a study. This type of review does not minimize bias, thus risks offering misleading conclusions and misdirecting practice (Hofstee 2006:22). In contrast, systematic reviews involve an attempt to discover inconsistencies and account for variability in studies that appear similar by applying the rules of the scientific process to extract and pool findings (Khan, Kunz, Kleijnen & Antes 2003:118). In this study, systemic reviews have been employed to gather sufficient information pertinent to health policy development and eye health promotion in South Africa.

Systematic reviews may be quantitative or qualitative and the stages of each type of review are identical (Bowman 2007:171). Quantitative research methods have traditionally played a significant role in health services research but there is growing recognition that qualitative research can also make important contributions to understanding decision making in health services

(Baun 1998:42; Bowling 1997:18). It is therefore upon this background that the current study used both quantitative and qualitative reviews as a means of gathering information.

The primary aim of reviewing literature in any field of knowledge is to contextualize the study in accordance with identified units of analysis (Henning 2005:27). According to Mouton (2001:87), the general features of literature review or the accumulated body of scholarship in any discipline of the study should include:

- Multi-dimensional definitions of the unit(s) of analysis;
- Perspectives on what other studies have produced previously in respect of existing data and empirical evidence thereof;
- Expansions on various theories, models and hypotheses in field under investigations and;
- Enlighten on the kind of instrumentation used or developed as well as the extent to which they have been successful.

2.2 THE CONTEXTUALIZATION OF THE LITERATURE REVIEW

In this section, efforts to integrate and contextualize the leading theoretical, conceptual and empirical frameworks observed have been made. Appearing under various sub-headings below is an indication of the scope of this study's accumulated body of scholarship as alluded to by Mouton (2001:87). The research used a combination of evidence to provide a multidimensional perspective to understanding the health policy process. The collection of data involved both primary and secondary data sources. The primary source of information included self-administered questionnaires, structured, non-standardised in-

depth and telephonic interviews as well as health policy documents involving Eye Health, Nutrition, Maternal, Child and Women's Health, Health Promotion, Mental Health and HIV/AIDS programmes. Statistical records on eye health promotion activities formed the secondary source of data collection. The source of this information was from both the National and Provincial Departments of Health of South Africa.

This section of the literature review defines the parameters of the study by exploring the current concepts and ideologies expressed in international health policy development. This theoretical information is pertinent because it could provide a rationale for the current selection of health policy priorities, strategies, interventions and programmes in South Africa. This section also focuses on an overview of the nature and development of eye health promotion in general. The ideologies of eye health promotion, policy perspectives and subsequent planning strategies are explicitly outlined in the review. This overview in health policy and eye health promotion forms the foundation to critically appraise health policy and practice in South Africa.

2.2.1 Defining health policy and the nature and development of eye health promotion

Health systems in many developing countries are repeatedly faced with challenges occurring as a result of epidemiological diversity and urbanisation within uneven but rapid economic growth (Maunder, Matji & Hlatshwayo-Molea 2001:8; Richards & Lawrence 1998:7; Ellwood & Mullane, 1996:4; Jamison & Mosley 1991:15). Demographic changes, massive urbanisation and the

acquisition of unhealthy lifestyles have resulted in rapidly changing disease patterns on a global level (Petersen 2004:336; Sheiham & Watt 2000:569; Locker 2000:165). Similarly there is increasing awareness that the underlying determinants of eye diseases are intricately enmeshed in multi-factoral influences that impact on health and well-being (Sheiham & Watt 2000:569; Locker 2000:164; Tickle, Craven & Worthington 1997:218). It is therefore important that health policy development considers this very intricate relationship between the determinants of health and eye health and the factors that link eye diseases to ill-health. While health policy development is essentially considered a political process, this inter-relationship between eye health and general health has important implications for eye health planning in South Africa.

2.2.2 Health policy development

This section examines international and national developments in health policy efforts. These developments include changing perceptions in health priority settings, translation of health policy to practice and the value of including evidence-based research findings in health policy-making (Filmer, Jeffrey, Hammer & Pritchett 2002:47; McQueen 2001:265; Ellwood & Mullane 1996:2).

Most current health promotion programs stem from a realization that most ill health in society is socially, economically, and structurally constructed, is often outside the individual's control, and requires social and political action. Health professionals are key facilitators in bringing about such action (Whitehead 2003:799). Socio-political health promotion strategies seek to

empower individuals to change their social reality, as it is known that the issue of health is a powerful motivating force for bringing individuals and communities together (Naidoo & Wills 2000:86). Health promotion strategies are now more likely to include environmental engineering activities that seek to achieve social change through the encouragement of economic, fiscal, legislative and political reform (Tones & Tilford 2001:33).

Health policy development internationally appears to focus on conflicting policy issues such as preventive versus curative services, selective versus comprehensive primary health care delivery or integrated versus vertical health programmes. The challenge would therefore be the need to develop health policies that could respond best to health priorities within the prevailing political, social and economic influences that impact on health and service provision (Filmer, Jeffrey, Hammer & Pritchett 2002:48). The impact of globalisation on health suggests a need to change strategies on public health policy-making. There is increasing recognition that the organisational form of public policy-making is now based on networks that are characterised by shifting alliances and blurred lines of responsibility (Kickbusch 2000: 979).

Jamison and Mosley's (1991:16) argument for strategies in health policy development have important implications. They postulate that while there is a need for health priority assessment on a national level, there is also a need to translate national health priorities to a local epidemiological context with consideration being given to the socio-cultural, administrative, economic and political impact on health care (Jamison & Mosley, 1991:18). Thus

health policy translations need to be conducted within existing budgetary constraints (Jamison & Mosley 1991:18). These arguments will be critically evaluated later in the South African context of health policy development and health priority settings. It is imperative that health policy strategies address issues on equity, efficiency, acceptability and sustainability within health service provision (Scott 1999:121; Linder 2002:62; Olsen 1998:288; Downie, Fyfe & Tannahill, 1991:46).

Evidence-based health policy efforts are also seen as an important development in health policy initiatives (Gray 2001:22). Apart from addressing issues on effectiveness and cost-containment, evidence-based health policies have the potential to evaluate the feasibility and practicality of introducing foreign health policy initiatives (Gray 2001:25). An evidence-based approach to health policy analysis could thus enhance the potential to critically evaluate health interventions associated with policy implementation efforts (Gray 2001:30; Barker 1998; Murray & Lopez 1996:741). This could provide justification for the selection of health priorities. However, the practice of evidence-based health care is not without debate. Therefore, while evidence in health policy is important, there is a need for political accountability and capacity building in health care provision (Barker 1998).

The first significant piece of new policy for health promotion in South Africa appeared in the African National Congress (ANC) health policy document (Onya 2007:233). Drawing extensively on the policy processes both inside and outside the country, the ANC recognized the significant contribution that health promotion could

make to strengthen its commitment to improving the health of South Africans and its vision for Primary Health Care (PHC).

Section 27 (1), Chapter 2 of the constitution of South Africa (1996) states that everyone has a right to access to:

- Health care services including reproductive health care;
- Sufficient food and water;
- Social security, including, if they are unable to support themselves and their dependants, appropriate social assistance.

Subsection (2) went further to state that, 'The state must take reasonable legislative and other measures, within its available resources, to achieve the progressive realization of each of these rights' (Constitution of the Republic of South Africa 1996).

The white paper on the transformation of health services published in 1997 pointed to the political and structural changes introduced through the transition to democracy, reconstruction and development and the principles elaborated by the RDP as being important cornerstones for developing necessary health promotion initiatives (Onya 2007:233). Principle activity for an effective health promotion strategy were deemed to be the development of public policies and legislation, community action, skills development, promoting a healthy physical and social environment, empowerment of communities and individuals to promote their own health and a focused reorientation of the health services and service delivery (DoH 1997:233).

The National Commission on Higher Education Report released in 1996 also highlighted the need for capacity building and workforce development which took account of the broader changes envisaged for the healthcare delivery. The document also indicates a need to build educational competence, and intellectual and research capacity in institutions (Department of Education 1996). The RDP recognized a PHC approach as the means to address the imbalances of the past. Health promotion is one of the main pillars of PHC in South Africa, which focuses on social justice and development, and offers a different perspective on achieving Health for All (Onya 2007:234). South African health promotion policy, which is based on the Ottawa Charter (WHO 1986) has gone through extensive process of consultation and is now in a final draft (Onya 2007:234).

The above policies and others are well aligned across government. To facilitate coordination of health and other sector policies, the three government cluster sectors (social, security and economic) have task teams that meet regularly to look at policy implementation, review and improvement. The overall policy coordination is the responsibility of the Deputy Director General (DDG) for Policy and Strategic matters in the office of the President. There are several well articulated health policies and programs that have been put in place to dramatically improve the quality of life of all the people of South Africa. One example is the introduction of legislation on tobacco control aimed at reducing morbidity related to smoking. This has been the biggest achievement in the area of health promotion in South Africa (Tobacco Product Control Amendment Act 1999). Surveys suggest

that legislation and policies implemented to curb tobacco use amongst both youth and adults have resulted in decrease in smoking prevalence between 1998/99 and 2002 (DoH 2004).

Health promotion in South Africa is based on intersectoral collaboration. The governments (national, provincial and local) recognize that good health and well-being is dependent on a range of factors, many of which lie outside the health sector itself. The Health Sector strategic framework, 2004-2009 has 10 priorities most of which are health promotion (Andrew & Pillay 2005:2). Currently, health promotion service delivery is the responsibility of the national, provincial and local governments with provincial and local governments mainly implementing and the National Health Promotion Directorate offering support. There are also national Non Government Organizations (NGOs) (such as SOUL CITY and LOVElife) and Community Based Organizations (CBOs) operating across the country providing health promotion services. The result is that health promotion services are grossly proliferated with no single body coordinating activities. There is, therefore, a need for a well coordinated monitoring and evaluation of health promotion services.

Funding for health promotion activities comes from the Department of Health budget allocation from the National Treasury. This however, is not the only source of funding for health promotion in South Africa. International donor agencies such as the United Nations Agencies, bilateral Aid Agencies and various Foundation support health promotion intervention and research, technically and financially. There is funding in South Africa to build capacity

for action on health promotion and social determinants to increase understanding and to develop a skilled workforce. However, the allocation or utilization of these funds for such purposes has not received priority attention from the DoH. Some donor agencies as well as provincial governments have provided funding for training in health promotion, but only to assist in short in-service training of local health workers; some national workshops and recently re-training of former Community Liaison Officers (CLOs) and other community based health workers in basic health promotion (Onya 2007:235).

The relationship between health and social determinants is well known to politicians and opinion leaders in South Africa. There is a commitment to doing something about health promotion by Health Ministers, with a desire to strengthen lifestyle campaigns and develop a more robust set of programs around non-communicable diseases and specifically around such issues as proper nutrition, hypertension and diabetes. There is also a commitment to intensify efforts to combat TB, to strengthen the implementation of the comprehensive plan for HIV and AIDS and to improve mental health services (DoH 2005).

There is a stable structure for health promotion service delivery at the national government level (The Directorate of Health Promotion) and health promotion focal persons in each province. However, there are disparities between provincial infrastructures. With the exception of one province (Mpumalanga), that has a career structure for Health Promotion Practitioners (HPPs), other provinces have either one officer or a skeletal staff responsible for

health promotion with no established career path. Although the Mpumalanga example is not perfect, it offers some encouragement. Health promotion practice seems to be strong in Mpumalanga compared to other provinces. There is a career structure that makes it possible for HPPs to progress to Deputy Director's position. A recent audit in Mpumalanga (Jooste 2006) places the number of HPPs at 120 with 34 that have received basic diploma training. This remarkable advancement of health promotion can be attributed to the dedication of the leadership of health promotion and political will on the part of the provincial authorities (Onya 2007:236).

One major problem in health promotion in South Africa is infrastructure. The level where health promotion is located both in the national and provincial governments' organizational structure is low. The location of health promotion Directorate within a cluster inhibits effective influence on policy development and programs implementation (Onya 2007:236). An example can be seen in the fact that the National Health Promotion Policy development that started in 1997 has been stalled at the cluster level. The same goes for the Health Promotion Foundation initiative that started in 2002. Both documents are in their final draft stages at a level beyond the Directorate. Compounding this problem is the rate at which leadership changes take place at the national level. Between 1994 and 2007 the Directorate has witnessed four changes in its leadership. The effect is that high-level decisions on health promotion are made with little influence from health promotion professionals. High level advocacy and lobbying is also compromised.

There is a gross inadequacy of trained human resources for health promotion work within the Department of Health and indeed South Africa as a whole. This situation is difficult to justify given the financial resources available that can be utilized for manpower development in the country. For example, the expenditure on programs has seen steady growth, rising from R5.6 billion in 2001/02 to about R8.7 billion in 2007/08, an annual average increase of 7.6 per cent (DoH 2005). It is therefore plausible to conclude that there are resources to develop the technical capacity of health promotion professionals to provide expert policy advice and to implement programs (Onya 2007:236).

To contribute to addressing the human resources problem, six universities are currently offering courses in health promotion in South Africa. In addition, a number of short courses ranging from one day to two weeks are offered to in-service officers from government departments and non-government organizations. The universities offer diploma and certificates courses, with one university offering undergraduate Bachelor of Science (BSc) degree and two universities offering a Master of Science (MSc) degrees in health promotion (Onya 2007:236). These courses are aimed to develop knowledge and skills in health promotion practice. At the moment student intake is low and the curriculum is not standardized. Attempts to establish a Standard Generating Body (SGB) that would generate standards for health promotion training met stiff opposition from the Public Health Association of South Africa (Onya 2007:236).

Many influences on behavior including culture, economics, power, and tradition operate at the community level (Hubley & Gilbert 2006). A community based program is one which works within a geographically defined area, takes into account influences that operate at community level, and seeks to involve community members in the decision making process and in implementation (Hubley 1999). The ideal situation is that the community decides its own health priorities, as well as solutions, and how these will be resourced, implemented, monitored, and evaluated. Unfortunately, this ideal is not always realized and the term 'community participation' has been loosely applied to a range of approaches from ones with full involvement of communities to 'top down' programs where all decisions are made externally (Rifkin 1986:240). In the early 1970s in the former homeland of Gazankulu, community based approaches proved to have impact on eye health knowledge and on the incidence of trachoma (Sutter 1983:1813). This shows the importance of some community based approaches in health promotion. Community involvement in health is mainly through the work of community based organizations and mobilization efforts of community health workers. As a democratic state, policies and guidelines for health actions receive wide consultation before they become operational.

Although most health programs are vertical programs, links and partnership with community are developed. Communities are empowered to manage economic, environmental, social and cultural diversity. Most of this work is done by NGOs. There is a significant community participation in policy and strategy development including the health promotion policy and strategy

development. Stakeholders from civil society organizations, community leaders, private sector organizations and business are widely consulted through series of meetings in the policy development process (Onya 2007:236).

There is a routine monitoring and surveillance of the state of public health at the national level through the South African Demographic and Health Survey. In addition, public health research is conducted by the following:

- National Research Institutions such as the Medical Research Council (MRC), Human Sciences Research Council (HSRC) and Health Systems Trust (HST);
- Academic institutions;
- The media and other Governmental information systems.

The research results are published and are readily available for use. The MRC has a health promotion Research and Development Group that focuses on health promotion research.

Based on the experiences of current health promotion activities in South Africa, the National Department of Health considered the settings approach to be crucial in driving the progress of health promotion. Since its implementation in 1999, the Health Promoting Schools initiative is considered by the National Health Promotion Directorate to be one of their greatest breakthroughs (Onya 2007:236).

The departments of Education and Health worked together to develop and implement the school health programs in 1999 and the primary health care packages of South Africa (standards and norms) of 2001 was and is still used as a guide to enhance the

process. The Department of health, Department of Education, Department of Social Development and Population Welfare implemented a primary school nutrition program and school gardens for increasing food security in the families of the school children in need. A common feature of health promotion in schools is that the sanitation facilities have been installed in many schools and the process of covering the remaining rural schools is being facilitated through intersectorial collaboration with the relevant social cluster, the reconstruction and development program and the rural area development and renewal projects (Onya 2007:237).

Apart from political, social and economic influences, health policy development and its consequent translation into programmes of service could also be influenced through health planning efforts (Parstons 1980:66). Green (1995:23) provides a very suitable description of health planning as 'a response to the dilemma of a scarcity of resources in comparison to the competing of health care needs'. This description of health planning would have important implications for the re-distribution of resources according to health needs in South Africa. Parstons (1980:67) on the other hand provides an interesting observation on the impact of political and economic influences on health policy planning. He concedes that health policy planners are not directly involved in planning of the 'legislative structure of health services' nor in the 'financial or administrative organisations nor the quality of health care' yet these factors play important roles in determining the direction, implementation and sustainability of health care services (Partsons 1980:87). Failures in the health policy process are often blamed on inadequate policy translation or poor decision making yet the

impact of political and bureaucratic structures on health planning is largely ignored.

Apart from the need to focus on monitoring and evaluating health systems in terms of inputs, process, outputs and outcomes, there is also a need to evaluate the impact of health reforms on systems performance (Scott 1999:120; Padget, Bekemeier & Berkowitz 2004:251). Health systems organisational choices such as public and private roles in health care provision should be seen as strategies to not only improve health outcomes but to improve the systems performance (Scott 1999:120; Barker 1996:39). While market failures through the limitations of relying primarily on the private sector to fund and deliver health care are noted, there is increasing recognition of the need for public-private partnerships among other partnerships in health care (Scott 1999:121).

Klitgaard (1991) argues that health policy analysis should challenge both the state and the market to complement each other, rather than focusing on which form of delivery is more effective. Public health policy would have the potential to evaluate the performance of both public and private health systems through regulations and an organisational convergence (Klitgaard 1991). Other authors argue that it is unclear whether the private sector will bring extra resources into the public health system unless there is strong political will to re-distribute resources according to needs (Naylor 1988:1153). These arguments have pertinence to the South African experience in health care. Historical imbalances in health care would necessitate the need to explore partnerships outside of the public health system. The private sector would have

the potential to play a significant role in health service provision. Therefore instead of debating on the merits or efficiency of private and public health systems, there is an urgent need for effective health systems research that is better able to inform governments on the operations of the private sector and the mechanisms by which government can address this role. The impact of shared resources, financing systems and potential burden on the public health system needs to also be considered in this partnership with the private sector.

Health policy development is thus a complex process. Considerations need to be given to the contextual influences on policy proposals and the process involved in translating policy to practice. A systematic approach to health policy analysis could help to understand these complexities. These highlighted factors have important implications for the study and will be further explored in context of the research findings.

2.2.3 Health policy analysis

The value of health policy analysis as a means to understanding the network of interests and influences within a policy environment is recognised as a viable method of examining service delivery (Brugha & Varvasovszky 2000:241; Frenk 1995:255). Dror (1993:34) defines health policy analyses as approaches, methods and techniques for influencing and improving health policy decisions. Walt and Gilson (1994:353), on the other hand postulates that health policy is not 'simply about prescription and description' but that it is the 'outcome of complex social, political and economic interactions'.

The diversities in policy settings, and cultural, economic and structural influences increase the potential for health policy efforts to be context-specific (Badura & Kickbusch 1991:60; Brugha & Zwi 1998:107). It is further argued that 'global and inflexible prescriptive statements' would therefore be inappropriate (Badura & Kickbusch 1991:60). It is thus important that evaluations on health policy efforts are structured around strong theoretical considerations. Health policy analysis in this study is thus described as an analytical process that examines the content of health policy and the process that influence health priorities and its consequent implementation at programmatic levels (Walt & Gilson 1994:354; De Leeuw 1993:49; Barker 1997; Linder 2002:62). An analysis could provide opportunities to highlight the links or gaps between policy development and practice (Brugha & Varvasovszky, 2000:239).

A health policy analysis needs to take into account the principal role players and the extent to which they influence the process of policy development (Glendinning 2003:140; Brugha & Varvasovszky 2000:239; De Leeuw 1993:50). Apart from the principal role players, there is also a need to understand the impact of organisational changes on policy (Bracht 1990:52; Wan 1995:10). Decision-making is described as the act or the result of deciding (Wan 1995:10). Health services research has provided ample information on the need for an epidemiological basis in health policies, however not much emphasis has been placed on investigating management decisions in policy (Barker 1998; De Leeuw 1993:49).

2.2.4 Challenges facing health policy development

Traditionally health professionals have dominated health care provision (Barker 1998). Baggot (2000:3) provides interesting insight into the delicate interplay between political decisions and the role of professionalism in policy development. He concedes that scientific findings are not automatically translated into policy but are filtered through a political process. Thus experts give legitimacy to government decisions (Baggot 2000:4). The author further argues the professionals with a vested interest in identifying risks to health through epidemiological models of causation have been a crucial factor in the decline of trust in expert opinion on health matters (Baggot 2000:4). This observation suggests that the role of vested professional interests sometimes tends to clash with political intentions. Walt and Gilson (1994:355) further add that health policy reforms are dependent more on political compromise rather than rational debate. It is therefore important to understand that the influences on the impact of policy reform would emerge from the power structures within which they operate from. Thus the failure or success of health policies are very much dependent on the context to which the identified health problem is addressed within an appropriate context, the strategic involvement of stakeholders, resource allocation, attitudes of policy makers, level of support for change and the impact of external and internal influences.

The gaps between health services research and the practice is thus a cause for concern. This means that there is a need for transparency in health services research through the use of sound theoretical foundations and appropriate research methods in the hope of improving political support for health research. While policy development depends on factors that go beyond the research base, the use of models in health policy analysis would provide mechanisms for understanding this complex process.

2.2.5 Other barriers to effective health policy translation

The strategy on Health Impact Assessment (HIA) is used to highlight the potential barriers to sustainable health policy development. Critics of this approach argue that HIA tends to emphasize policies that enact changes rather than policies that facilitate neglect. Furthermore, the assessment focuses on the consequences of the policy rather than the determinants of the policy (Krieger, Northridge, Gruskin, Quinn, Kriebel, Davey Smith, Bassett, Rehkopf, Miller 2003:659; Kemm 2001:79). Barriers to policy translation could occur as a result of the information itself or in the values of those that respond or advocate the use of the information (Lavis, Farrant, Stoddart 2001:21). The authors imply that if the barriers are related to the way decisions are made, then the success of health policy is dependent on instituting change in the decision-making structures. The authors thus postulate that information-related and value-related barriers could be a more likely reason for the failure of acknowledging the impact of policy on health consequences. However, overcoming the barriers on policy information pertaining to health consequences cannot guarantee an effective translation into practice.

2.2.6 The role of equity in health policy analysis

Difficulties associated with translating the ideals of equity from policy to practice are also one of the many challenges facing health policy development (Clarke 2000:12; Valdivia 2002:12). Socio-economic conditions are seen to have a significant relationship with health inequities (Muirhead 2000:5; Sanders 1998:51). Studies also indicate that there is little evidence that specific policies aimed at providing income support or poverty eradication have any measurable impact on health. Thus the comparative effectiveness of these interventions in reducing inequalities in health is unclear (Ludbrook & Porter 2004:115). Equity refers to the distribution of resources based on health needs in an effort to close the gap between the rich and poor (Wilkinson 1996:165; Strachan 2000:6). An equity approach to health policy would therefore focus on private-public financing, distribution of personnel and services, quality of care and the use of strategic health indicators to ensure that health service delivery is contributing to improved community health. It is important to note that the efficiency and cost effectiveness of health service delivery are closely related to equity and should not be viewed as opposing ideologies (Strachan 2000:7).

The challenges facing equity-driven health policy efforts are to balance national health priorities such as HIV/AIDS and Maternal and Child Health care against allowing local authorities to set their own priorities and to allocate resources according to perceived community needs. Thus there is a need to develop and promote partnerships through multi-sectoral collaborative efforts that would

include the government, private sector and non-governmental agencies to develop policies that could address the determinants of inequities and ill-health. This policy process needs to be inclusive, transparent and be supported by legislative financial commitment (Sanders 1998:51). This illustrates that while policy is associated with government activity, its impact and influences often lie outside of the health and political system (Tones and Green 2004:32; Barker 1997). The accessibility and availability of health services are important factors to consider in health service utilisation (Ackers & Abbott, 1996:55). Thus free health services are theoretically 'free at the point of use' but that it does not ensure that it is utilised equally in practice. These comments can be applied to the South African context of eye health care utilisation rates. Although free primary health care service exist, scores of rural South Africans continue to under-utilize these services citing reasons of unbelief in treatment, fear of dying during cataract surgery and no perceived need (Rotchford & Johnson 2002:477). This further indicates the need for health education and health promotion especially in rural South Africa.

The issue of equity in health policy development has important implications for the research. McIntyre & Gilson (2002:1637) outline that health programmes have focused more on the vertical equity goals by preferentially addressing historically disadvantaged communities in post-apartheid South Africa. They add that there have been no efforts to promote cross-subsidisation between the private and public health sectors. The legacy of apartheid policies has resulted in 10 per cent of the population accounting for 60% of the country's wealth in South Africa (Strachan 2000:6). In a post-

apartheid and democratic South Africa, only about 16 per cent of the population make use of the private sector for health services while the remaining 84 per cent is dependent on public health services (Health Systems Trust 2002). Private sector spending on health services accounts for more than half of the total health expenditure. Approximately US\$5.5 billion of the total US\$9.5 billion was spent on the private sector in 2000 (Health Systems Trust 2002). Apart from increased private sector spending, this skew in health service delivery implies that those who are likely to require the most resources in health care would be those people that are least able to afford these services (Scott 1999:120). This in turn would increase the divide between rich and poor and further increase health inequalities. Thus it is necessary to uncover the various reasons for these persistent inequalities in health care in South Africa despite post-apartheid political transformation. It remains to be seen whether the announcement made by Skweyiya (2007) that the South African government has taken bold steps in establishing the National Health Insurance (NHI) scheme will make a significant difference.

2.2.7 Strategies to improve equity-driven efforts in health policy

The challenges associated with the translation of equity-based health policies would also provide a significant dimension to the research area. There is a need for governments to be committed to equitable developments in health care and to increase their capacity to facilitate coalition building and management changes (Bloom 2001:205). Bloom proposes a legal health framework through the definition of minimum standards for health workers

(Bloom 2001:205). However, equity-driven health initiatives require more than regulations in health service delivery.

McIntyre, Muirhead & Gilso (2002:31)'s findings on the feasibility of developing a broad-based deprivation index for geographic resource allocation, demonstrate that deprivation in South Africa is multi-faceted, is influenced by ill-health and is concentrated in specific areas. While this information is not new, the formula used to allocate resources between geographic areas according to social needs provides a rational tool to address health inequities in developing countries. It is however important that the impact of demography, changing disease patterns and urbanisation are taken into this equation. A simple reallocation of funds for development would not be adequate if there is insufficient political, social and community support for development. There is a need to not only allocate resources but to ensure that these resources are utilised in maximising health benefits. Thus sustainable policy reforms require a greater emphasis to be placed on strengthening national capacity for health policy analysis and research, expanding policy methods and enhancing the quality of information available to influence key policy efforts (Okunzi & Macrae 1995:122).

The impact of process and power in health policy development is further explored in the chapter on district health services in South Africa. The next section focuses on the development and dynamics of eye health promotion on an international level.

2.2.8 The nature and development of eye health promotion

Building healthy public policy is seen as one of the cornerstones for creating supportive environments for health (Taylor, Haglund & Tillgren 2000:185; Naidoo & Willis 2000:91). The role of health promotion in public health initiatives has gained popularity in blindness prevention community in order to attain the VISION 2020: The Right to Sight goals primarily and the United Nation's Millennium Development Goals indirectly (Naidoo, Wallace, Holden, Minto, Faal & Dube 2010:131). As stated earlier, the Ottawa Charter (WHO 1986) highlights the need for health issues to be placed onto policy agendas for decision making at various levels of health care development. The Jarkata Declaration (WHO 1997) is another important development in health promotion. This document reiterates the need for committed social responsibility in health, increased investments in health development, the need to consolidate and expand partnerships in health and increase focus in community empowerment. More recently, the Durban Declaration (Naidoo et al 2010:132) on refractive error and service development has added its weight in calling for the blindness prevention community to establish eye-care programmes that will deliver tangible results in eye health promotion.

Healthy public policies need to focus on the selection of supporting easier health choices. The impact of process and power identified in health policy development is also visible in health promotion efforts (Tones & Green 2004:32). Power at the micro-level of the health system (district level) is associated with individual or small group influences on health initiatives. Meso-level power refers to power exerted by organisations or communities on the selection of health priorities. Power at this level could also be exerted from

within the health system through middle-order management (provincial level). Macro-level power would refer to influences on national policy efforts (national level). Thus the concepts such as 'control', 'authority', and 'influence' are associated with power within the health system. Daniels (2000:92) describes 'consensual authority' as a condition when power and control depend on the outcomes of negotiations based on the differential possession of resources. This implies that health policy negotiations would very much depend on who has control of health resources and the extent to which they are prepared to share these resources. An analysis of eye health promotion in policy would thus need to identify the possible power, authority and influences on this process.

2.2.8.1 Defining eye health

Vision loss may be defined as vision worse than 6/12 (driving vision) (Taylor, Keeffe, Vu, Wang, Rochtchina, Pezzullo & Mitchell 2005:565). It is further divided into visual impairment (vision worse than 6/12 but better than 6/60 in the better eye) (Taylor et al 2005:565) and blindness (vision of 6/60 or less and/or visual field of less than 20 degrees in the better eye) (Resnikoff, Pascolini, Etya'ale, Kocur, Pararajasegaram, Pokhorel & Mariotti 2004:845). Visual impairment also includes low vision which 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 correction (Resnikoff et al 2004:845).

Vision loss causes enormous personal suffering and has tremendous economic impact (Dandona & Dandona 2001:237;

Taylor et al 2005:565; Naidoo et al 2010:132). It has been shown to double the difficulties with activities of daily living (West, Munoz, Rubin, Schein, Bandeen-Rochen, Zeger, German & Fried 1997:72), halve the ease of social functioning (West et al 1997), double the risk of falls (Klein, Klein, Lee & Cruickshanks 1998:160), triple the risk of depression (Rovner & Ganguli 1998:617) and quadruple the risk of hip fracture (Klein et al 1998). Given its impact on discomfort and the quality of life, visual impairment can be considered to be a major burden on scarce resources.

2.2.8.2 Eye health priority areas

2.2.8.2.1 Refractive error

Despite dramatic improvements in eye health on a global level, disparities in eye health still persists in many developing countries (Resnikoff et al 2004:846). In a study done in Australia (Taylor et al 2005:566), vision loss was found to be a much bigger problem than was usually recognised. Seventy six per cent of vision impairment was found to be caused by uncorrected refractive error or cataract, both readily treatable. These data also reveal the unrecognised importance of uncorrected refractive error in causing functional vision impairment (Taylor et al 2005:567).

According to the latest WHO estimates, globally, 153 million people are either blind or visually impaired due to uncorrected distance refractive error (Holden 2007:37). Visual impairment due to uncorrected refractive error, easily correctable by a pair of spectacles, is potentially debilitating and limits the affected individuals' opportunities in education and employment (Holden

2007:37). In addition, studies (Naidoo, Raghunandan, Mashige, Govender, Holden, Pokharel & Ellwein 2003:3764; Shah, Jadoon, Dineen, Bourne, Johnson, Gilbert & Khan 2008:183) have shown that on average in developing countries, only 20 per cent of those requiring distance correction have access to spectacles. The Refractive Error Studies in Children (Naidoo et al 2003:3764) and the formation of the Refractive Error Working Group (REWG) by the WHO (an expert technical committee to advise on policy, technical and strategy issues regarding uncorrected refractive error) gave further impetus to a global prioritisation of eradicating visual impairment due to uncorrected refractive error.

Furthermore, presbyopia, which necessitates spectacle correction for near vision, was long considered 'not as important' due to assumption that reading spectacles were readily available and relatively inexpensive (Naidoo et al 2010:244). Recent studies (Holden, Fricke, Ho, Wong, Schlenther, Cronje, Burnett, Papas, Naidoo & Frick 2008:1731) have highlighted presbyopia as a significant refractive problem due to the following evidence:

- 1.04 billion people worldwide have presbyopia (2005);
- Of those, 517 million people (49%) have either no or inadequate correction;
- As a result, 140 million of these are prevented from performing near tasks.

Presbyopia has become a focus of international public health efforts and has been recognised by the WHO as a major health issue with potential negative consequences for the productivity and quality of life of affected individuals, their families and communities

(Resnikoff, Pascolini, Mariotti & Pokharel 2008:63; Smith, Frick, Holden, Fricke & Naidoo 2009:431). Currently, most of the burden of uncorrected refractive error falls on developing countries, many of which continue to lack the basic infrastructure, equipment and personnel to provide refractive services as part of general health service provision (Smith et al 2009:432).

In the inaugural World Congress on Refractive Error (WCRE) which was held in Durban, South Africa, it was highlighted that uncorrected refractive error was the leading cause of avoidable blindness and visual impairment across the world (Naidoo et al 2010:132). The congress also acknowledged the link between poverty and visual impairment, which places an economic burden on individuals, their families and affected nations.

The Durban Declaration (Naidoo et al 2010:132) resolved to prioritise solutions towards refractive service development by:

- Increasing awareness of the magnitude of the unmet need for refractive services globally
- Influencing the policies of national and world health bodies with regard to services and resources required to meet the refractive care needs
- Addressing the present paucity of services, training institutions and affordable spectacles in developing countries
- Addressing the barriers that prevent those in developing countries from accessing refractive error and low vision services
- Working towards collaborations between professions and the formation of partnerships to achieve the VISION 2020 goals

- Investing in training and the development of eye care teams to meet the needs of underserved populations
- Supporting the establishment of global procurement and distribution systems to make optical appliances and devices available to communities in need
- Creating and disseminating evidence based information on best practices in refractive service development and delivery

The Declaration also called for the strengthening and optimal use of infrastructure and appropriate technology, both in relation to comprehensive eye health services and community participation, which are key components of the success of any VISION 2020 endeavour (Naidoo et al 2010:132). Such a comprehensive approach towards the reduction of visual impairment, with the inclusion of uncorrected refractive error, should be co-ordinated, appropriate to identified needs and sustainable, with relevant resource planning strategies to ensure effective implementation (Naidoo et al 2010:132).

Population growth factors, as well as the maldistribution of available ophthalmic personnel in developing countries, make it difficult to keep pace with eye care needs in much of the developing world. Many developing countries lack the basic resources such as trained personnel and appropriate or adequate infrastructure to deliver eye care services to the populations they serve (Bourne 2007). Furthermore, their eye care services (in particular, refractive services) do not form part of the general public health system, resulting in potentially blinding conditions going undetected (Naidoo et al 2010:132). National governments

should identify priority actions necessary to reduce the burden of avoidable blindness on their society and ensure effective policy implementation (Naidoo et al 2010:132).

One of the objectives of the WCRE was to bring stakeholders together and draw attention to key challenges facing the blindness prevention community. National Ministries of Health are the primary health service providers and are responsible for allocating resources within their respective countries. Therefore, the Declaration called on governments to:

- Make refractive services a priority
- Support the development and employment of appropriate human resources and the acquisition of infrastructure and technology for the effective delivery of services within the public sector
- Support organisations working towards the elimination of avoidable blindness due to uncorrected refractive error

Meeting the VISION 2020 goals in the developing world requires effective policy development and implementation, as well as a co-ordinated national effort towards the development of resources needed for refractive service delivery. Aligning VISION 2020 plans with national health plans will ensure the availability of refractive service at the point of need (Naidoo et al 2010:133).

2.2.8.2.2 Age-related macular degeneration

A study in Australia found Age Related Macular Degeneration (ARMD) to be another cause of vision impairment (Taylor et al 2005:566). ARMD is a degenerative disorder of the Retinal

Pigment Epithelium (RPE) and neurosensory retina (Justin & Gottlieb 2002:2233). It is progressive condition involving the deterioration of the highly sensitive central area of the retina, known as the macula. The macula is the portion of the central retina with the greatest concentration of photoreceptors and provides high-resolution visual acuity. The early stages of ARMD are characterized clinically by the development of soft drusen associated with pigmentary abnormalities of the RPE and retina. Drusen, accumulations of amorphous, acellular debris within the basement membrane of the RPE, are seen ophthalmoscopically as yellow spots within the macula (Justin & Gottlieb 2002: 2234).

ARMD is subcategorized into wet and dry forms. Dry ARMD is the more common form of the disease and is characterised by the accumulation of drusen and other degenerative changes, all of which interfere with the functioning of the macula. The progression of dry ARMD is very slow, sometimes allowing vision loss to go unnoticed until the disease is quite advanced. Wet ARMD is more severe, and vision loss occurs rapidly when blood and fluids leak from abnormal blood vessels and scar tissue is formed (Justin & Gottlieb 2002: 2235).

People affected by ARMD lose central vision, and as a result, they may have difficulty seeing faces or performing everyday tasks such as reading or driving. Vision loss due to macular degeneration can be permanent, and while peripheral vision typically remains intact, this disease, particularly the wet form, may lead to legal blindness (Breslin 2007:790). The more severe, advanced forms of this disease are rare among individuals under

60 years (Klein, Klein & Linton 1992). Beyond this age group, the prevalence increases with advancing age. Advanced ARMD has been shown to exist in 14% of people aged 65-74 (Klein, Klein & Linton 1992:938), 7.1% of those over 75 years (Klein, Klein & Linton 1992), and 27% of those over 90 years (Van Newkirk, Nanjan, Jie, Mitchell, Taylor & McCarty 2000:1593).

Along with advancing age, family history is a primary, non-modifiable risk factor for the development of ARMD. The siblings and offspring of affected individuals are several times more likely to experience this disease than people with unaffected relatives (Klaver, Kliffen, van Duijn, Hofman, Cruts, Grobbee, van Broeckhoven & de Jong 1998:200). A large study of twins in the US attributed nearly half of the variation observed in disease severity to genetic factors (Kanda, Abecasis & Swaroop 2008:449). Also, ARMD is known to be more common among whites and blacks (Justin & Gottlieb 2002: 2235).

The most important modifiable risk factor for ARMD is cigarette smoking (Justin & Gottlieb 2002: 2236). Current smokers are twice as likely to develop late AMD as people who have quit or have never smoked (Tommany, Wang, van Leeuwen, Klein, Mitchell, Vingerling, Klein, Smith & de Jong 2004:1280). As much as 20 per cent of vision loss from ARMD could be avoided through smoking cessation.

Female sex, light-coloured irises, cardiovascular disease and increased sunlight exposure have inconsistently been identified as possible risk factors for ARMD (Tommany et al 2004:1281).

The data in the Australian study showed that exponential increase in vision loss with increasing age and the impact the increasing ageing of the population would have on the number of people with vision loss and blindness could be detrimental to the economy (Taylor et al 2005:566). This situation could also be applicable to South Africa.

2.2.8.2.3 Diabetes Mellitus

Systemic diseases such as Diabetes Mellitus (DM) and hypertension have also been reported to be associated with ocular complications (Schimdt, Ruckmann, Kemkes-Matthes & Hammes 2000:1282; Grosso, Veglio, Porta, Grignolo & Wong 2005:1646). DM is a clinical syndrome characterised by hyperglycemia due to an absolute or relative deficiency of insulin (Sukha & Rubin 2009:1086). DM is classified into Type 1 (Insulin Dependent Diabetes Mellitus (IDDM), Type 2 (Non-Insulin Dependent Diabetes Mellitus (NIDDM), Gestational Diabetes Mellitus (GDM), and other specific types of diabetes mellitus (Mayfield 1998:1369).

- *Type 1 DM (Insulin dependent diabetes mellitus)*

Type 1 DM is divided into autoimmune and idiopathic DM. Both types of DM result in insulin dependence and loss of pancreatic beta-cells (β -cells) (Mayfield 1998:1369; Schimdt et al 2000:1283). The loss of these cells occurs gradually and few clinical symptoms present initially but acute episodes of diabetic ketoacidosis and hyperglycemia often result in initial diagnosis, particularly in children and adolescents. These patients may also have other

autoimmune disorders such as Grave's disease, Hashimoto's thyroiditis, and Addison's disease (Mayfield 1998:1369).

Type 1 autoimmune DM is caused by β -cell dysfunction and/or destruction. This leads to the loss of insulin secretion and absolute insulin deficiency. The etiology of β -cell dysfunction include islet cell auto-antibodies; auto-antibodies insulin; and auto-antibodies to glutei acid decarboxylase (Schimdt et al 2000:1284. When these cells are damaged slowly and incompletely, it is known as latent autoimmune DM (LADM). This is a slowly progressive form of Type 1 DM in adults, which masquerades as Type 2 DM (Schimdt et al 2000:1284; Devendra, Liu & Eisenbarth 2004:750).

Idiopathic Type 1 DM occurs in patients who have insulinopenia and are prone to diabetic ketoacidosis, but have no evidence of autoimmunity. These patients periodically develop diabetic ketoacidosis (Devendra et al 2004:750).

It has also been reported that both genetic susceptibility and environmental factors may account for the pathogenesis of all Type 1 DM. Various environmental triggers include viruses such as mumps and chicken pox, but thus far only congenital rubella syndrome has been conclusively associated with the disease (Schimdt et al 2000:1283; Devendra et al 2004:751).

Insulin remains the main treatment in Type 1 DM, with islet transplantation and new immunosuppressive regimens as alternatives (Devendra et al 2004:751).

- *Type 2 DM (Non-insulin dependent diabetes mellitus)*

Type 2 DM is a heterogeneous disorder, characterized by genetic and non-genetic factors as well as by an interaction between insulin resistance and pancreatic β -cell dysfunction (Schimdt et al 2000:1283). The non-genetic factors of Type 2 DM including increasing age, high calorie intake, obesity, central adiposity, sedentary lifestyle, pregnancy, and low birth weight (Schimdt et al 2000:1283).

The diagnosis of Type 2 DM usually occurs after the age of 40 years, although recently it has been found in younger children due to factors such as lack of exercise and obesity. Patients with Type 2 DM are frequently undiagnosed for many years because hyperglycemia is not severe enough to provoke very noticeable symptoms. Such patients are at a higher risk of developing macrovascular and microvascular complications (Schimdt et al 2000:1284).

The following additional complications are experienced in Type 2 DM patients:

- Acute hyperglycemia that causes patients to experience diabetic shock
- Diabetic ketoacidosis, which is more common in Type 1 DM, only arises in association with stresses of another illness such as an infection in Type 2 DM, and

- Hyperglycemic hyperosmolar syndrome, which commonly develops among the elderly

Lifestyle modifications, regular monitoring and compliance to treatment regimens are aids that improve glyceamic control, and in turn reduce the development and progression of complications (DeFronzo 1999:282).

- *Gestational diabetes mellitus*

GDM is a state of carbohydrate intolerance that develops during pregnancy (Sukha & Rubin 2007:1087). Women who develop Type 1 DM during pregnancy and women with undiagnosed asymptomatic Type 2 DM that is discovered during pregnancy are classified with GDM (Sukha & Rubin 2007:1087). GDM excludes women who have DM before they become pregnant (Schimdt et al 2000:1284; Cianni, Volpe, Lencioni, Miccoli, Cuccuru, Ghio, Chatzianagnostou, Bottone, Teti, Del Prato & Benzi 2003:131). GDM may be viewed as:

- An unidentified pre-existing disease, or
- The unmasking of a compensated metabolic abnormality caused by the added stress of pregnancy, or
- The direct consequence of the altered maternal metabolism stemming from the changing hormonal milieu (Schimdt et al 2000:1087).

Formal systemic testing for GDM is usually done between 24 and 28 weeks of gestation (the end of the second trimester, and more commonly in the third trimester of pregnancy).

GDM is asymptomatic, except when it is severe (Sukha & Rubin 2007:1088). High risk individuals include older women, those with a previous history of glucose intolerance, positive family history, obesity and any pregnant women who have elevated fasting, or casual blood glucose levels (Sukha & Rubin 2007:1088). Hyperglycemia resolves in most women after delivery but it places them at an increased risk of developing Type 2 DM later in life. Early clinical recognition of GDM is important because there is an increased risk of delivery complications, and offspring are also at risk of macrosomia (birth weight in excess of 4 kg), congenital abnormalities, and perinatal mortality (Schimdt et al 2000:1288; Cianni et al 2003:132).

- *Other specific types of DM*

These groups of DM include various aetiologies in which the cause is established or at least partially known. The causes include known genetic defects of β -cell function or insulin action; diseases of the exocrine pancreas, drug or chemical induced pancreatic changes; infections; genetic syndromes and other endocrinopathies. They also include diseases and conditions in which the incidence of diabetes is elevated, but a precise etiology is unknown (Schimdt et al 2000:1284).

- ***Ocular complications associated with DM***

- *Diabetic retinopathy*

An estimated 12 000 to 24 000 diabetic sufferers lose their sight every year, making DM one of the leading causes of blindness in adults between the ages of 20 and 74 years

(Wild et al 2004). It is estimated that the prevalence of DM in South Africa is 8 per cent (DoH 2002). According to Wild, Roglic, Green, Sicree & King (2004:1047), the majority of DM sufferers remain undiagnosed especially in the rural populations (Wild et al 2004:1047). This is suggested as one of the reasons for the increased vision loss and blindness amongst this group as they do not have regular eye examinations (Wild et al 2004:1047).

Diabetic retinopathy (DR) has become the leading cause of visual impairment and blindness among the working age group in both developed and developing countries (Wild et al 2004:1048), and it is now probably the most frequent manifestation of a systemic disease encountered in primary care institutions. Anyone who has DM is at risk of DR. The risk increases with increasing duration of DM. People with Type 1 DM are more likely to lose vision as a result retinopathy than those with Type 2. Individuals with poorly controlled blood glucose levels and high blood pressure are at an increased risk of DR and progression of retinopathy (Jain, Sarraf & Fong 2003:389).

Strict medical control of blood glucose levels and blood pressure has been shown to reduce the incidence and progression of DR (Zhang, Qin, Zheng, Qiu & Zou 2003:828). In the Diabetes Control and Complications Trial (DCCT), patients who were defined as having poor metabolic control were found to be approximately 7.5 times more likely to manifest DR than patients with good metabolic control

(Zhang et al 2003:828). Participants randomized to a tight blood pressure control policy experienced fewer clinical features of retinopathy and were half as likely to lose 3 or more lines on the Snellen chart as compared to participants receiving less tight blood pressure regimen (UKPDS 2004:1631).

Vision loss due to DR is almost completely preventable when the disease is detected and treated early in its course. Unfortunately, once vision loss develops, full recovery is unlikely.

Other common ocular associations of DM include cranial nerve palsies, poor corneal healing, decreased corneal sensitivity, open angle and neovascular glaucoma, iridoplegia, poor pupillary dilation, cataracts, refractive error shifts, central vein occlusion, and optic nerve papillopathy (Kanski 1994:222-226). All these complications are associated with some level of visual impairment and vision loss.

2.2.8.2.4 Hypertension

An abnormally high blood pressure (BP) is a major cause of morbidity and mortality in the Western countries (Lawes, Bennett, Feigin & Rodgers 2004:776) including South Africa (Steyn, Gaziano, Bradshaw, Laubscher & Fourie 2001:1717), and is one of the most common clinical conditions requiring long term medical care (Lawes et al 2004:776). Hypertension is characterized by a persistent systolic BP of more than 140 mmHg and a diastolic BP

of more than 90 mmHg (Liang, Liu, Mladinov, Cowley Jr, Trivedi, Fang, Xu, Ding & Tian 2009:553). Increased BP can result in symptoms such as dizziness, headaches as well as more serious complications such as coronary artery disease, heart failure or even death (Yip, Aung, Machin, Khaw, Seah & Foster 2007:56).

Unfortunately, hypertension awareness, treatment, and control remain less than optimal (Yip et al 2007:56). Hypertension acts as a silent killer many years before overt end organ damage is clinically apparent (Grosso et al 2005:1647). Hence, the importance of refining risk stratification strategies to ensure reliable detection of hypertension related end organ damage before it becomes symptomatic (Grosso et al 2005:1647).

The retina provides a window to study the human circulation. Retinal arterioles can be visualised easily and non-invasively and share similar anatomical and physiological properties with cerebral and coronary microcirculation (Tso & Jampol 1982; Dollery, Ramalho & Patterson 1966; Goto et al 1975; Wells, Herman & Gorlin 1966; Wise, Dollery & Hendkind 1971).

- ***Ocular complications associated with hypertension***

- *Hypertensive retinopathy*

The retinal circulation undergoes a series of pathophysiological changes in response to elevated BP (Wong & Mitchell 2004:2310). These changes are manifested clinically as a spectrum of signs commonly referred to as Hypertensive Retinopathy (HR) (Wong & Mitchell 2004:2310). Hypertensive retinal vascular signs can

be broadly classified into arteriolar changes (generalized arteriolar narrowing, focal arteriolar narrowing, Arteriovenous Nicking (AV) and arteriolar wall opacification) and more advanced retinopathy lesions (microaneurysms, blot and flame-shaped haemorrhages, cotton-wool spots, hard exudates and optic disk swelling). With the exception of disk swelling, these signs can be detected fairly frequently in adult populations, even in persons without a known history of hypertension (Wong, Klein, Couper, Cooper, Shahar, Hubbard, Wofford & Sharrett 2001:1134).

The significance of HR signs as risk indicators of systemic morbidity and mortality has long been recognized since their description in patients with renal and cerebrovascular disease by Marcus Gunn in the late eighteenth century (Wong et al 2001:1135). In fact, an assessment of hypertensive retinopathy signs for risk stratification is supported by international hypertension management guidelines (Williams et al 2004; Chobanian, Bakris, Black, Cushman, Green, Izzo Jr, Jones, Materson, Oparil, Wright Jr, Roccella, The National High Blood Pressure Education Program Coordinating Committee 2003:1206). These guidelines emphasize that hypertensive retinopathy, together with left ventricular hypertrophy and renal impairment may be considered an indicator of target organ damage, suggesting that physicians should consider a more aggressive approach in managing these patients (Chobanian et al 2003:1206).

Data from recent studies support the current guidelines regarding the prognostic significance of retinopathy signs (Chobanian et al 2003:1207). The information obtained from an assessment of the retinopathy status appears to be independent of, and qualitatively different from that of measuring blood pressure or serum lipids as the presence of retinopathy signs indicates susceptibility and the onset of preclinical systemic vascular disease (Wong & McIntosh 2005:57). In particular, it seems that individuals with certain HR signs (e.g. retinal haemorrhages, microaneurysms and cotton-wool spots) should be more closely monitored for cardiovascular risk, and may benefit from further investigations (e.g. echocardiogram for heart function) if clinically indicated (Wong & McIntosh 2005:65).

A three-grade classification system for HR is shown in Table 2.1, and a suggested approach for patients with various HR grades is shown in Figure 2.1. It is important to emphasize that the management for patients with hypertension and cardiovascular disease should continue to follow standard risk prediction approaches (i.e. based on assessment of age and gender of the patient, blood pressure and lipid levels, cigarette smoking status, etc) (Wong & McIntosh, 2005:65).

The classification in Table 2.1 groups HR signs into mild, moderate, and accelerated (malignant). Patients with mild HR signs will probably require routine care, and blood pressure control should be based on established guidelines (Chobanian et al 2003:1212). Patients with moderate HR

signs (retinal haemorrhage, microaneurysm, cotton-wool spots) may benefit from further assessment of vascular risk (e.g. assessment of cholesterol levels) and, if clinically indicated, appropriate risk reduction therapy (e.g. cholesterol-lowering agents). Patients with accelerated HR (bilateral disk swelling in the presence of moderate HR), which is relatively rare in the general population but may occur in conjunction with severe hypertension, will continue to need urgent immediate antihypertensive management, including possible administration of intravenous medication. In such scenarios, physicians should aim for a small stepwise control of blood pressure over a few hours, and avoid a sudden reduction in blood pressure which may lead to stroke (Wong & McIntosh 2005:66).

Table 2.1: Classification of hypertensive retinopathy

Retinopathy	Description	Systemic associations
Mild	<p>One or more of the following signs:</p> <ul style="list-style-type: none"> • Generalized arteriolar narrowing • Focal arteriolar narrowing • Arteriovenous (AV) nicking • Arteriolar wall opacity (silver wiring) 	Weak associations with stroke, coronary heart disease and cardiovascular mortality
Moderate	<p>Mild retinopathy with one or more of the following signs:</p> <ul style="list-style-type: none"> • Retinal haemorrhages (blot, dot or flamed shaped) • Microaneurysms • Cotton-wool spots • Hard exudates 	Strong association with stroke, congestive heart failure, renal dysfunction and cardiovascular mortality
Accelerated	Moderate retinopathy signs plus optic disk swelling; may be associated with visual loss	Associated with renal failure and mortality

(Wong & McIntosh 2005:65)

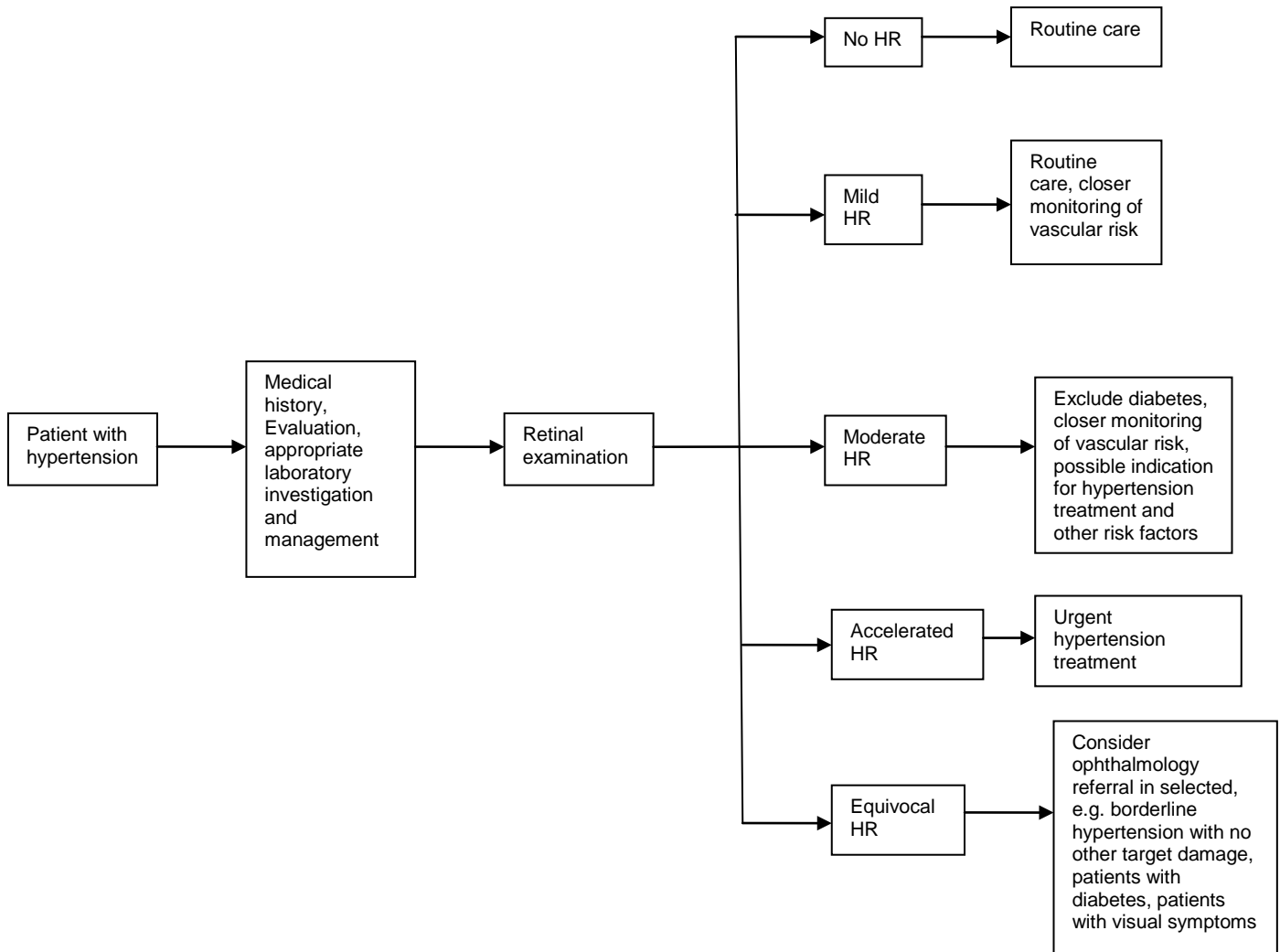


Figure 2.1: Evaluation and management of a patient with hypertensive retinopathy (Adapted from Wong & McIntosh 2005:65).

2.2.8.2.5 Glaucoma

Glaucoma is a group of disorders that involve the progressive loss of the cells of the optic nerve (Distelhorst & Hughes 2003:1937). It may result in permanent loss of vision, and it is commonly associated with an elevated intraocular pressure (IOP) (Bonomi, Marchini, Marraffa, Bernardi, Morbio, Varotto 2000:1287). Glaucoma is the second leading cause of blindness worldwide, disproportionately affecting women and Asians (Quigley & Broman

2006:262). It is one of the most common causes of visual loss, and 22.5 million people are estimated to suffer from glaucoma worldwide (Thylefors, Negrel, Pararajasegaram & Dadzie 1995:117). In South Africa, glaucoma has been reported to be the major cause of blindness among the black population (Rotchford, Kirwan, Muller, Johnson & Roux 2003:376). There are two types of glaucoma: Primary Open-Angle Glaucoma (POAG) and Primary Angle-Closure Glaucoma (PACG). Primary open-angle is the most prevalent form of the disease (Distelhorst & Hughes 2003: 1938; Yamamoto, Iwase, Araie, Suzuki, Abe, Shirato, Kuwayama, Mishima, Shimuzi, Tomita, Inoue & Kitazaway 2005:1661). It is an asymptomatic, progressive optic neuropathy characterized by enlarged optic disc cupping and visual field loss.

The prevalence of glaucoma depends on many factors, including ethnicity, age, gender, and geographic region (Yamamoto et al 2005:1661). Further, differences in diagnostic instruments and methodologies for detecting the disease can markedly influence epidemiological findings (Yamamoto et al 2005). The prevalence of POAG, including normal tension glaucoma is estimated to be 3.9% in the city of Tajimi, Japan. Patients at increased risk for open-angle glaucoma include blacks older than 40 years, whites older than 65 years, and persons with a family history of glaucoma or a personal history of diabetes or severe myopia (Distelhorst & Hughes 2003:1937). It has also been reported that a low diastolic BP of <55 mmHg is another risk factor for glaucoma (Wong & Mitchell 2004:2310). It is therefore necessary to always monitor the BP level for some glaucoma patients.

PACG has been reported to be at 1.4 % in Mongolia (Foster, Baasanhu, Alsbirk, Munkhbayar, Uranchimeg & Johnson 1996:1235), 1% in Singapore (Foster, Devereux, Alsbirk, Lee, Uranchimeg, Machin, Johnson & Baasanhu 2000:188), and 0.5% to 1.08% in India (Dandona et al 2001:98), whereas in Caucasians it ranged from 0.1% to 0.97% (Wensor, McCarty, Stanislavsky, Livingston & Taylor 1998:736). PACG develops in an age-dependent manner (Foster et al 1996:1237) and more prevalent in women (Hillman 1979:817). With the dark irides commonly seen in Asians, so called creeping angle closure is thought to be the most common type of angle closure (Pollack 1971:676). The majority of PACG is chronic and asymptomatic. For this reason, it is important to detect the disease early in its course (Yamamoto et al 2005:1661).

Secondary Glaucoma (SG) results from numerous ocular or systemic disorders or conditions, which may include uveitis, DR, central retinal vein occlusion, and others (Distelhorst & Hughes 2003:1940). Clinically, SG often shows a poor response to ocular hypotensive agents or filtering surgery, especially in its late stages. Thus, like PACG, early detection is important in many types of SG to maximise the chance of a therapeutic response (Distelhorst & Hughes 2003:1940).

The initial symptoms of glaucoma are subtle, allowing the disease to go undetected until vision has been permanently lost (Wong & Mitchell 2004:2310). In contrast, the symptoms of angle-closure glaucoma are pronounced and include pain and a sudden change in vision (Wong & Mitchell 2004:2311). The acute presentation of

angle-closure glaucoma is considered a medical emergency, and treatment must be immediate if vision is to be preserved (Wong & Mitchell 2004:2311).

Although elevated IOP is a strong modifiable risk factor for glaucoma, it is not diagnostic (Distelhorst & Hughes 2003:1940). It is important to note that some patients with glaucoma have normal IOP (normal-tension glaucoma) (Distelhorst & Hughes 2003:1940), and many patients with increased IOP do not have glaucoma (glaucoma suspects). Although routine measurement of IOP by primary care physicians to screen patients for glaucoma is not recommended (Distelhorst & Hughes 2003:1937), this further suggests the need for a careful consideration of all predisposing factors for glaucoma risks by eye care practitioners such as optometrists and ophthalmologists. It is therefore essential that patients be screened for glaucoma during their periodic eye examinations.

Current glaucoma treatments are aimed at lowering the IOP through the use of medications, laser treatment or surgery. The conventional first-line treatment of glaucoma usually begins with the use of a topical selective or non-selective beta-blocker or a topical prostaglandin analog. The second-line drugs of choice include alpha-agonists and topical carbonic anhydrase inhibitors. Parasympathomimetic agents, most commonly pilocarpine, are considered third-line treatment options. For patients who do not respond to anti-glaucoma medications, laser trabeculoplasty and incisional surgery are further methods that can be used to lower IOP. The results of clinical trials have reaffirmed the utility of anti-

glaucoma medications in slowing the progression of the disease (Lee & Higginbotham 2005:691).

Because it is possible to detect and effectively treat glaucoma before vision is permanently lost, this disease is a potential target for screening programmes. While glaucoma-specific population-based screening programmes have been shown to be less cost-effective than other health screening initiatives, such as that for breast cancer, programmes directed at high-risk groups may be justified (Allingham, Wiggs, Hauser, Larocque-Abramson, Santiago-Turla, Broomer, Del Bono, Graham, Haines, Pericak-Vance & Hauser 2005:2002). Identification of glaucoma during periodic eye exams remains the most important means of early detection.

2.2.8.2.6 Cataract

Cataract is a major public health problem worldwide (Enoch, Barroso & Huang 1993:986). South Africa has cataract as a leading cause of blindness among the 0.7% who are blind. Unlike most other leading causes of blindness, cataract can be treated effectively with surgery (Enoch et al 1993:987) and such blindness is avoidable.

Eye trauma and congenital disorders are known to cause cataracts, but by far the most important determinant of cataract is aging. Age-related (senile) cataract will develop in virtually every South African if he or she lives long enough. According to the South African Department of Health, cataract blindness affects mostly the elderly, although people of all ages, including children

may be affected (DoH 2002). The Department reported that in South Africa there are 224 000 people who suffer from cataract blindness and every year, about 44 800 new patients become blind (DoH 2002). The prevalence of cataract increases with increasing age, from 2.5 per cent among individuals aged 40-49 years, to 25% in those aged 65-69 years, to nearly 70% among those 80 years or more (Durant 2002:18).

Although age-related cataract has been associated with many different health hazards, only four factors have been shown to cause cataract formation: exposure to ultraviolet (UV) B light, smoking, DM and use of corticosteroid drugs (Robman & Taylor 2005:1074).

While it is clear that the likelihood of cataract development significantly increases with advancing age, aging does not necessarily result in cataract; rather, age serves as a proxy for increased cumulative exposure to risk factors (Robman & Taylor 2005:1074).

Blindness as a result of cataract is avoidable. It is therefore necessary that plans be put in place to ensure that the majority of the people, especially in rural areas, do not become needlessly blind as a result of this condition. This therefore places a huge responsibility on the government and its policies to ensure effective health promotion strategies and service delivery.

2.2.8.2.7 Childhood blindness

The major causes of childhood blindness in South Africa have been reported to be nutritional (vitamin A deficiency), infections (measles, rubella, ophthalmia neonatorum), and inherited genetic disorders (Pougnnet 1995). Others include problems related to birth, harmful eye practices by non trained workers and cerebral hypoxia (Pougnnet 1995). Blindness in childhood may interfere with the normal development and education of a child (Gilbert, Foster & Minassian 1999:387). The prevalence of childhood blindness is at least three to five times greater in poor areas of the world than in industrialized countries (Pizarello et al 2004:617). It is estimated that there are approximately 1.5 million blind children in the world and an estimated 500 000 become blind each year, of whom probably more than half die in childhood (Gilbert & Foster 2001:227). The prevalence of low vision is probably three to four times greater than that of blindness, with approximately 5 million children being affected worldwide (Pizarello et al 2004:617). The estimates of the magnitude of childhood blindness by region, including South Africa, are shown in Table 2.2.

Childhood blindness is important because of years of blindness (WHO 2002): the patient with blindness due to AMD will have a limited number of years of visual loss, but the child who goes blind today is likely to still be with us in 2050 (Gilbert & Foster 2001:227). The concept of 'blind years saved' is useful when it comes to allocation of resources as it can be argued that restoring the sight of one child blind from cataract is equivalent to restoring the sight of 10 elderly adults blind from cataract (Gilbert & Foster 2001:228). Children therefore deserve special attention.

Table 2.2: Estimated magnitude of childhood blindness by region

Region	Population		
	<16 years of age (millions)	Blindness prevalence (per 1000 children)	Estimated number of children
Africa	240	1.1	264 000
Asia	1200	0.9	1080 000
Central and South America	130	0.6	78 000
Europe/Japan/USA	240	0.3	72 000
TOTAL	1810		1494 000

(Gilbert & Foster 2001:230)

The definition of childhood blindness is usually considered as a corrected visual acuity (VA) of less than 6/60 in the better eye in an individual aged 0-15 years (Gilbert & Foster 2001:227). Reliable prevalence are difficult to obtain for a variety of reasons but the available evidence suggests that the prevalence varies from 0.3/1000 children in economically developed communities to over 1.0/1000 children in under privileged societies (Gilbert & Foster 2001:228). This translates into approximately 80-100 blind children per million total populations in industrialised societies and over 400 blind children/million population in the poorest areas of the world (Gilbert & Foster 2001:228).

Mortality in blind children, particularly in developing countries, is higher than in their counterparts, as many of the conditions which can lead to visual loss are also causes of child mortality (e.g.

measles, vitamin A deficiency, prematurity, congenital rubella, inherited syndromes) (Gilbert & Foster 2001:229).

There are two distinct ways of classifying causes of childhood blindness and low vision. The first is a descriptive, anatomical classification according to the level at which vision is obstructed in the eye as shown in Table 2.3. The second classification is by aetiology, according to the developmental time at which the insult occurred as shown in Table 2.4. The prevalence of blindness in children therefore underestimates the magnitude of the problem, as prevalence only takes into account the children who survive (Gilbert & Foster 2001:230).

Table 2.3: Anatomical classification of causes of childhood blindness and low vision

Whole globe	e.g. microphthalmos, anophthalmos, phthisis bulbi
Cornea	e.g. corneal scarring, anterior staphyloma, dystrophies
Lens	e.g. cataract, dislocated lens
Uvea	e.g. aniridia, chronic uveitis, coloboma
Retina	e.g. retinopathy of prematurity, retinal dystrophies, retinal detachment
Glaucoma	e.g. bulphthalmos
Optic nerve	e.g. optic atrophy, optic nerve hypoplasia
Other	e.g. cortical blindness, amblyopia

(Gilbert & Foster 2001:230)

Table 2.4: Etiological classification of childhood blindness and low vision

Hereditary	e.g. autosomal dominant or recessive disease, chromosomal abnormalities
Intrauterine	e.g. congenitally acquired rubella, fetal alcohol syndrome
Perinatal	e.g. ophthalmia neonatorum, retinopathy of prematurity
Childhood	e.g. vitamin A deficiency, measles, harmful traditional eye practices, trauma
Unclassified	e.g. impossible to determine the underlying cause

(Gilbert & Foster 2001:230)

In industrialized countries, the main causes of childhood visual loss are lesions of the central nervous system and hereditary diseases (particularly affecting the retina), some of which may be amenable to preventative measures such as genetic counselling. Retinopathy of prematurity, which is a potentially avoidable cause of childhood blindness, is important where very-low-birth-weight babies (less than 1500g) survive. Congenital cataract and congenital glaucoma together represent 10-20 per cent of childhood blindness in most parts of the world (Gilbert & Foster 2001:231). More than 40 per cent of childhood blindness is caused by conditions for which preventive or therapeutic interventions have proved effectiveness (Gilbert & Foster 2001:231). These global figures, although of value in advocacy, are not helpful when it comes to planning and implementing programmes as wide variations exist in the prevalence and causes

of avoidable blindness in, for example, the United Kingdom, Brazil, India, and Ethiopia (Gilbert & Foster 2001:232).

- *Control priorities*
 - *Corneal scarring*

In industrialised countries corneal disease is responsible for less than 2 per cent of blindness in children while in the poorest areas of Africa and Asia corneal scarring accounts for 25-50 per cent (Gilbert & Foster 2008:37). The major cause is Vitamin A Deficiency (VAD) often precipitated by measles or gastroenteritis in children aged typically 6 months to 4 years. The prevalence of blindness in children is related to under 5 mortality rates (Gilbert et al 1999:387), and under 5 mortality rates are a surrogate indicator of vitamin A deficiency (West 2002:2857). It has been suggested that countries with under 5 mortality rates over 50/1000 live births are likely to have VAD of public health significance (Gilbert & Foster, 2001:231).

Child mortality rates are declining in many developing countries, and other indices of child health, such as malnutrition rates have also improved (Foster & Gilbert 2008:38). The first priority therefore for the control of blindness in children in poorer regions of the world is to develop sustainable, effective interventions for the control of vitamin A deficiency and ensure high coverage with measles immunisation. Of secondary importance are programmes for the control of ophthalmia neonatorum, and the inclusion of traditional healers in primary eye care training which can

reduce the rate of corneal damage as a result of harmful traditional practices (Courtright, Lewallen & Kanjaloti 1995:16).

- *Cataract and glaucoma*

Worldwide, cataract and glaucoma are responsible for about 20% of all cases of childhood blindness (Gilbert & Foster 2008:37). Congenitally acquired rubella is a potentially preventable cause of cataract in some parts of the world – in one study in south India more than 20% of infantile cataract was due to confirmed rubella (Best 2007:182).

Successful treatment of cataract and glaucoma requires a variety of interventions including training of health personnel who deal with newborn babies to recognise these eye diseases; easy and quick referral mechanism to ensure children with cataract and glaucoma are seen by specialists; training of eye specialists in the assessment, surgery, and long term management of these children; support services including paediatric anaesthesia, orthoptics, optometry, low vision specialists, and educationalists (Gilbert & Foster 2001:1026).

In most regions of the world, approximately 50% of children in schools for the blind have blindness that could have been prevented (see Table 2.5).

Table 2.5: Avoidable causes of childhood blindness: from studies in schools for the blind.

Region	Preventable conditions	%	Treatable conditions	%	% avoidable
West Africa	VAD/Measles TEP/ON Rubella	39	Glaucoma Cataract Others	31	70
Southern India	VAD ADH disease ON	37	Glaucoma Cataract Others	10	47
Thailand/Philippines	VAD ON Rubella	33	ROP Cataract Glaucoma	26	59
Chile	ADH disease Rubella ON	18	ROP Cataract Glaucoma	36	54

(Gilbert & Foster 2001:231)

Abbreviations: VAD = vitamin A deficiency
 TEP = harmful traditional eye practices
 ON = ophthalmia neonatorum
 ROP = retinopathy of prematurity
 ADH = autosomal dominant hereditary (disease)

Another form of visual loss in children is amblyopia. This is condition in which the visual information received from one eye is not properly processed by the brain. This condition results when an underlying disorder causes a child's brain to favour the information received from one eye over that received from the other eye. There are three situations in which this happens: when the VA of one eye is significantly greater than that of the other eye, when there is strabismus, or when one eye is deprived of receiving visual input for some reason (e.g. cataract). These underlying disorders are

largely correctable, but because there is a 'critical period' during a child's development for the formation of visual pathways in the brain, visual dysfunction becomes permanent if amblyopia is not detected and treated promptly (Enoch et al 1993:987).

- *Retinopathy of prematurity*

Retinopathy of Prematurity (ROP) is one of the many complications associated with short gestation and low birth weight (Gilbert & Foster 2001:1027). The final weeks of the normal 40-week gestation period are important for the proper development of the blood vessels in the retina, so when a baby is born prematurely, his/her retinae are not yet fully vascularised (Gilbert & Foster 2001:1027). ROP occurs when the normal vascularisation process stops, and blood vessels start to grow in an abnormal fashion (Rahi & Solebo 2012:131). A fibrous scar tissue is formed in conjunction with the abnormal vessels, and this tissue can contract, resulting in damage to the retina or retinal detachment. Damage to the retina caused by ROP may lead to severe visual loss, and ROP is also linked to other ocular problems such as amblyopia, glaucoma, cataract and myopia (Rahi & Solebo 2012:131).

- *Retinoblastoma*

Retinoblastoma is the most common, primary, malignant, intraocular tumour of childhood and the second most common of all age groups (choroidal melanoma is more common) (Kanski 1994: 222). Even so, it is a rare tumour,

occurring in only about 1 in 20 000 live births. There is no sexual predilection and, although the tumour is initially only detected in one eye, both eyes are eventually affected in about one in three cases. The average age at diagnosis is 18 months and the vast majority become clinically apparent before the age of 3 years. Children with bilateral tumours present earlier than those with unilateral involvement (Kanski 1994: 222).

Retinoblastoma may present in different forms including (Kanski, 1994: 222):

- i) *Leukocoria*: the most common mode of presentation, accounting for about 60% of cases.
- ii) *Strabismus*: the most common mode of presentation (20% of cases). This is the reason why fundus examination through a well dilated pupil is mandatory in all cases of childhood strabismus. Occasionally, a patient with a small tumour may present with visual difficulty in the absence of strabismus.
- iii) *Secondary glaucoma*: which may or may not be associated with bulphthalmos, is a relatively rare mode of presentation.
- iv) *Pseudouveitis*: with a red eye and pain associated with hypopyon and hypheama, is a rare presentation. It is characteristic of infiltrating retinoblastoma in which the tumour cells invade the retina diffusely without forming a discrete tumour mass. This rare subtype presents in older children with an average age of 6 years as compared to 18 months in typical cases. The tumours are unilateral

and there is no positive family history. It is therefore important to consider this type of tumour in the differential diagnosis of chronic uveitis in children.

v) *Orbital inflammation*: mimicking orbital cellulitis may occur in eyes with necrotic tumours and does not necessarily imply extraocular extension.

vi) *Proptosis* is the result of orbital involvement.

vii) *Routine examination* of a patient known to be at risk may occasionally reveal presence of tumour.

o *Eye trauma*

In general, injuries of the eye are categorized as being either 'open globe' or 'closed globe' (Rahi & Solebo 2012:140). In closed-globe injuries, the wall of the eye remains intact; however, damage to the exterior and/or interior structures of the eye may be severe. Closed-globe injuries include contusions (bruises), lacerations (scratches), and chemical or radiation burns. In open-globe injuries the wall of the eye is completely compromised, involving either a full-thickness laceration or the rupture of the globe (Rahi & Solebo 2012:140).

There are many causes of eye trauma, and they may be broadly classified as (Strahlam, Elman, Daub & Baker 1990:603):

- i) Blunt forces, such as a squash ball or fist;
- ii) Foreign bodies, such as a shard of glass or a tree branch;
- iii) Chemicals, particularly acids and alkalis, and;
- iv) Radiation.

Complications associated with eye trauma are common. Conditions such as glaucoma, cataract, uveitis, corneal scarring and retinal detachment may occur subsequent to the injury (Strahlam et al 1990:603). In a recent study done by Bamashmus and Al-Akily (2010:425) in Yemen, trauma-related complications were found to be major causes of unilateral blindness among children. In another study, it was also found that road traffic injuries were accountable for a significant cases of blindness (Bamashmus & Al-Shabooti 2001:29; Shah, Shah, Shah, Prasad, Parikh, Shah, Shah, Shah, Prasad & Parikh 2011:217). Furthermore, the study established that fights and stone throwing were also common causes of eye injuries. In South Africa, a report on causes of eye injuries and blindness could not be established.

- *Vitamin A deficiency*

Vitamin A Deficiency (VAD) is a major public health nutrition problem in the developing world (Christian, West, Khattry, Kimbrough-Pradhan, LeClerq, Katz, Shrestha, Dali & Sommer 2000:542). It especially affects young children, among whom deficiency can cause xerophthalmia and lead to blindness, limit growth, weaken innate and acquired host defences, exacerbate infection and increase the risk of death (Singh & West 2004:1342). It is also becoming clear that VAD (now collectively known as vitamin A deficiency disorders; VADD) can extend through school age and adolescent years into adulthood (West 2002:2857). Although the health consequences of VAD are not well delineated beyond early childhood, recent data indicate that VAD in

women of reproductive age may increase morbidity and mortality during pregnancy and early postpartum period (Christian et al 2000:542; West 2002:2857).

Severe maternal VAD may also disadvantage the newborn, leading to increased mortality in the first months of life (Humphrey, Agoestina, Wu, Usman, Nurachim, Subardja, Hidayat, Tielsch, West & Sommer 1996:489; Christian et al 2000:542). As consequences of VAD become increasingly recognized, it is crucial that the resultant health burden be quantified as precisely as possible, as a basis for action and subsequent monitoring and evaluation programmes (West 2002:2857).

In recent years, VAD has been estimated to affect 127.2 million preschool children each year (West 2002:2857). Estimates of prevalence and number of cases of VAD and xerophthalmia among preschool-aged children are shown in Table 2.6. No estimates of the global burden of maternal VAD or the annual incidence of maternal night blindness exist (West 2002:2858). Recently, a report by the Sowetan (2008) newspaper indicated that VAD has been declared a national emergency in South Africa. This is a cause for a concern considering that VAD has also been reported a serious health problem by the National Department of Health of South Africa (DoH 2002).

Table 2.6: Global prevalence of preschool child Vitamin A Deficiency and Xerophthalmia, with numbers of cases, by region and selected country.

Region/country	Population <5 yrs (x10 ³)	Vitamin A deficient ^a		Xerophthalmia	
		%	No. (x10 ³)	%	No. of cases (x10 ³)
Africa	103, 934	32.1	33, 406	1.53	1, 593
Ethiopia	11, 032	61.2	6, 752	4.80	530
Kenya	4, 462	40.6	1, 812	2.00	89
Nigeria	17, 880	28.1	5, 024	1.00	179
Senegal	1, 596	34.5	551	0.36	6
South Africa	4, 909	33.3	1, 635	1.60	79
Other countries	64, 055	27.5	17, 632	1.11	710
Western pacific	122, 006	14.0	17, 128	0.18	220
China	97, 793	11.7	11, 442	0.17	170
Philippines	9, 800	38.0	3, 724	0.07	7
Viet Nam	8, 454	11.8	998	0.20	17
Other countries	5, 959	16.2	964	0.44	26
Region of the Americas	47, 575	17.3	8, 218	0.16	75
Brazil	15, 993	13.7	2, 187	0.13	20
Guatemala	1, 816	13.4	244	0.00	0
Peru	2, 898	13.0	377	0.00	0
Other countries	26, 868	20.1	5, 410	0.20	55
South/Southeast Asia	169, 009	33.0	55, 812	1.20	2, 026
Bangladesh	15, 120	30.8	4, 649	0.62	94
India	114, 976	30.8	35, 355	1.56	1790
Indonesia	22, 006	57.5	12, 653	0.34	75
Nepal	3, 485	34.9	1, 216	0.60	21
Sri Lanka	1, 597	35.3	564	1.60	26
Other countries	11, 825	11.6	1, 375	0.17	20
European region	152	29.5	45	0	0
Macedonia					

(West 2002:2860)

^aDefined by serum retinol <0.70 µmol/L or, occasionally, abnormal conjunctival impression cytology.

- *Refractive error*

Although refractive error is a substantial public health problem in many parts of the world (Dandona & Dandona 2001:237), a survey done by Naidoo, Raghunandan, Mashige, Govender, Holden, Pokharel and Ellwein (2003:3764) provides reliable evidence that vision impairment due to refractive error is relatively uncommon in school-aged children of South Africa. Although refractive error was not found to be a common cause of visual impairment among school-aged children, the study found that two-thirds of 128 children with uncorrected VA of 20/40 or worse in at least one eye were affected by refractive error (Naidoo et al 2003:3764). Visual impairment due to uncorrected refractive error is expected to be rife among the elderly, especially in the rural parts of South Africa.

2.2.8.2.8 Low vision

Low vision is a condition in which the VA and visual field that a person has cannot be improved medically, surgically or by standard refraction to VA of 6/18 or better or visual field of ≥ 20 degrees in the better eye (Resnikoff et al 2004:845). There are many low vision and blind people worldwide, and there is a considerable amount of data available of the prevalence of low vision and blindness in many parts of the world (Oduntan 2005:44). The prevalence of low vision is expected to be higher in the developing countries due to the low level of health care services in many of the countries (Oduntan 2005:44). It has subsequently been reported that 110 million people have severely impaired vision, hence are at great risk of becoming blind

(Thylefors et al 1995:118). The prevalence of low vision in Africa has been reported to be 3% (Lewallen & Courtright 2001:897).

The prevalence of low vision varies from one country to another and even, within the same country; it may vary from one province to another (Oduntan 2007:163). Also, in the same community, the prevalence may vary with age. In South Africa, the prevalence of low vision has been estimated at 0.32% (Pougnnet, 1995). A population based study in the Limpopo province, South Africa, found the prevalence of low vision to be 1.1% among adults aged 18 years and older (Oduntan, Raliavhegwa & Lund 2002:572).

The prevalence of low vision is likely to increase significantly because the percentage of elderly people, who are most often afflicted with low vision, is increasing (Resnikoff et al 2004:845). In both developing and developed countries, the prevalence of low vision and blindness is associated with geriatric population, particularly among people over 60 years of age. This is due to age-related eye diseases such as cataract, macular degeneration *et cetera*, which have high prevalence among this age group (Oduntan 2005:44).

Low vision can result from various ocular and systemic conditions or diseases which may be genetic or acquired (Oduntan 2007:164). Those of genetic origin include albinism, congenital cataract, corneal dystrophies, retinitis pigmentosa *et cetera* (Oduntan 2007:164). The acquired ones include cataract (traumatic or senile), maculopathies such as macula degeneration, diabetic retinopathy, hypertensive retinopathy, glaucoma, VAD, trauma and diseases such as measles, trachoma and

onchocerciasis. A summary of the causes of low vision in various regions of the world is shown in Table 2.7.

Table 2.7: Causes of low vision and blindness in different parts of the world

Common causes of blindness and low vision in various regions of the world				
Africa	America and Canada	East Mediterranean and Asia Pacific	Europe	Oceania
Senile cataract, glaucoma, corneal opacity (non-trachomatous), uncorrected aphakia, infections and diseases (onchocerciasis, trachomatous and non-trachomatous), xerophthalmia, trauma, macula degeneration	Diabetes, cataract, age-related macular degeneration	Cataract, corneal opacities (non-trachomatous), infections (trachomatous and non-trachomatous), retinitis pigmentosa, age-related macular degeneration, diabetic retinopathy, glaucoma, optic atrophy	Age-related macula degeneration, glaucoma, cataract, diabetic retinopathy, hereditary retinal dystrophies, optic atrophy	Age-related macula degeneration, diabetic retinopathy

(Oduntan 2005:48)

According to Oduntan (2007:164), low vision patients may experience difficulties in reading at near and far due to reduced VA. With near reading problems, they may not be able to read print, including personal letters and print on the computer screen or letters or numerals on the computer keyboard. With reduced distance vision, they may experience difficulty recognizing faces, reading street names, seeing traffic signs and house numbers. They may experience difficulty travelling alone or driving due to poor vision. Those with visual field loss may also have serious problems with reading, mobility and driving, depending on the degree and type of field loss. Visual impairment can leave a

person anxious, depressed, confused or even fearful of his or her surroundings. Therefore, persons with visual impairment have to depend on family members or friends for many mundane activities (Oduntan 2007:164).

Low vision patients, like the blind ones are therefore, faced with functional difficulties which may result in social, economic, and psychological problems (Oduntan 2007:164). They therefore, need assistance in the form of vision rehabilitation. Although there is no possibility of reversing the visual impairment in low vision patients, people with the condition can return to an active, productive, rewarding and independent lifestyle with low vision devices and rehabilitation training (Kupfer 1999:729).

Low vision rehabilitation (LVR) includes a variety of strategies and devices to help individuals whose vision loss cannot be ameliorated, so that they may pursue activities they need or want in their lives. LVR interventions range from simple to complex. According to Massof (1998:349), a successful LVR programme will need the expertise of professionals such as optometrists, ophthalmologists, psychologist and psychiatrist, audiologist, social worker, occupational therapist, special educators, orientation and mobility instructor, physiotherapist, reading specialist, and low vision specialist. This implies that effective LVR programme require a multidisciplinary approach. With this approach, the frustration that is inherent in low vision can be avoided and a better quality of life can be enjoyed by the patient (Massof 1998:349).

2.2.8.2.9 Trachoma

Trachoma is almost exclusively a disease of poor families and communities living in developing countries (Kasi, Gilani, Ahmed & Janjua 2004:e44). It is the second leading cause of blindness worldwide (Thylefors et al 1995:120). It has been reported that about 84 million people, mostly children, have active disease, and another 7.6 million people have trichiasis – a stage of trachoma in which the upper eyelid turns inward and one or more eyelashes rub against the eyeball (Pougnnet, 1995).

Trachoma, a chronic keratoconjunctivitis, is caused by episodes of infection with *Chlamydia trachomatis*, an obligate cellular bacterium (Kasi et al 2004:e44). An estimated 10 per cent of the world's population lives in endemic areas and is at risk of developing trachoma. It is important to note that transmission of trachoma occurs from eye to eye via hands, clothing, and other fomites (Kasi et al 2004:e44). Flies have been identified as a major vector for the spread of infection (Emerson et al 2004). The presence of open latrines favours the vector population. Factors associated with trachoma include the extent to which the water supply is limited, the distance from the water source, the amount of water used for washing purposes, and overcrowding (Prost & Negrel 1989:9).

One case-control study in a Gambian village compared water use in 18 families having one or more active trachoma cases among the children with that in 16 trachoma-free families in the same village. The families with trachoma were found to use significantly less water per person per day for washing children than did the control group (Bailey, Downes, Downes & Mabey 1991:824). The

disease tends to cluster in certain communities within a village and certain families within a neighbourhood. Women, especially in rural areas, are affected twice as often as men (Regassa & Teshome 2004:9).

Trachoma initially presents in childhood as red eye – itching, redness, and pain. The essential lesion is a trachomatous follicle (lymphoid cell aggregate) occurring typically in the upper tarsal conjunctiva (Kasi et al 2004). The roughened appearance of the upper tarsal conjunctiva gives the disease its name (trachoma is the Greek word for ‘rough’) (Kasi et al 2004:e44). Trachomatous involvement of the cornea manifests itself initially as superficial keratitis. At a later stage, pannus formation (new vessel growth) may occur over the margin of the cornea, usually limited to the upper half (Kasi et al 2004:e44).

In a subgroup of individuals, fibrosis occurs because of repeated infections, resulting in scarring of the conjunctiva (scarring trachoma). In scarring trachoma, the upper eyelid is shortened and distorted (entropion) and the lashes abrade the eye (trichiasis). Blindness may result from corneal opacification, which is related to the degree of entropion or trichiasis (West, 2004:382).

Based on the presence or absence of some of the key signs of the disease, WHO has developed a simplified grading system for the assessment of trachoma (Munoz & West 1997:205). The system can easily be used by non-specialists, after appropriate training, for the assessment of disease at community level (Kasi et al 2004:e44).

Although trachoma has been reported to be a major cause of blindness worldwide, the South African Department of Health has applied to WHO to declare South Africa a trachoma free country (DoH 2002). It is therefore expected that all initiatives employed to eliminate this blinding disease should be repeated to reduce and/or eliminate currently blinding diseases in South Africa.

2.3 EVIDENCE IN EYE HEALTH PROMOTION

Evidence in health promotion is important because health promoters need justification for decisions they make. Health promoters need to identify relevant determinants of health, and then evaluate the effectiveness of these chosen activities. The issue of evidence has also become prominent in these times of economic rationalism as health promoters are increasingly being asked to justify their activities by providing evidence of effectiveness (Raphael 2000:355). Evidence is needed to reduce uncertainty in decision making. Health promoters need to answer questions such as the following. What are the health problems? What are the causes of these problems? What are the health promotion activities that can lead to solution of these problems? How do we know whether we have been effective in solving these health problems? Answers to these questions clearly depend on the definitions of health and health promotion held by the health worker (Raphael 2000:356).

Evidence reduces uncertainty in decision-making. Evidence is about reality, about what is true and not true. The nature of reality itself, however, is the basis of continuing debate in the social sciences, less so in the health sciences. Consensus is being

reached within the health promotion fields of what constitutes evidence, but with little congruence between these fields (Raphael 2000:357).

The emergence of evidence-based practice in health care has gained considerable popularity over the recent years. The use of evidence-based decision-making in health services and planning is now seen as a viable mechanism to identify optimal health benefits to the population in question (Gray 1997). However, the role and the value of evidence in health promotion and eye health, particularly the nature and quality of evidence, has also been the subject of substantial debate (Wiggers & Sanson-Fischer 1998:130).

2.3.1 Strengths of this approach in health promotion

The literature suggests that a systemic incorporation of quality research evidence into planning and implementation of health initiatives, and applying quality research evidence to a logical decision-making process, would be most likely to bring about cost-effective improvements in community health status (Gray 2001; Nutbeam 1999:99). Nutbeam (1999:99) argues that such an approach increases the possibility of successful health outcomes by mobilising political and community support for health interventions.

Thus the appropriate practice of evidence-based health promotion and by analogy eye health promotion requires high quality available evidence, considerations in local values and availability of prevailing resources (Petersen & Kwan 2004:320). However,

population health requires more than evidence-based health care (Nutbeam 1999:100). In quest for evidence in health promotion, Weiss (1991) demonstrates that research has very little impact on any policy effort. The author argues that research rarely determines policy but rather that it is used to support the selection of policy decisions. Although this observation has been explicitly outlined, the multifactoral influences on health policy development are also applicable to evidence-based research. Health decisions are made on the basis of custom and practice, values and interests (Simnett, Perkins & Wright 1999:42). Harrison (1999:129) further outlines the role of power and process in selecting value judgements and concedes that evidence is thus really only amenable to political choice. Evidence in health promotion therefore needs to focus beyond the health system. There is a need to examine the social, cultural, economic and environmental context of the whole social system instead of health promotion activities only (Simnett, Perkins & Wright 1999:42).

2.3.2 Barriers to evidence-based practice and how to overcome them

A number of barriers have been identified to the effective adoption of evidence-based health practice. There is a lack of quality research evidence in health promotion. This could be due to an insufficient focus on developing appropriate evaluation strategies in measuring the efficacy and effectiveness of health promotion efforts (Raphael 2000:360). Further difficulties identified would be the inappropriate application of randomised controlled trials criteria to population-based studies. The current criteria for good quality evidence have been developed from bio-medical paradigms that

are best expressed in quantitative outcomes (Petersen & Kwan 2004:321). The outcomes associated with health promotion initiatives are as a result of complex individual and community interactions and changes cannot be reduced to singular units of measurement for evidence (Raphael 2000:360).

Funding has also been identified as another barrier to the practice of evidence-based health promotion (Wigger & Sanason-Fischer 1998:133). There is a need for policy commitments on evidence-based research so that issues of funding could be adequately addressed (Speller 2001:20). According to McQueen (2001:261), there is no disciplinary-based epistemological structure that underlies the evaluation process in health promotion.

The quality of evidence could be influenced by various conceptual and technical factors (Raphael 2000:360). Evidence-based research recognises the political realities in health promotion activities. It is further proposed that evidence-based health promotion practice does not preclude action even if the highest quality of evidence is not available (Wigger & Sanason-Fischer 1998:133). The challenge is therefore to identify a balanced consideration of evidence through a critical appraisal of various sources of data. There is a need to distinguish what consists the rules of evidence within the various health disciplines. There is also a need to specify the role of epidemiology, sociology, anthropology and other relevant disciplines in building evidence in health promotion (McQueen 2001:261). The literature suggests that there is an urgent need to develop health practitioner skills in epidemiology and biostatistics, data collection and in critical

appraisal of research literature (Petersen & Kwan 2004:321; Speller 2001:20). It is important that these skills are developed at tertiary and training institutions.

It is important to ensure that there is a theoretical basis to health promotion interventions and strategies. It is also important to ensure that there is sufficient capacity building and political and public awareness to programme implementation (Nutbeam 1999:100). Atkinson (2002:113) further adds that health systems research has failed to take the cultural influences on health systems and policy partly because it challenges fundamental values. There are also difficulties associated with including evidence within a rational systems model (Atkinson 2002:113). Evidence-based health investments would need to increase the allocative efficiency of resource allocation (Harrison 1999:129).

2.3.3 The value of examining health promotion within social systems

Harrison (1999:130) provides different perspectives to the description of evidence in health promotion. He discusses the need for evidence on the appropriateness, efficiency, effectiveness, equity and sustainability in relation to a specific intervention that is context and time-specific. This means that results obtained from this research cannot be replicated in repeat examinations. Harrison (1999:130) also discusses the need for evidence in relation to input, output, outcome and process of health promotion activities. He further iterates that research evidence needs to be provided for specific stakeholders in terms of perceptions on quality of care, management and productivity.

A key goal of evidence-based health promotion practice would therefore be the need to develop organizational changes within the health care system. A focus on building organizational systems for health could be more sustainable because health becomes incorporated into everyday social system instead of dependency on health practitioner intervention. Thus health is the goal but change management is the process. Knowledge about the aetiology of health and disease are important but their transmission is not the outcome measure of relevance in intervention. What may be relevant is whether health investment has been made and whether an infrastructure for health promotion has been constructed within the formal or informal fabric of the organization or social system (Whitelaw, Baxendale, Bryce, MacHardy, Young & Witney 2001:339). Thus there is a need to examine the social process that would support or reject health promotion efforts in a quest to find evidence.

These comments on evidence-based health promotion practice highlight the importance of examining health promotion activities within a defined social context. These perceptions are a departure from the focus on improving study designs and research methods. They provide a plausible approach to placing health care and health investigations within the social systems that they arise from. Thus the basis for evidence in health activities is grounded within social and organizational systems. While the merits and barriers to evidence-based health promotion have been highlighted, these comments can be extrapolated to eye health promotion. It is therefore important to ground eye health activities within the social framework and make such activities a component of health

activities that may contribute to not only providing evidence but also to ensuring sustainability of health efforts.

2.4 COMPONENTS OF EYE HEALTH PROMOTION

2.4.1 Health education

Education has been an essential component of action to promote health and prevent disease throughout this century (Nutbeam 2000:259). Campaigns to promote maternal and child health, to prevent communicable disease, and promote immunization and other preventive health services have a long history. In developing countries, health education directed towards these goals remains a fundamental tool in the promotion of health and prevention of disease (Nutbeam 2000:260).

In developed countries, during the 1960s and 1970s this early experience in health campaigning was directed towards the prevention of non-communicable disease by promoting healthy lifestyles. Many of these early campaigns were characterized by their emphasis on the transmission of information, and were based upon a relatively simplistic understanding of the relationship between communication and behaviour change. Over time, it became apparent that campaigns which focussed only on the transmission of information and failed to take account of the social and economic circumstances of individuals were not achieving the results which had been expected in terms of their impact on health behaviour. Many health education programmes emerging during the 1970s were found to be effective only among the most educated and economically advantaged in the community. It was assumed that these groups had higher levels of education and

literacy, personal skills and economic means to receive and respond to health messages communicated through traditional media (Nutbeam 2000:260).

As a tool for disease prevention, health education was considerably strengthened by the development of a new generation of more sophisticated, theory-informed interventions during the 1980s. These programmes focussed on the social context of behavioural decisions, and focussed on helping people to develop personal and social skills required to make positive health behaviour choices. This type of programme was pioneered through school-based health education programmes directed towards preventing teenage substance misuse, and subsequently has been applied in other settings (Glanz, Lewis & Rimer 1997:112).

In the 19th century public health action resulted from a need to address the devastating effects of the living and working conditions imposed on populations during the industrial revolution. The initial focus of public health action was, therefore, on the social and environmental determinants of the health of the population. By the late 20th century, however, there had been a shift in the emphasis of public health action toward modifying individual risk behaviours (Nutbeam 2000:260).

However, recent epidemiological analysis of health, disease and disability in the populations of most developed countries confirms the role of social, economic and environmental factors in determining increased risk of disease and adverse outcomes of

the disease (Harris, Sainsbury & Nutbeam 1999:122). Health status is influenced by individual characteristics and behavioural patterns (lifestyles) but continues to be significantly determined by the different social, economic and environmental circumstances of individuals and populations (Nutbeam 2000:261). The relationships between these social factors and health, although easy to observe, are less well understood and much more difficult to act upon. Consequently they have been given much less attention as a basis for public health intervention than have individual behaviours in the recent past (Nutbeam 2000:261).

As the effects on population health of economic, social and environmental policies adopted in developed nations in the late 20th century begin to emerge and are better understood, there has been renewed interest among public health practitioners in acting to influence these determinants of health. This renewed interest was reflected through the Ottawa Charter for Health Promotion (WHO 1986) and more recently confirmed in the Jakarta Declaration (WHO 1997). Through the Charter, health promotion has come to be understood as public health action which is directed towards improving people's control over all modifiable determinants of health. This includes not only personal behaviours, but also the public policy, and the living and working conditions which influence behaviour indirectly, and have an independent influence on health (Nutbeam 2000:261).

2.4.1.1 Eye health education

Health education to promote the adoption of eye health promoting behaviours and increase uptake of eye care services provides the

backbone of health promotion (Hublely & Gilbert 2006:279). Changing long standing behaviours that might be deeply rooted in culture is never easy. However, well planned educational programmes can be effective provided two critical requirements are fulfilled: the underlying influences on behaviour are addressed, and appropriate methods, target groups and settings are selected (Hublely & Gilbert 2006:279).

2.4.1.1.1 Understanding influences on behaviour

Qualitative research methods provide useful insights into reasons for use and non-use of eye health services (Hublely & Gilbert 2006:279). Barriers to the uptake of cataract services from patients' perspectives can include one or more of the following: acceptance of impaired sight as an inevitable consequence of old age, fear of the operation, contact with individuals who have had experiences, lack of knowledge concerning where surgery is provided, distance from the service, lack of a person to accompany the patient to hospital, poor state of hospitals, long waiting lists, and cost. Recent studies in Malawi, Nigeria, Gambia, and Nepal show that cost is the most important barrier (Courtright, Kanjaloti & Lewallen 1995:15; Johnson, Goode Sen & Faal 1998:218; Lewallen & Courtright 2000:20; Rabiou 2001:776; Shrestha et al 2004:319).

In a study of glaucoma in Togo, lack of confidence in the service being provided was identified as an important factor. Two thirds of the 767 people surveyed who were aware of their condition were not confident of the capabilities of doctors to treat the disease (Balo, Serouis & Banla 2004:187). The stigma attached to some

disease can be a deterrent to coming forward for treatment with result that ocular complications may be identified at a late stage (Hubley & Gilbert 2006:280). Here, the health promotion strategy is to address the issue of stigma and other barriers to early presentation for treatment in the general public.

2.4.1.1.2 Choice of setting for health education

Many influences on behaviour including culture, economics, power, and tradition operate at the community level (Hubley & Gilbert 2006:280). A community based programme is one which works within a geographically defined area, takes into account influences that operate at community level, and seeks to involve community members in the decision making process and in implementation (Hubley 1999:33).

The ideal situation is that the community decides its own health priorities, as well as the solutions, and how these will be resourced, implemented, monitored, and evaluated. Unfortunately, this ideal is not always realised, and the term 'community participation' has been loosely applied to a range of approaches from ones with full involvement of communities to 'top down' programmes where all decisions are made externally (Rifkin 1986:240). Working with communities can be challenging: field workers need to be sensitive to the communities' needs and dynamics, and have patience and skills for a two way process communication, to build consensus, resolve conflicts, and develop capacity (Hubley & Gilbert 2006:280).

Community based programmes often use volunteer 'community health workers', so called peer educators, who were a key element of primary health care strategies implemented by many countries (Hublely & Gilbert 2006:281). Evaluations of these early experiments in using community volunteers showed the importance of realistic expectations, careful selection, appropriate training, monitoring, supervision and support (Brieger, Ramakrishna & Adeniyi 1988:341; Walt, Perera & Heggenhougen 1989:599).

The strength of community based approaches is the opportunity for multisectoral strategies in which health education is supported by other interventions such as appropriate technology, agriculture, and income generation (Hublely & Gilbert 2006:281). This combination of strategies formed the basis of a series of innovative and highly successful pilot programmes coordinated by the International Centre for Research which worked with women to control vitamin A deficiency (Hublely & Gilbert 2006:281). Activities included the introduction of vitamin A rich variety of sweet potato in Kenya, solar drying of vitamin A rich foods in Tanzania, and seed distribution/education on cultivation and food preparation for women in Ethiopia (Johnson-Welch 1999:1; Ayalew, Gebriel & Kassa 1999:1; Molukozi 1999:2).

Schools are another setting that affords enormous potential for blindness prevention programmes, and the obvious benefits of good vision on learning might be expected to act as a powerful motivation for parents, teachers, and children to support blindness prevention activities. One approach is for teams of health

educators to visit schools and run health education sessions. This approach was shown to result in improved knowledge of onchocerciasis in Nigeria (Shu, Okonkwo & Onwujekwe 1999:15) and Trachoma in Ethiopia (De Sole & Martel 1988:255). However, a more sustainable approach is to train teachers, which is the approach used in vision testing programme in India (Limburg, Vaidyanathan & Dalal 1995:173; Murthy 2000:3) and a pilot project in Nigeria (Ajuwon, Oladepo, Sati & Otoide 1997:219). A comprehensive school based approach should have three components: firstly health education activity based methods such as those pioneered by child-to-child and others (Francis 2001; Hawes, Nicholson & Bonati 1991:122); secondly, a health promoting school environment which includes provision of water and sanitation, safe risk free play facilities and school gardens; and, thirdly, school services involving health workers, teachers, and children in screening children for refractive errors, provision of spectacles, and management of simple eye health problems (Hublely & Gilbert 2006:281).

2.4.1.1.3 Methods that can be used

According to Hubley and Gilbert (2006:281), the two most important health education methods are mass media and face to face communication, either separately or together. Mass media have the potential to reach large numbers at a low cost per person reached. This was recently illustrated by a project in India which inserted an E chart and instructions on use into four daily newspapers. A telephone survey of 603 people after one advertisement found that, of the 125 people sampled who subscribed to that newspaper, 45 stated that they used the card to

test their vision. At US\$5500, the initial cost was high; however, the large circulation and resulting low cost per newspaper of \$0.002 shows the potential of mass media to reach large numbers of people very cheaply (Murthy, Gupta & Dada 2001:952). A limitation of newspapers is that they only reach the literate, newspaper reading section of society, but they are particularly useful if the aim is to reach professional and middle class groups, which might be important for advocacy (Hubley & Gilbert 2006:281). The relative importance of radio and television varies from region to region. It is thus to find out what media are available and who accesses them, and base the choice of media on the local pattern of use.

Health education through mass media can be delivered in a range of formats. Some may require payment (for example, advertisements, jingles, spot announcements), while others may be free (for example, news bulletins, documentaries, and dramas) (Hubley & Gilbert 2006:281). According to Guldan (1996:689), it is generally accepted that mass media are particularly appropriate when the behaviour changes to be promoted are simple and there are no significant barriers to the community taking action. With more difficult behaviours, especially those that are underpinned by strong cultural beliefs, mass media need to be supplemented by more sensitive community based approaches. Also, face to face discussions might be slower and more labour intensive, but they provide opportunities for direct engagement and participation of individual communities (Hubley & Gilbert 2006:281).

2.4.2 Reorientation of health services (service delivery)

Health education should take place alongside improvement in services. Improvement should address locally identified barriers, which might include quality of clinical care as well as the other non-clinical aspects of care. For example, timing of clinics and operating sessions; ensuring men and women have separate waiting areas; ensuring a clean environment (Hubley & Gilbert 2006:282). There is also a need to improve the quality of information provided to patients to promote adherence to treatment regimes and follow up, to increase awareness of possible side effects and action needed to prevent recurrence. Implementing patient education in resource poor settings with crowded clinics and shortages of health workers is challenging (Hubley & Gilbert 2006:282).

Reorientation of health services to be more supportive of health promotion requires an increase in the capacity of the health service staff themselves and of the organization (Yeatman & Nove 2002:341). Hawe, Noort, King & Jordens (1997:29) developed a framework on capacity building in the field of health promotion that identifies indicators for success at the individual, program and organizational levels. Informal learning and the provision of management support for staff to be involved were identified as critically important in supporting individual action. According to Nirenberg (1991:11), changes within an organization may be resisted by staff because of increased workload or a change in work focus. Such potential for resistance can be addressed through involving staff in activities that facilitate the change process (Goldstein 1988:16). Staff involvement in the process has

been identified as critical in assisting staff recognize the need for change and to develop a sense of ownership of the proposed change (Pattigrew, Mckee & Ferlie 1988:297; Nirenberg 1991:12). In addition, fear of change can be reduced through better communication (More 1991:1).

The capacity building framework also incorporated recognition of the need to embed health promotion programmes within an organization. Hawe et al (1997:29) believe that health promotion must be integrated with other health service roles and provided with recognition and support to enable the build-up of organizational knowledge, ideas and resources for effective health promotion action. At the organizational level, support for health promotion needs to be integrated into policies and procedures of the organization (Yeatman & Nove 2002:341). Knowledge and skills gained from one health promotion initiative should contribute to the organization's capacity to take on new and different initiatives in the future (Yeatman & Nove 2002:341).

Reorientation of health services to health promotion is a core element of a comprehensive approach to maximize the health capacity of a community (WHO 1986; Lopez-Acuna, Gomez, Machado & Fernandez 2000). Formal training of health service staff in relevant health promotion knowledge and skills is not sufficient to achieve long-lasting changes. Supportive organizational structures are required to reinforce knowledge and skills gained during staff training and enable them to be applied. The work environment needs to encourage or require staff to incorporate health promotion initiatives into their work practices

(Lopez-Acuna, Gomez, Machado & Fernandez 2000). The organization also needs to manage competing demands on staff to address state and local health priorities as well as deal with wider issues brought about by limited public health budgets and limited staffing combined with an increasing demand for direct service provision (Yeatman & Nove 2002:342).

2.4.3 Advocacy

The Ottawa Charter (WHO 1986) identified Healthy Public Policy as one of five key health promotion actions (Kemmm 2001:79). A Health Public Policy is a policy that increases the health and well-being of those individuals and communities that it effects (Kemmm 2001:79). Milio (1986:263) argued that public policy should set a framework within which individuals and communities were enabled to take control of their own health and well-being. Healthy Public Policy might be conceived of as favourably influencing the determinants of health at the higher levels (Whitehead 2009:866). These levels are general socio-economic, cultural and environmental conditions, living and working conditions, and social and community influences (Kemmm 2001:79). Individual lifestyle factors together with age, sex and heredity also determine health but are less important than the higher level determinants (Evans, Barer & Marmor 1994:34). Health services, while important in determining the outcome of episodes of illness, are relatively unimportant in determining population health (Kemmm 2001:79). It follows that virtually all aspects of public policy impact on health, and it is self-evidently desirable that all public policy should be Healthy Public Policy (Kemmm 2001:79).

The notion of health, promoted by advocates of healthy public policy, is a broad one. Both equity and sustainability would be regarded as necessary conditions for health (Kemmm 2001:79). Inequity is both bad per se and is a mechanism through which the health of individuals and communities is damaged (Kemmm 2001:79). It is therefore appropriate that reduction of health inequities is advocated as an essential feature of healthy public policy in WHO 21 targets number 1 and 2 (WHO 1999). Sustainability may be defined as meeting the needs of the present without compromising the ability of future generations to meet their own (World Commission on Environment and Development 1988). Since healthy public policy is concerned with the health of future, as well as present generations, it must be concerned with sustaining ecosystems, which support the well-being of human populations (Cole, Eyles, Gibson & Ross 1999:65).

There are two conditions that have to be satisfied if healthy public policy is to be achieved. These include:

- The health consequences of different policy options that have to be correctly predicted; and
- The policy process that has to be influenced so that health consequences are considered (Kemmm 2001:80).

According to Kemmm (2001:80), HIA is an approach that could assist with meeting both these prerequisites. HIA may be defined as a methodology which enables the identification, prediction and evaluation of the likely changes in health risk, both positive and negative (single or collective) of a programme, plan or development action on a defined population. These changes may

be direct and immediate or indirect and delayed (Morgan 1998:15). Its purpose is to add value to the decision-making process (National Assembly for Wales 1999). It aims to assist decision makers by clarifying the various ways in which a policy could influence health and by ensuring that health considerations are not overlooked (Kemmm 2001:81). HIA is primarily concerned with policies in non-health sectors such as economic, housing, law and order, transport, energy and many others since these are the areas that have the greatest potential to impact on population health (Lock 2000:320). HIA can also add to policies with an overtly health objective (such as increasing taxes on tobacco) by exploring the indirect health consequences, which would flow from them. Other definitions of HIA specifically exclude consideration of policies in the health sector, but this is neither necessary nor helpful (Kemmm 2001:8).

In eye health promotion, advocacy will include all activities designed to raise awareness of the importance of blindness prevention among policy makers and planners, to increase resources for blindness prevention, and for the integration of blindness prevention into other programmes (Gilbert & Hubley 2006:282-283). Advocacy can also lead to enactment and enforcement of laws that place on a legal footing the obligations of governments to ensure 'the right to sight' campaigns are successfully implemented. Advocacy can take place at every level from in international, national and local level. The most notably success for advocacy at the international level has been the endorsement of Vision 2020 by the World Health Assebly in Geneva (WHO 2003).

At the national and district level effective advocacy involves the mass media to gain public support, meetings with decision makers, and working through professional associations (Gilbert & Hubley 2006:283). An important objective for advocacy is to raise public awareness of the need for channelling public resources into prevention of blindness (Gilbert & Hubley 2006:283). The need for such action was demonstrated in surveys of urban populations in Adhra Pradesh State, India, and Togo that found low levels of awareness and knowledge of eye health (Dandona et al 2001:96). This finding will probably to most developing countries including South Africa.

2.5 CONCLUSION

The issues raised above have important implications for the research. Providing evidence to justify health priorities and strategies only forms a part of health policy development (McQueen 2001:261). Adoption of evidence-based eye health practices requires change and there could be numerous barriers to influence organisational and practitioner behavioural changes (Elliot 2004:200). Most of these issues will be further discussed in the context of the research findings.

CHAPTER 3

CONCEPTUAL FRAMEWORK

3.1 INTRODUCTION

The previous chapter dealt with the review of existing literature with pertinence to health promotion and the extent to which all eye health promotion priority areas can affect individuals from a public health perspective. The literature provided adequate insight into the challenges of eye health promotion in South Africa. Subsequently, this chapter discusses the theoretical frame work which applies to this study. According to Polit and Hungler (1999:107), conceptual frameworks are constructed mechanisms for developing or organising structures along which information, knowledge and data could be assembled. A conceptual framework further delineates the units to be analyzed into various perspectives, and in accordance with the themes under which the variables have been constructed or organized (Miles, 1994:18).

The concept of health promotion as a vital component of public health is elaborated in numerous texts (WHO 1986; Glasgow, Vogt & Boles 1999:1322). Collectively they call for comprehensive approaches to health development and ensure sustainability. For eye health this means reducing the eye disease burden in ways that improve eye health outcomes in an equitable manner and promote healthy lifestyles by reducing socio-economic and environmental risk factors to eye health care. By implication this requires a common risk factor approach to health promotion to control risk factors to eye health and preferably embraces population-wide intervention strategies (Sheiham & Watt

2000:399). This provides the rationale behind attempts to integrate eye health promotion elements into all other areas of health policy and health-related policy. These concepts and the guidelines of the Ottawa charter (WHO 1986), provide the basis for the conceptual framework used.

In this chapter, an ecological framework (Milio 1988:263), which is in line with guidelines of the Ottawa Charter, has been used to delineate the social climate, key players, and strategic action to be taken in policy-making, making healthy public policy a political reality and knowing how this can be carried out. This framework has been used because public health sees human health in an ecological relationship with all in our natural and human made habitats (Milio 1988:263). Also, the framework is relevant to both high and low income countries (Patel 1986:37). This view derives from growing evidence that health and illness are embedded in the household, workplace, school, community and larger environments in which we live and evolve our social and individual, public and private, informal and organized ways of living.

From an ecological perspective, people's health affairs cannot be neatly grouped into diagnoses, symptoms and risk factors to be targeted and eliminated or altered (Milio 1988:263). Health problems, having multiple origins, are themselves interrelated. The people, for example, who have one major problem are more likely to have additional problems (Kokkte 1986:2). The earlier in life people experience illness, the more likely they are to become ill, and more severely ill (Millio 1988:263). This snowballing process continues into old age, for those who survive. Similarly,

disadvantaged groups are likely to be socially vulnerable in more than one way (Kasi et al 2004:e44). On the more positive side, the groups of people favoured with the lifelong conditions for healthy living carry a robust biological and social capacity into later decades of life (Bambra, Joyce & Maryon-Davies 2010:48).

Upon reflection, an ecological view of health leads to an awareness that the many contexts in which people live and the ways that people relate to them are profoundly influenced by the most powerful collective means to shape human living: public policy (Stokols 1996:282). Simply put, public policy – the guide to government action – sets the range of possibilities for the choices made by public and private organizations, commercial and voluntary enterprises, and individuals (Millio 1988:264). In virtually every facet of living, the creation and use of goods, services, information, and environments are affected by government policies – fiscal, regulatory, service provision, research and education (Sallis, Cervero, Ascher, Henderson, Kraft & Kerr 2006:297).

Public policy then becomes a prime approach to creating the conditions and relations that can nurture health. Public health thus asserts that all public policies should take into account the health interests of the public (Sallis et al 2006:298). It advocates that policies should make healthful choices easy (less costly in various ways) and damaging choices difficult (high in monetary or other costs) to the chooser, whether a corporate body or individual (Sallis et al 2006:298). It is of course encouraging that the South African government has been over the past few years imposing

higher taxes on both tobacco and alcohol, which obviously have detrimental health effects.

To be effective, this approach must be multisectoral in scope – not confined to the conventional sphere of health policy – and collaborative in strategy, involving not only sectors of national policy, such as employment and income maintenance, agriculture, housing, education and health services, but also other levels of government, and voluntary, economic, and community groups (WHO 1986).

Having outlined the various guiding principles that led to the use of the ecological framework in the study, this section further defines the various elements of the conceptual model, their interrelationship and the assumptions made for empirical analysis. The use of theory was thus an important aspect in developing the conceptual framework. The theory provides the analytical framework through which to form logical interpretations of the facts collected in the study and guides the search for new information (Wan 1995:31). The research used the theory that eye health promotion efforts could be better supported at an implementation level if these activities were adequately expressed in other strategic health policy documents.

The conceptual framework consisted of the following components:

- Theoretical foundation to policy analysis;
- Policy document;
- Eye health promotion-related decision-making at national and provincial levels and;

- An examination of the external and internal influences on eye health promotion policy. External influences refer to issues such as infrastructure, health inequities and resources. Internal influences refer to decision-makers' attitudes and perceptions towards eye health promotion policy.

The conceptual framework for eye health promotion policy analysis is shown in Figure 3.1. Each component of the framework is discussed briefly using theoretical considerations and supporting evidence from the literature section.

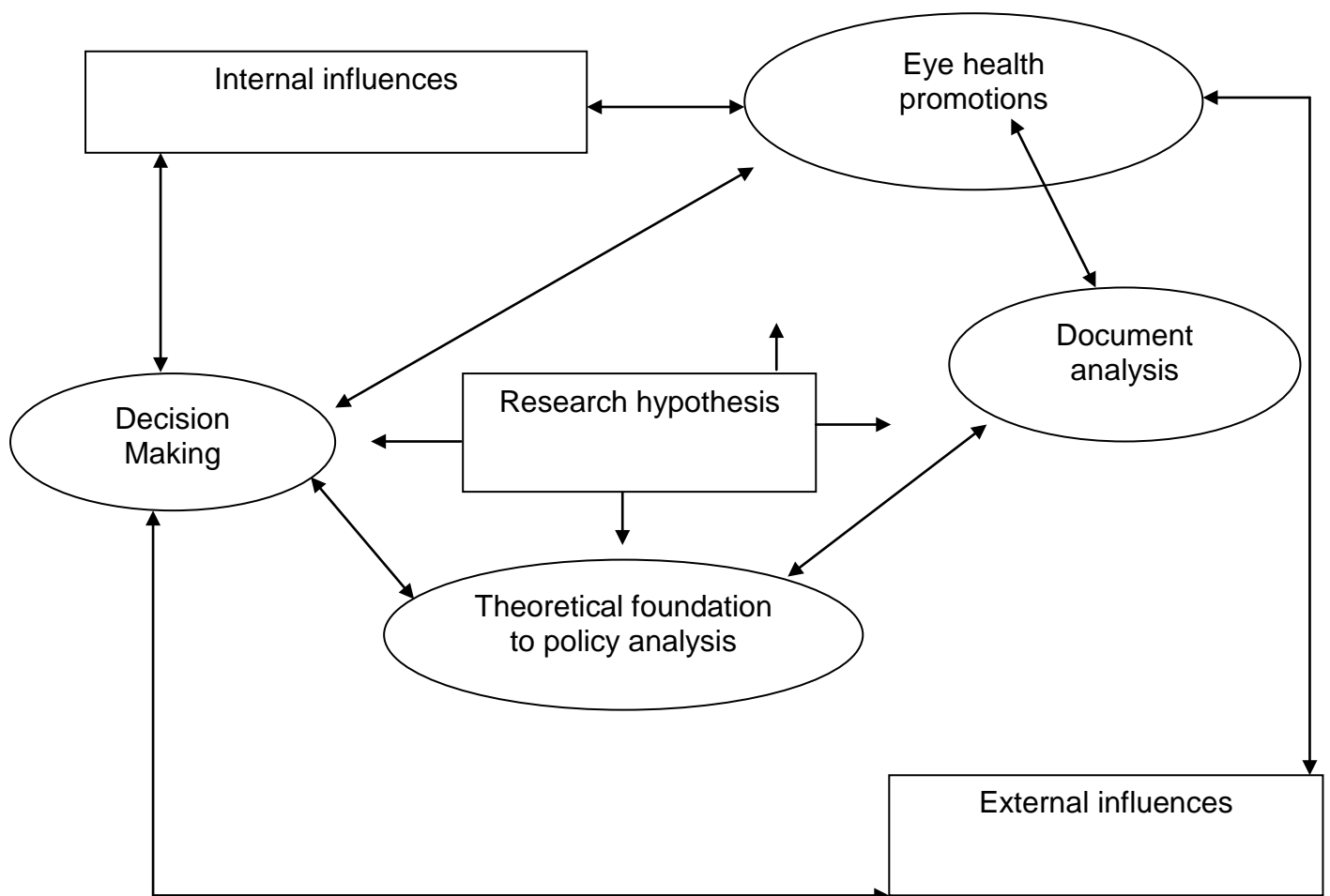


Figure 3.1: Showing the schematic representation of the conceptual framework for health policy analysis.

3.2 COMPONENTS OF THE CONCEPTUAL FRAMEWORK

3.2.1 Policy document analysis

The strategy for policy analysis referred to by Myburgh, Owen, Hobdell, Chikte, Matsinhe and Thorpe (2005:233) advocates a systemic approach to the identification and selection of evidence-based oral health policy priorities and interventions appropriate to local community settings. A similar strategy has been used to identify and select evidence-based eye health policy priorities and interventions in the general health promotion policy of South Africa. The research used the assumption that eye health promotion activities would thus not be uniformly expressed in all of the identified health programmes. Health promotion focal persons in the provinces would be in a better position to comment on the intricate details of the programme strategies, perceptions and expectations on eye health promotion.

Content analysis is defined as a systematic method to identify specific characters or themes and to draw logical conclusions from the presentation (Taylor, Haglund & Tillgren 2000:185). Content analysis of health policy documents would be important to characterise organizational changes, identify priorities and strategies for implementation and potential alliances and resources (Taylor et al 2000:185). Content analysis could also identify policy aspects that are important for eye health development but are not included in policy. Thus this analysis focused on the underlying philosophical approach that each policy document adopted. The inclusion of broad-based philosophical statements provided evidence for whether these statements were preventive or curative driven. Alternatively health policy statements could also indicate

whether health policies focused on health integration or vertical programme delivery.

3.2.2 Eye health promotion-related decision-making

The research used strategic mapping to identify health decision-makers involved in health policy development (Kerr, Taylor & Heard 1998:555). The research also used the assumption that health policy development has the potential to mobilise and support health action. The research built on the assumption that while there may be interest groups that have an explicit interest in eye health activities, there may also be decision makers in health management that will not have an explicit interest in eye health promotion but that they could prove to be very influential in determining the delivery and sustainability of eye health promotion services. The research used the theory that the leadership structure within the health system in South Africa may support change in response to changing external and internal conditions (Bracht 1990:53). These changes would include the generation of evidence based developments in eye health practices.

Decision makers in Health Promotion; Chronic Diseases, Disabilities and Geriatrics; Maternal, Child and Women's Health; Integrated Nutrition; HIV/AIDS and Youth Health cannot by definition be referred to as direct stakeholders in eye health promotion but they could be regarded as implicit stakeholders where they do not have an outright interest in eye health promotion but their influence could impact on the delivery and sustainability of eye health promotion services in South Africa. The research took into account that health policy studies are context specific and that

it would not be feasible to generalise the findings (Brugha & Varvasovszky 2000:239; Badura & Kickbusch 1991:60).

3.2.3 Key criteria to address health decision-making

The following key criteria were used to examine the eye health decision-making process in South Africa. The study needed to determine the extent to which eye health promotion is recognized as a priority and programmatic efforts at all levels of the health system. This required an examination of the extent to which eye health promotion efforts are included in other health policies and programmes at district level. The extent to which lifestyle induced risk factors to health are included in policy and programmes was also seen as an important factor for eye health promotion programmatic compatibility with district health activities. The study examined possible opportunities to include eye health promotion efforts in integrated district health service delivery. It was also important to identify specific strategies that could support and facilitate the inclusion of eye health promotion efforts onto the other identified health policy agendas.

The study also focused on any eye health promotion programmes and strategies that were available and further looked on the epidemiological basis of their selection and strategies (Box 3.1). The study attempted to determine the impact and availability of appropriate human resources on service provision. The study needed to determine the extent to which the current eye health promotion programmes have contributed to improved community health and to identify the possible barriers in this process.

The study examined possible influences on the eye health policy process. These included provisions on stakeholder involvement and the impact of budgetary allocations at provincial and district levels. Considerations were also given to the fact that eye health promotion activities could be in competition with other health issues on the policy agenda. Economic, socio-political and cultural influences were taken into account. The roles of any possible lobbies or special interest groups on eye health issues such as eye protection against radiation exposure were also considered.

Box 3.1 Criteria for guiding the analysis process

<i>Criteria for guiding the analysis process</i>
<ul style="list-style-type: none">• Eye health promotion as a priority in other district health activities'• Risk factor approaches to district health care• Support for eye health promotion in other health policy agendas• Evidence for improved community eye health• Epidemiological basis for policy proposals• Impact of appropriate human resources on service provision• Barriers to effective service delivery• Stakeholder involvement in eye health promotion activities• Impact of budgetary allocations on eye health promotion• External influences such as socio-economic, political and environmental impact on eye health promotion policy efforts

3.3 CONCLUSION

It is accepted that the conceptual framework would not be able to provide a complete and comprehensive explanation to eye health promotion-related policy and decision-making in South Africa. This limitation of the conceptual framework necessitated the development of further assumptions to guide the research process. These assumptions are presented as research questions: will the

inclusion of eye health promotion proposals or strategies in health policy help improve eye health status? There is general consensus that health promotion interventions do have a positive impact on community health. Does this imply that eye health promotion if properly executed, can also contribute to improved eye health status? Could improvements in community eye health be achieved without eye health promotion proposals, strategies and interventions being integrated into national or local health policy efforts? In other words can the absence of eye health promotion policy be the policy?

The conceptual framework was implemented in the research in four stages. The first two stages involving data collection and analysis are discussed in chapter four. The third and fourth stage of implementation process forms the core of chapter five. These stages involve the presentation and interpretation of the research findings. In summary, theoretical considerations were used to build the conceptual framework developed on specific assumptions. The use of health systems research that is grounded in the scientific process contributed to addressing the challenging questions posed in the research enquiry. The following chapter focuses on the actual process of data collection and analysis.

CHAPTER 4

RESEARCH DESIGN AND METHODOLOGY

4.1 INTRODUCTION

According to Mouton (2001:55-56), research design and methodology reflect the plan or blueprint of how the researcher conducted the research. The purpose of this research design and methodology chapter is to outline the overall structure or plan of the research and the research processes that were followed in executing this study. These are as discussed below.

4.2 RESEARCH DESIGN

Research design refers to the basic plan of the research designed to answer the research question (Vaus 2001:143). According to Peffers, Tuunanen, Rothenberger and Chatterjee (2008:45), a research design includes the planning of the research procedure as well as the procedure for data collection and analysis. It further explains whether the research is descriptive or experimental in nature as well as specifying the target population to be included in the study (Vaus 2001:143). The current study was descriptive in nature. According to Vaus (2001:143), descriptive research seeks to provoke the 'why' question of explanatory research and also seeks to determine why certain phenomenon occur whether in society or government. This therefore justifies the reason a choice of descriptive research was made in this study to explore the nature of complexities that contributed to the non-availability of an integrated eye health promotion model in South Africa. Thus, in this study, a combination of qualitative and quantitative research (triangulation) methods was used as a process to identify the

research population and obtain data on eye health promotion policy and activities in all nine provincial departments of health.

4.2.1 Qualitative research method

According Denzin and Lincoln (1994:18), qualitative research focuses on the interpretation of phenomena in their natural settings to make sense in terms of the meanings people bring to these settings. It is effective mostly when gathering data that involves the values, behaviours and opinions of a particular population (Polit & Beck 2008:12). Patton (2002:376) defined qualitative research as attempting to understand the unique interactions in a particular situation. The understanding of these interactions includes the understanding in depth of the fine characteristics of the situation and the meaning brought by those involved and the activities around them at a given time (Patton 2002:376). Therefore, this implies that qualitative research models an inductive process, assumes the mutual, simultaneous shaping of factors, maintains an evolving design in which categories are identified during the research process, and is characteristically 'context bound' (Bamberger 2000:123). This further explains that qualitative research reveals the actual feelings of the population with regard to any phenomenon that may be affecting their lives at any given moment. Thus, this kind of research has an element of self-proclaimed truths by the participants in the research study.

According to Mays and Pope (2006:14), qualitative research methods have much to offer to those studying health care and health services. As a way of confirmation, in earlier studies (Morgan & Watkins 1988:561; Strong & Robinson 1990:193), a

range of qualitative research methods was employed to tackle questions about social phenomena, ranging from complex human behaviours such as patients' compliance with treatment, and decision making by health care professionals through to the organization of the health system as a whole. Green and Britten (1998:1231) also argue that qualitative research approaches allow researchers to access lay and professional health beliefs, perceptions and attitudes and to provide adequate description that is a necessary prerequisite of any quantitative work. Furthermore, Sofaer (1999:1101) has reported that health researchers have begun to take up qualitative methods that were long utilized in the social sciences. It is upon this background that a qualitative research method was pursued in this study to determine disparities that exist in the formulation of health promotion strategies, especially eye health promotion, in South Africa.

4.2.2 Quantitative research method

Quantitative research is a type of research that aims to determine the relationship between an independent variable and a dependent or outcome variable in a population (Hopkins 2008:12). In this type of research method, data is expressed numerically and is collected by some means of measurement (Risjord, Moloney & Dunbar 2001:40). Also, the researcher expresses the relationship between variables using statistics such as correlations, relative frequencies, or differences between means (Hopkins 2008:12).

According to Mays and Pope (1995:109), quantitative methods have long dominated the health sciences, exemplified by the randomized control trial and its focus on hypothesis testing through

experiment controlled by randomization. Generally speaking, quantitative research models a deductive process, seeks cause and effect relationships, maintain a static design wherein categories are defined and isolated prior to study, and is typically 'context free' (Pope & Mays 1995:110). Therefore the use of quantitative research method has always been preferred in health studies. It is upon this background that this method was also pursued in this study.

4.2.3 Combined qualitative and quantitative methods (triangulation)

Methodological triangulation is the use of two or more different kinds of methods in a single line of inquiry (Risjord et al 2001:40). This method of approach to research is distinguished on the basis of the type of data used (textual or numeric; structured or unstructured), the logic employed (inductive or deductive), the type of investigation (exploratory or confirmatory), the method of analysis (interpretive or statistical), the approach to explanation (variance theory or process theory), and for some, on the basis of the presumed underlying paradigm (positivist or interpretive/critical; rationalistic or naturalistic) (Bazeley 2004:2).

According to Morgan (1998:362), health researchers have been especially interested in the possibility of combining qualitative and quantitative methods (triangulation). The most likely reason for this interest in triangulation is the complexity of the many different factors that influence health (Morgan 1998:362). Therefore, given all the factors that affect virtually every aspect of health, it is deemed easy to appreciate the different strengths that both

qualitative and quantitative research methods have to offer. Also, given the nature of this study, it became necessary to appreciate what both methods could offer in trying to answer the research question. As a result, this study used a triangulation approach.

4.2.3.1 Rationale for the integrated (triangulation) approach

According to Sandelowski (2000:246), triangulation provides the most persuasive evidence by reducing the level of uncertainty because a proposition can be confirmed by more than one independent measurement process. As a result, a combination of qualitative and quantitative information was therefore most applicable and relevant for data collection and analysis process in this study. Furthermore, a combination of these research methods was essential to explore theoretical considerations and paradigms in the health policy analysis (Bowling 1997:180) that was adopted in this study.

The integration of both qualitative and quantitative research methods was also necessitated by the association of health care problems with complexities such as social, economic, political and environmental factors (Sallis et al 2006:297). Therefore the use of qualitative research attempted to explore the diversity within an identified population (Williams, Barclay & Schmied 2004:942) and involved the conversion of observed data into synthesis, hypotheses and generalisation of the identified phenomena with regard to the factors stated above. Moreover, there is also an increasing awareness that qualitative data that explores theoretical considerations and paradigms have a significant role to play in health-related policy analyses (Bowling 1997:180; Ovretveit

1998:102; Meadows, Verdi & Crabtree 2003:981). On the other hand, the use of quantitative research aimed at generating data that was representative of a given population (Williams et al 2004:942) and was generally easy to conceptualise and was amenable to valid and reliable measurements (Bowling 1997:180) hence the technique was used in this study. Furthermore, quantitative research is depicted as the traditional scientific approach to research that has its underpinnings in the philosophical paradigm for human inquiry known as positivism (Sandelowski 2000:246). This further justifies the relevance of this research method as used in this study. Although both qualitative and quantitative research methods have individual strengths, their combination provided a more meaningful data in this study.

4.3 RESEARCH METHODOLOGY

Research methodology refers to the practices and techniques used to sample the population size and how data was processed and analysed (Vaus 2001: 143). According to Khothari (2003:7), a research methodology may be defined as academia's established framework for the collection and evaluation of existent knowledge for the purpose of arriving at, and validating new knowledge. Also, the importance of research methodology emanates from its definition of the activities of a specified research, its procedural methods, strategies for project measurements and criteria for research success (Khothari 2003:7). It now follows that this study used telephonic interviews, in-depth interviews and self-administered questionnaires as instruments to critically analyse the South African health care policies and programmes with regard to eye health promotion. Also, all available health policy documents

and material from national and provincial health directorates with the capacity to impact on eye health including all documents from the National Directorates of Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health as were reviewed.

4.3.1 Setting

The South African National Department of Health office in Pretoria and all nine provincial departments of health offices were the sites of this study.

4.3.1.1 Population and sampling

Purposive sampling, a deliberate non-random method of sampling (Bowling 1997:176), was used to identify eye health promotion-related decision makers in South Africa. This method was selected because of a finite number of decision makers in health policy development in all of the identified health research areas. The National Department of Health is structured in such a way that individual directorates may have sub-directorates or different components and sections in health management and decision making. It was therefore necessary to identify the relevant key players that are either directly or indirectly involved in eye health promotion related policy development. Therefore, all managers in the national directorates and those in the provincial directorates were interviewed. Also, eye care coordinators from all the provinces were involved in the study. The national and provincial directorates used in the sampling are as shown in Table 4.1.

Table 4.1: Study sample at National and Provincial levels

National Directorate	Provincial Directorate
<ul style="list-style-type: none"> • Health promotion • Chronic Diseases, Disabilities and Geriatrics • Integrated Nutrition Services • Maternal, Child and Women’s Health • Mental and HIV/AIDS unit • Youth Health 	<ul style="list-style-type: none"> • Health promotion • Chronic Diseases, Disabilities and Geriatrics • Integrated Nutrition Services • Maternal, Child and Women’s Health • Mental and HIV/AIDS unit • Youth Health

4.3.1.2 Sampling techniques

The sampling technique included the identification of health decision makers in the national and provincial health directorates. Subsequently, interviews were conducted with these decision makers. Furthermore, the sampling technique included the development of two separate questionnaires. These questionnaires were directed at provincial eye care coordinators and the identified health managers or decision makers in the provinces.

4.3.2 Data collection

4.3.2.1 Questionnaires

According to Boyntom and Greenhalgh (2004:1312), questionnaires offer an objective means of collecting information about people’s knowledge, beliefs, attitudes, and behaviour. A standard questionnaire consists of a set of predetermined questions presented in a specific, unvarying order, which provide strict control over interviewer behaviour (Boyntom & Greenhalgh

2004: 1312). This study also developed questionnaires to gather relevant information.

Questionnaires (Appendix A) were developed for managers in the provincial Directorates of Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health. Another set of questionnaires (Appendix B) were developed for the provincial eye care managers. The questionnaire attempted to establish the extent to which eye health promotion activities were covered in existing health interventions or programmes. Attitudes and perceptions towards integrated health programmes were also explored.

The questionnaire for eye care coordinators examined the provision of eye health priorities in the province in terms of social impact and effect on resource allocation. The questionnaire also examined the epidemiological evidence on eye diseases in an attempt to compare these findings with the actual programmes that were being carried out (Box 4.1). The impact of human resources on eye health promotion service delivery was also examined. The questionnaire explored provincial eye health policy development and examined rhetorical health policy statements such as integration and inter-sectoral collaboration. Also, the questionnaire examined the capacity of current programmes to contribute to improved community eye health. The contextual influences on eye health promotion were also considered.

Box 4.1 Summary of questionnaires for provincial eye care coordinators in the provinces

Summary of questionnaires for provincial eye care coordinators

- Eye health priorities in relation to social impact and resources
- Epidemiological evidence on the determinants of eye conditions in the province
- Current eye health promotion programmes
- Number and distribution of eye care coordinators in the province
- Evaluation of eye health promotion programmes
- Eye health promotion policy development
- Integration efforts
- Eye health promotion programmes with capacity to improve community eye health
- Contextual influences on eye health promotion

The questionnaire for provincial health managers attempted to examine the extent to which eye health promotion is covered in the identified health programmes. The questionnaire first outlined the health priorities that each of the individual health programmes address at provincial level (Box 4.2). The questionnaire also examined the manager's knowledge of existing eye health promotion activities in the province. It also examined the effect of addressing lifestyle-induced risk factors and health services integration efforts at district level. Furthermore, it also explored programmatic and policy support for eye health promotion in the province.

Box 4.2 Summary of questionnaires for provincial health managers

Summary of questionnaires for provincial health managers

- Health priorities in the province
- Eye health promotion activities in the province
- Addressing lifestyle induced risk factors
- Policy statements on eye health
- Programmatic support for eye health promotion at a district level
- Integration efforts
- Support for eye health promotion in the province

The questionnaires for health managers consisted of both open-ended questions, and positive and negative responses to loaded statements (Adams & Cox 2008:17). All individuals in the study sample were first informed of the intended research and a formal request was made for participation. Questionnaires were then emailed or posted manually to all participants. Regular telephonic follow-up was done to motivate participation in the research.

4.3.2.2 Interviews

4.3.2.2.1 In-depth interviews

According to Legard, Keegan and Ward (2003:139), in-depth or unstructured interviews are excellent tools to use because they use open-ended questions, discovery-oriented method, which allows the interviewer to deeply explore the respondent's feelings and perspectives on a subject. This results in rich background information that can shape further questions relevant to the topic (Legard et al 2003:140). The key characteristics of the interviews in this study included open-ended questions, semi-structured

questions, seeking understanding and interpretation of what was being said, and recording of responses.

The first phase of the interview (Appendix C) was conducted with the National Directorate of Chronic Diseases, Disabilities and Geriatrics. The second phase of the interviews (Appendix D) was with the National Directorate of Health Promotion. This was done to understand the processes involved in the selection and implementation of eye health promotion activities. A prepared protocol of questions was developed before the interview. These questions included eye health promotion policy development, current strategies and interventions and future directions in eye health promotion. A copy of the interview protocol was presented to the participants in advance. This allowed the participants to be familiar with the questions being asked.

A short discussion was held before the interview could commence. This was to set the tone and atmosphere of the interview (Gubrium & Holstein 2001:537). The expectations and parameters of the interview and the goals and objectives were discussed with the participants. Permission was obtained to tape record the interview and issues of confidentiality were iterated. The tape-recorded version ensured that there were verbatim records of the interview. Apart from the tape recording, some process notes on the interview were taken down manually in order to have a better understanding of the interaction during the interview (Gubrium & Holstein 2001:537). The duration of the interview was one hour. The interview was conducted at the National Department of Health in Pretoria for the participants' convenience.

The third phase of the interviews (Appendix E) was set up with the National Directorates of Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health. Interviews had to be structured to ensure emphasis on the research area.

4.3.2.1.2 Telephonic interviews

A telephone interview in research terms is a strategy for obtaining data which allows interpersonal communication without a face to face meeting (Carr & Worth 2001:511). The increasing popularity of the telephone interview as a research method may in part reflect broader social change and technological advances, with increased use and acceptability of telecommunications to support healthcare (Carr & Worth 2001:511). In this study, telephonic interviews were done with the National Directorates of Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health all identified health promotion managers in the provinces. All structured questions for the interview are as shown in Appendix F.

4.3.2.3 Policy documents

Policy documents in the identified health areas were obtained electronically from the National Department of Health's Website in South Africa and through telephonic requests from the various national and provincial health directorates. The criteria for assessing health policy documents were that the document had to be produced by the Department of Health or endorsed by the Department of Health in South Africa. The research focused on documents that were related to the research area. All other health

policy documents were excluded. Only health documents produced after 1993 (post-apartheid) were considered for analysis.

Data collected for health policy document analysis was divided into two groups, namely health policy documents and eye health policy documents. The following section outlines the policy documents selected for general health and eye health respectively.

4.3.2.3.1 Health policy documents

Health policy documents that were identified are listed in Tables 4.2 and 4.3. The selection of these documents was based on the recommendations presented in *The primary health care package for South Africa – A set of norms and standards (2001)* but was subjected to the availability and accessibility of these documents.

Table 4.2: National health policy documents

Serial No.	Policy document	Directorate/cluster
1	National guidelines for the Development of Health Promoting schools/sites in South Africa: Draft 4 (2000)	Health Promotion with Department of Education and Welfare
2	Dietary Guidelines for South Africa (2001)	South African food-based Dietary Guidelines Work Group
3	Integrated Nutrition Programme Strategic Plan 2000/1-2006/7 (2001)	Directorate Nutrition and Provincial Nutrition Units
4	Maternal, Child and Women's Health Care Draft Policy (1 st Draft 1995)	Cluster MCWH
5	National School Health Policy and Implementation Guidelines (Draft 2000)	Sub-Directorate Child Health
6	Policy Guidelines for Community Health Workers in South Africa (Draft 1997)	Directorate Chronic Diseases, Disabilities and Geriatrics
7	Policy Guidelines for Youth and Adolescent Health (2001)	Cluster MCWH and Nutrition
8	HIV/AIDS STD Strategic Plan for South Africa 2000-2005 (2000)	Directorate HIV/AIDS and STDs
9	A Comprehensive Primary Health Care Service Package for South Africa (2001)	National Department of Health
10	The Primary Health Care Package for South Africa – A set of Norms and Standards (2001)	National Department of Health

Table 4.3: Provincial health policy documents and reports

Serial No.	Policy document or report	Province
1	Policy guidelines on Health promotion (Draft undated)	Department of Health and Social services: Limpopo
2	Draft HIV/AIDS Related illness Workshop. Policy for the Northern Province Government Department (2001)	Limpopo
3	Integrated Nutrition Programme - Strategic Framework 2001-2005	Department of health: North-West
4	KwaZulu-Natal Policy Document on Community Health Workers (Undated)	KwaZulu-Natal Department of Health
5	Strategic Plan for the Department of Health (1999)	Eastern Cape
6	Draft Strategic and Service Delivery Improvement Plan (Undated)	Western Cape
7	The Mpumalanga Provincial Growth and Development Strategy (Undated)	Mpumalanga
8	Draft Policy Document: Health Promotion 3 rd Draft (1997)	KwaZulu-Natal
9	Report on the Status of HIV/AIDS Programmes undertaken by the Department of Health in the Free State (2001)	Free State
10	2000-2001 Annual Report of the Gauteng Provincial Aids Programme	Gauteng

4.3.2.3.2 Eye health promotion documents

The research selected all the following guidelines as eye health policy documents for analysis:

- National guideline on the prevention of blindness in South Africa
- National guideline on the management and control of eye conditions at primary level
- National guideline on refractive error screening for persons 60 years and older
- National guideline on cataract surgery

These were the only guidelines selected and all represented policy on eye health promotion (Croasdale 2008). Also, they were selected so that previously identified limitations that were already addressed could be excluded from the analytical process.

Statistical data was requested from the National Directorate of Chronic Diseases, Disabilities and Geriatrics where the eye health promotion unit is located. Other eye health promotion statistics were requested from all the provincial health departments.

4.3.3 Ethical considerations

Ethics as a discipline is the study and analysis of values and standards related to duty, responsibility, and right and wrong behaviour (Bailey and Heitman 2000:12). According to Burris, Gable, Stone and Lazzarini (2003:654), ethical issues are present in any kind of research especially where human subjects are involved. Since this study also involved human subjects, the proposal was therefore submitted to the University of South Africa Ethics Committee for approval as well as the National Department

of Health in Pretoria to conduct research in all provincial departments of health. The letters of approval are as shown in Appendix G. Furthermore, the University of South Africa consent form (Appendix H) was given to each participating subject for completion. Each of them was told that participation in the study was voluntary. Only those who completed the form were allowed to participate in the study.

4.3.4 Data analysis

4.3.4.1 *Analysis of interviews data*

Data for each interview phase was analysed separately. According to Singh (2005:112), at the transcription phase, it is necessary to differentiate between that said and what and how it was said. As a result, data analysis began by writing individual case studies for each of the interviews conducted. The raw and transcribed data was then organised, checked and verified for quality purposes and then analysed inductively using the concept of logical analysis (Patton 2002:376).

Data analysis for all qualitative data in the research was conducted in four steps. The first step involved quotations in perceptions, policy formulations, integration of district health services and support for eye health promotion in policy. This means that the analysis process began with an observation and measurement of the data. In the second step, quotations were again analysed to obtain a broader description of the content and the variation in the themes. The patterns, themes and categories that emerged from the inductive analysis were then further analysed for emergent patterns, and linkages were made with various parts of the data

collected (Patton 2002:377). The third step involved the differences noted between health policy documents and the themes prioritised by health decision-makers. Cross-classification of these dimensions provided new insights into the data that was not previously considered. The fourth step involved applying guiding principles of the conceptual framework to have an in-depth understanding of the themes. This form of integrating all aspects of data collection provided a new understanding of the research process.

4.3.4.2 Analysis of questionnaire data

Data derived from questionnaires were coded using deductive coding for closed questions and inductive coding for open-ended questions. Deductive and inductive reasoning are data gathering approaches that focus on theory development from an idea or an idea generating from a set of observations (Elliot 2004:202). The advantage of this approach is that it allows for new codes to develop through the inductive process when these codes were not previously thought of (Bowling 1997:180). Care was also taken to ensure that the codes were mutually exclusive. This implied that a code could fit into only one category and that all codes were applied consistently. The research prepared a codesheet that consisted of a copy of the questionnaire with all the codes and categories that were used. Data was then analyzed using the Statistical Packages for Social Sciences (SPSS).

4.3.4.3 Analysis of health policy documents

The research developed a common set of criteria that was systematically applied to the documents analysed. Health policy document analysis was conducted in stages (Box 4.3). The initial stage of health policy document analysis was the same as when the reference documents were first identified. The next stage involved identification of statements on eye health promotion. If eye health or eye health promotion was mentioned in policy statements then the analytical process proceeded to determine if there was a rational or scientific basis to the selection of these strategies. A pre-determined set of criteria based on evidence findings was developed from the literature.

If eye health was not mentioned in policy documents then the next stage was to identify the provision for lifestyle induced risk factors. The analytical process attempted to determine if eye health promotion could be incorporated into the lifestyle induced risk factor element in health policy documents.

Box 4.3 Analyzing health policy documents

Analyzing health policy documents

Stage 1

- Identify reference documents

Stage 2

- Locate eye health or eye health promotion in document
- Is there a scientific basis to the selection of eye health promotion strategy?

Stage 3

- Does policy document mention lifestyle induced risk factors?
- Can eye health promotion be incorporated into this section of policy?
- How can eye health promotion be incorporated?

4.3.4.4 Analysis of eye health documents

The first stage was to examine statements for the identification or citation of reference documents. These reference documents were important because they indicate the philosophy that underlines health policy documents. References to other host documents also helped to determine if these health policy documents were in line with national documents such as the Constitution of South Africa (1996) or other documents that guide the restructuring process in health and social development in post-apartheid South Africa. The next stage in eye health policy analysis involved locating eye health promotion elements in policy statements. The context in which eye health promotion is expressed was also examined. The analysis process attempted to identify recipients of the programmes or interventions, human resources and levels of care and service provision. The third stage of the analysis process was to determine if there was a rational and scientific basis to the selection of eye health promotion needs, priorities and strategies (Box 4.3). The criteria for eye health needs assessment looked at

epidemiological prevalence, impact on health resources, community well-being and whether health priorities or needs are localised or population-wide.

Box 4.3 Analyzing eye health documents

<i>Analyzing eye health policy documents</i>
Stage 1 <ul style="list-style-type: none">• Identify reference documents
Stage 2 <ul style="list-style-type: none">• Locate eye health promotion in document• List the proposals or statements made• State the context in which eye health promotion is expressed• Identify recipients, levels of care, human resources
Stage 3 <ul style="list-style-type: none">• Compare identified strategies with evidence-based literature

Any possible proposals on eye health promotion strategies and interventions were critically compared with published evidence-based literature. The research focused on specific evidence-based findings that have been proven to be capable of contributing to improvements in community eye health in a cost-effective manner.

4.4 EXTERNAL AND INTERNAL VALIDITY OF DATA

External validity was obtained by ensuring that all data collection process focused on the objective of the study. The interview for provincial health managers addressed questions derived directly from questionnaire for provincial health managers. This ensured that the investigation was focused. According to Bowling (1997:180), the research should apply different forms of validity to test the internal validity of the data analysed. Thus, face validity was used to test the presentation and relevance of the

questionnaires and telephonic interviews. Also, the research ensured that the questions presented were focused, reasonable, unambiguous and clearly stated. Furthermore the use of hypotheses or theory was used to test validity. Then the collected data was analysed in comparison with the research hypotheses.

Bowling (1997:180) further suggests that the reliability of the data be tested using internal consistency. This process usually involves ensuring that the questions presented in the questions and interviews could be classified in one category only. Bias and error was reduced by ensuring that statements requiring a positive or negative response were followed by providing reasons for selecting that particular response. Bias in handling outliers was eliminated by repeating the data capturing process and by comparing the data fields for consistency. Each correspondent was made aware of the nature of the interview. This reduced evaluation apprehension. All interviews for the directorates in Nutrition, Maternal Health, Child and Youth Health and HIV/AIDS unit were standardised to reduce bias. Also, the analysis of all identified policy documents was standardised.

4.5 DISSEMINATION OF RESULTS

The results of the study forms part of a dissertation for a DLitt et Phil in Health Studies degree at the University of South Africa. Some parts of the research have been published in a peer reviewed journal.

4.6 CONCLUSION

The primary aim of this chapter was to outline how the practical aspects of the research were applied. It detailed how every aspect of the research was carried out to yield the expected outcome. Also, the involvement and participation of relevant stakeholders became crucial in enabling the empirical elements reach its envisaged fruition.

CHAPTER 5

ANALYSIS, PRESENTATION AND DESCRIPTION OF THE RESEARCH FINDINGS

5.1 INTRODUCTION

The previous chapter addressed the research design and methodology of the research. These aspects of the research process were viewed as concurrent and complementary mechanisms, rather than two peripheral means designed for a common end. In a similar vein, the current chapter views the qualitative and quantitative presentation and analysis/interpretation of the data collection and dissemination process as cast in a symbiotic mode. The data presentation process has been configured through the integration of the qualitative and quantitative data. Therefore this chapter integrates the results obtained from data collection and analysis. This includes data collected through interviews and questionnaires with health management. The results include eye health-related decision making, the provision of eye health promotion activities and its current delivery at community level and health document analysis. Any available records on eye health promotion activities could not be established. These issues form the central research theme and all data obtained is discussed in relation to these core issues.

5.1.1 Health priorities and eye health promotion programmes

Questionnaires (Appendix A) were distributed among all managers of the Chronic Diseases, Disabilities and Geriatrics, Integrated Nutrition Services, Health Promotion, Mental Health and HIV/AIDS, Maternal, Child and Women's Health and Youth Health

Directorates to establish and confirm any activities related eye health promotion in their health promotion programmes.

Another set of questionnaires (Appendix B) were administered to all eye care managers in 8 provincial health departments to establish the provision of eye health promotion activities in their programmes including the current mode of delivery at community level. The Northern Cape Province was not included because it does not have an eye care manager. The response rate of the approached eye care managers was 100%.

5.1.1.1 Health priority areas in South Africa

Provincial health directorates' managers (n=54) have indicated that HIV/AIDS (40%) is given more priority above the rest of other health priorities. The other health priorities are as shown in Figure 5.1.

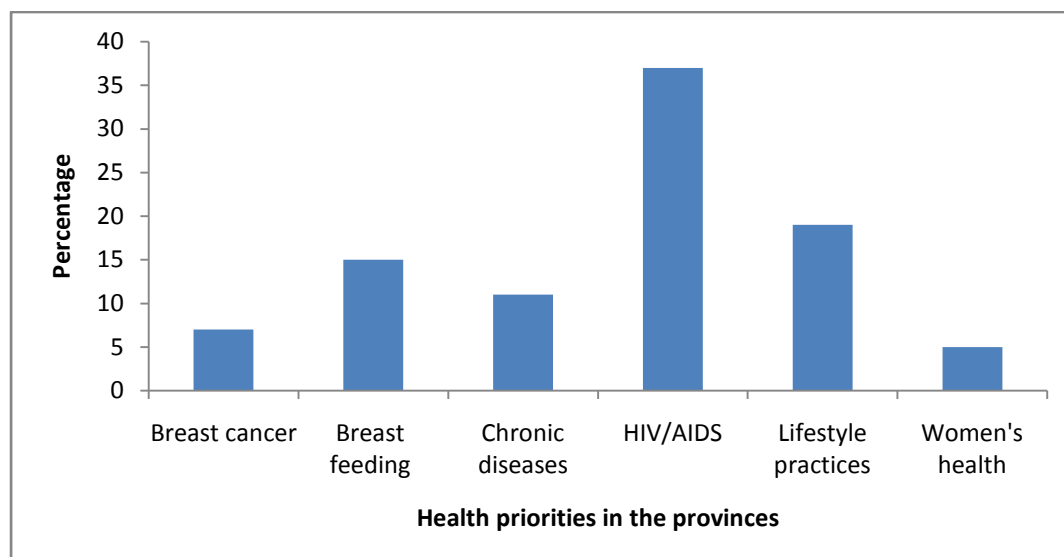


Figure 5.1: Health priorities in the South African Provinces.

The provinces had different health priorities and these are shown in Table 5.1. Each province had six managers who were heads of the various health directorates in their respective provinces.

Table 5.1: Showing trends of health priorities across South African provinces.

Provinces	Health priorities						Total
	Breast cancer	Breast feeding	Chronic diseases	HIV/AIDS	Lifestyle practices	Women's Health	
Northwest	0	1 (17%)	0	4 (67%)	0	1 (17%)	6
Mpumalanga	1 (17%)	2 (33%)	0	3 (50%)	0	0	6
Gauteng	0	1 (17%)	0	4 (67%)	0	1 (17%)	6
Free state	1 (17%)	1 (17%)	0	4 (67%)	0	0	6
Western Cape	1 (17%)	1 (17%)	1 (17%)	1 (17%)	2 (33%)	0	6
Eastern Cape	0	1 (17%)	1 (17%)	0	3 (50%)	1 (17%)	6
Northern Cape	1 (17%)	0	1 (17%)	1 (17%)	1 (17%)	1 (17%)	6
Limpopo	0	1 (17%)	1 (17%)	1 (17%)	3 (50%)	0	6
KwaZulu-Natal	0	0	2 (33%)	2 (33%)	1 (17%)	1 (17%)	6
Total	4 (7%)	8 (15%)	6 (11%)	20 (37%)	10 (19%)	5 (9%)	54

HIV testing and screening for chronic diseases (37%) have been reported to be the most leading health intervention strategies to meet health priority areas in the South African provinces. Other strategies are as shown in Figure 5.2.

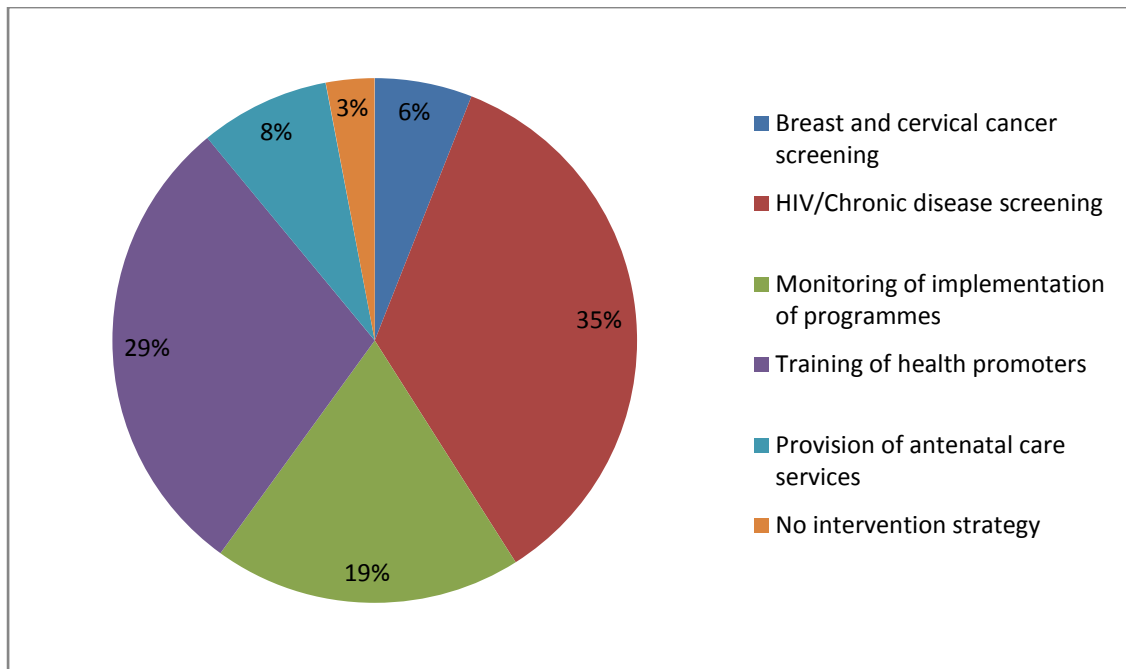


Figure 5.2: Health intervention strategies designed to meet health priorities in the South African provinces.

Different provinces use different strategies to meet health priority needs. HIV/AIDS account for 83% of the strategy focus in KwaZulu-Natal Province while Gauteng focuses 100% on the training of health promoters and these are shown in Table 5.2.

Table 5.2: Showing the trends of strategies designed to meet health priorities across the provinces of South Africa by different health directorates.

Provinces	Strategies designed to meet health priorities						Total
	Training of health promoters	Monitoring of implementation	Provision of antenatal services	Breast and cervical cancer screening	HIV/Chronic disease screening	No employed strategy	
Northwest	0	1 (17%)	1 (17%)	0	3 (50%)	1 (17%)	6
Mpumalanga	1 (17%)	1 (17%)	1 (17%)	1 (17%)	2 (33%)	0	6
Gauteng	6 (100%)	0	0	0	0	0	6
Free state	1 (17%)	2 (33%)	0	1 (17%)	2 (33%)	0	6
Western Cape	2 (33%)	1 (17%)	1 (17%)	1 (17%)	1 (17%)	0	6
Eastern Cape	3 (50%)	0	1 (17%)	0	2 (33%)	0	6
Northern Cape	0	0	1 (17%)	1 (17%)	2 (33%)	0	6
Limpopo	0	4 (67%)	0	0	2 (33%)	0	6
KwaZulu-Natal	1 (17%)	0	0	0	5 (83)	0	6
Total	14	9	5	4	19	1	54

5.1.1.1.1 Integration of eye health promotion programmes

Majority, 37 (77%), of the health directorates' managers across all provinces have reported that vision screening has not been integrated within their health promotion programmes. Only 11 (23%) reported that they have integrated vision screening in their health promotion programmes. Also, majority, 29 (78%), of managers who reported that vision screening was not part of their health promotion programmes attributed this situation to a lack of resources. The rest, 8 (22%), reported that vision screening was not their responsibility. However, the Western Cape Province does not conduct vision screening exercises at all as shown in Table 5.3.

Table 5.3: Showing health directorates across national provinces that conduct vision screening during their health promotion programmes.

Provinces	Vision screening in the provinces		Total
	Yes	No	
Northwest	1 (17%)	5 (83%)	6
Mpumalanga	2 (33%)	4 (67%)	6
Gauteng	2 (33%)	4 (67%)	6
Free state	1 (17%)	5 (83%)	6
Western Cape	0	6 (100%)	6
Eastern Cape	2 (33%)	4 (67%)	6
Northern Cape	1 (17%)	5 (83%)	6
Limpopo	1 (17%)	5 (83%)	6
KwaZulu-Natal	1 (17%)	4 (67%)	6
Total	12	42	54

Improvement on eye health is not mentioned in the policies of different health directorates. This is confirmed by 37 (77%) of the managers who reported this. The reasons given include none availability of information about eye care, 8 (22%); lack of budget for eye care, 16 (43%); lack of cooperation among health directorates, 9 (24%); no knowledge of reasons for the non-mentioning of eye care issues in policy, 4 (11%). Only 11 (23%) reported that there was a mention of eye health improvement in their policies for health promotion programmes. The statements in the policies included requests for adequate funding and making eye care accessible as reported by 5 (45%) and 6 (55%) of the managers respectively.

A few, 13 (27%), of the provincial health directorates' managers reported that they include eye health information/education messages in the implementation of their health promotion programmes. However, only 2 (5%), reported that there are records as evidence of messages included in their programmes. The rest, 35 (73%), reported that no eye health information/education messages were included in their health promotion messages.

Majority, 14 (29%), have indicated that eye health care can only be placed in their agenda by discussing with provincial eye care managers, 6 (13%) indicated that eye health care can only be placed in their agenda if health directorates in the province cooperate . Only 7 (15%) reported that eye health care is already in their agenda. Although 2(4%) reported only the directorate responsible for eye care can have such messages on their agenda, others, 13 (28%), reported that it was impossible for their directorates to include eye health care in their health promotion agenda.

5.1.1.2 Eye health priority areas

A total of 8 eye care managers completed the questionnaire in eight provinces excluding the Northern Cape Province. According to the survey, cataract, refractive error, stye, pterygium, pinguecula, bacterial, viral and allergic conjunctivitis are the most prevalent eye conditions across the country. All these conditions have a severe impact on eye health resources such as finance, manpower and logistical implications. Cataract (100%) has severe social impact and demands more resources across South Africa.

The level of their severity in terms of social impact and effect on eye health resources is as shown in Figure 5.3.

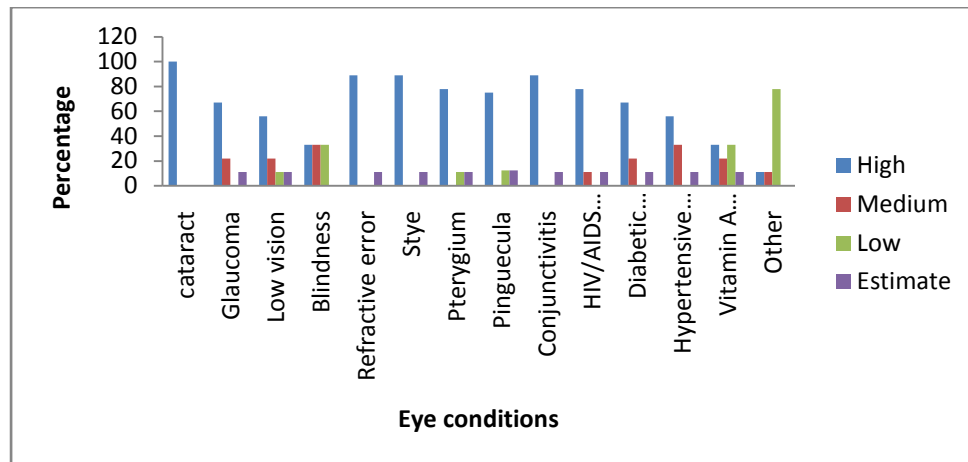


Figure 5.3: Showing eye conditions that have different levels of social impact and effect on eye health resources.

Despite the reported severity of the social impact of various eye conditions on the people, 6 (75%) of the managers reported that there was no epidemiological evidence to support this claim. Others, 2 (25%), reported that statistical information was available at the offices of the National Department of Health. However, this information could not be verified.

5.1.1.2.1 Risk factors for eye health conditions

The determinants of risk factors associated with eye health conditions in the urban and rural areas are as shown in Table 5.4.

Table 5.4: Estimates for risk factors for eye health conditions identified by eye care managers in the provinces.

Determinants of risk factors	Distribution							
	Urban				Rural			
	High	Medium	Low	Don't know	High	Medium	Low	Don't know
Lack of access to basic eye care services	1 (13%)	1 (13%)	6 (75%)	0	6 (75%)	1 (13%)	1 (13%)	0
Dietary intake	8 (100%)	0	0	0	4 (50%)	0	3 (38%)	1 (13%)
Lifestyle practices	7 (88%)	0	0	1 (13%)	5 (56%)	1 (13%)	2 (25%)	0

5.1.1.2.2 Eye health promotion programmes

School visits accounted for 75% of eye health promotion programmes in the provinces. Other eye health promotion programmes are as shown in Figure 5.4.

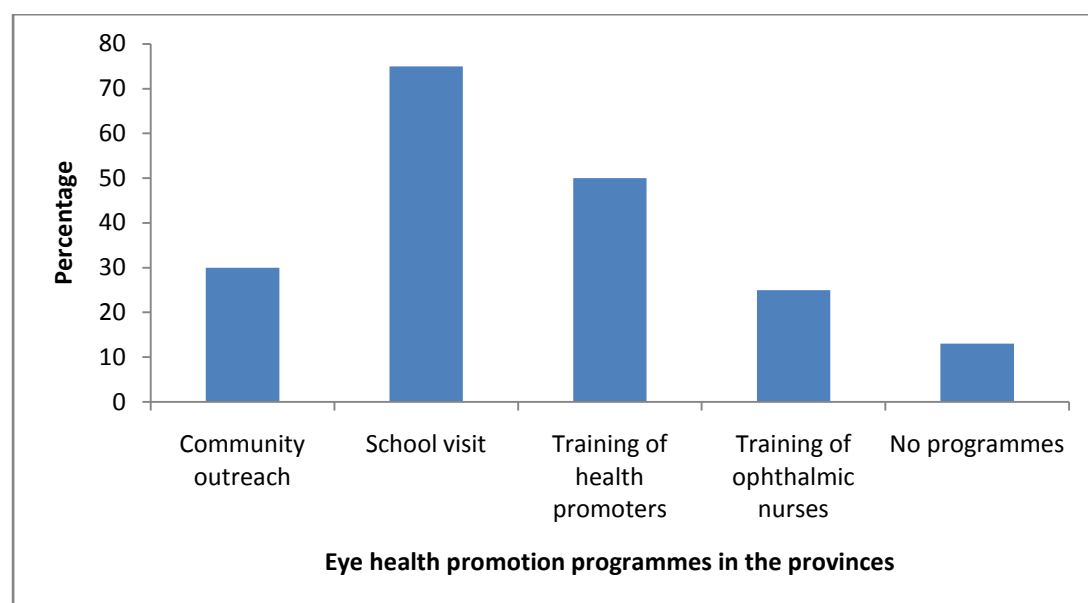


Figure 5.4: Showing health promotion programmes across the country.

Apart from the Northern Cape Province which has no eye care manager and consequently no eye health promotion programmes, the Western Cape Province also does not have eye health promotion programmes. Other health promotion strategies in the provinces are as shown in Table 5.5.

Table 5.5: Strategies for eye health promotion employed by eye care managers in the provinces.

Provinces	Health promotion strategies in the provinces				
	Community outreach	School visits	Training of health promoters	Training of ophthalmic nurses	No Programmes
Gauteng	1	1	1	1	0
Free state	0	1	0	0	0
Western Cape	0	0	0	0	1
Eastern Cape	0	1	1	0	0
Limpopo	1	1	0	0	0
KwaZulu-Natal	1	1	1	0	0
Mpumalanga	0	0	1	1	0
Total	3	6	4	2	1

5.1.1.2.3 Distribution of optometrists in the public sector

The Limpopo Province has the highest number (n=135) of optometrists followed by KwaZulu-Natal Province (n=38). The Northern Cape Province does not have optometrists in the public sector. The number of optometrists in the provinces is shown in Figure 5.5.

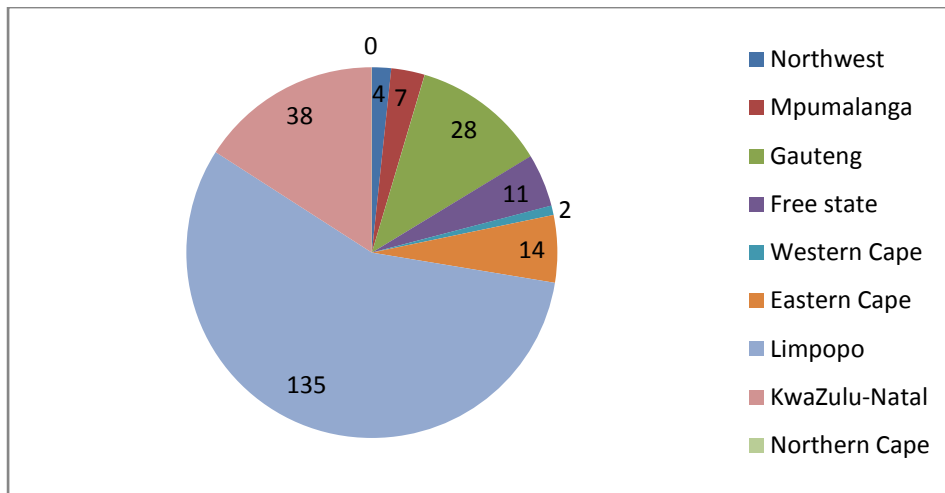


Figure 5.5: Showing the distribution of optometrists across all provinces.

5.1.1.2.4 Distribution of ophthalmic nurses in the public sector

The KwaZulu-Natal Province has the highest number (n=110) of ophthalmic nurses followed by the Limpopo Province (n=70). The least number (n=6) of ophthalmic nurses is found in both the Northwest and Western Cape Provinces. The number of ophthalmic nurses in the provinces is shown in Figure 5.6.

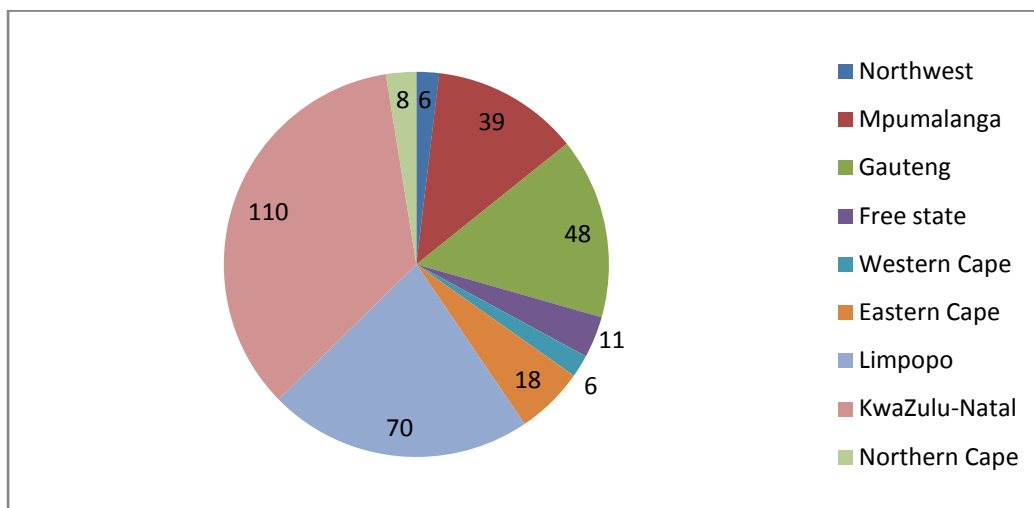


Figure 5.6: Showing the distribution of ophthalmic nurses across all provinces.

5.1.1.2.5 Methods used to evaluate eye health promotion programmes

Majority, 6 (75%), reported that there were no eye health promotion evaluation methods in their provinces while the other 2 (25%) reported that they do monitoring visits in their provinces. These provinces were reported to be KwaZulu-Natal and Gauteng.

5.1.1.2.6 Personnel involved in the evaluation of eye health care promotion programmes

In Gauteng, it has been reported that health promoters are responsible for the evaluation of eye care programmes. However, the KwaZulu-Natal province uses both optometrists and ophthalmic nurses to evaluate their programmes.

5.1.1.2.7 Eye health care accessibility

In the urban areas, an estimated 60% of the population have access to eye health care while in the rural areas, only an estimated 30% of the population have access to eye health care.

5.1.1.2.8 Eye health policy development

About 5 (62%) eye care managers reported that there were no operational eye health policy directives in their respective provinces. Only 1 (13%) eye care manager reported provincial operational plans as a policy directive for eye health policy development. The other 2 (25%) indicated that they use the national guidelines on eye care as their policy directive for the development of any eye health policy development in their respective provinces.

Majority, 6 (75%), reported that eye health promotion activities have been integrated with other health promotion programmes in their respective provinces. Of these, 5 (62%), reported that eye health care programmes have been integrated with those in the Directorate of Chronic Diseases, Disabilities and Geriatrics. The rest, 2 (25%), have indicated that there is no integration with other health care services in their respective provinces.

About 4 (50%) eye care managers believed that the training of health promoters, with others, 2 (25%), believing that the training of community workers, and only 1 (12%) believing that the employment of optometrists in the public sector could promote the efficiency in health education, service improvement and advocacy for policies that promote eye health. Furthermore, 5 (63%) eye care managers reported the lack of capacity as a hindrance to effective eye health promotion in the provinces. The others, 3 (37%), indicated that the lack of health promoters undermines any strategies or interventions usable to enhance eye health promotion in their respective provinces.

However, majority, 5 (63%), of eye care managers reported that their current eye health promotion strategies work effectively with the other 3 (37%) reporting that their strategies are not adequate for effective eye health promotion. Of the 5 eye care managers who reported that their eye health promotion strategies work efficiently, 4 (50%) reported that their health promotion strategies have been successful in contributing to improved community eye health. Consequently, it has been reported that increased out-

patient-department and district clinic eye patients count confirmed the success of their strategies.

All eye care managers (n=8) reported that there were no national/provincial strategies that they could consider for further development of eye health promotion programmes to achieve the goals of improved community eye health. Also, they all reported that the lack of budget for eye care programmes impact on the implementation of eye health promotion programmes Furthermore, all indicated that other health concerns are prioritized over eye health care thus negatively affecting the provision of community eye health promotion.

5.1.2 Eye health promotion-related decision making at national level

Interviews were conducted with specific directorates that were approached and they all agreed to participate in the study. An in-depth, face to face interview (Appendix C) was conducted with the National Directorate of Chronic Diseases, Disabilities and Geriatrics (n=1). Another interview (Appendix D) was conducted with the National Directorate of Health Promotion (n=1). Furthermore, structured and non-standardised telephonic interviews (Appendix E) were conducted with the National Directorates of Integrated Nutrition Services; Maternal, Child and Women's Health; Youth Health; Mental Health and HIV/AIDS Unit (n=4). Therefore, the response rate of the approached national directorates' interviews was 100%.

During the interview, the National Directorate of Chronic Diseases, Disabilities and Geriatrics indicated that eye health promotion issues are part of national guidelines (n=4) on different aspects of eye care. The results indicate that the guidelines are not a formal policy on eye health promotion. This is reflected in the following quotation:

“We only have national guidelines on various aspects of eye care and in the absence of any policy on eye health promotion, the guidelines will serve as a policy directive for eye health promotion in the country”.

When asked to what extent does the programmes/strategies on eye health promotion work and their effectiveness, the responses were that ‘there is no adequate capacity for eye health promotion in the provinces and that the lack of an integrated policy on eye health promotion makes it difficult for those in eye care at provincial level to carry out eye health promotion related activities’. The Directorate conceded that any eye health promotion activities done at provincial levels were the initiatives of the individual provinces.

On the question of the availability of evidence for success on any programmes/strategies for eye health promotion employed by provinces, the response was ‘there is no data base of any evidence of any eye health promotion work being done by provinces and this is largely related to capacity issues in all provinces’.

The National Directorate of Chronic Diseases, Disabilities and Geriatrics believes that success in eye health promotion could be achieved through a well structured integrated eye health promotion policy that is integrated with other health promotion activities and that there is a need for advocacy for eye health promotion funding at national level in order for any strategies/programmes to be successful at provincial level. Also, the directorate believes that there should be community participation for the programmes to be successful. This is reflected in the following response:

“The fragmented guidelines on different aspects of eye care should be further developed into one integrated policy from which all provinces can draw their eye health promotion activities. Also, the policy must have provisions for capacity to evaluate these programmes for efficiency reasons. Furthermore, eye health promotion activities should be integrated with other health promotion activities that are done by other directorates at provincial level. However, this will only be possible if government is prepared to fund the backlog of eye care professional’s vacancies in the provinces. Another important element is if we encourage members of communities to participate in the programmes, there could be a much better eye care awareness. For example, if we encourage communities to eat a balanced diet, the general health of such community members will improve and consequently their eye health will also improve”.

The National Directorate of Chronic Diseases, Disabilities and Geriatrics further indicated that since there is no policy on eye health promotion, other directorates have never been contacted for

any policy discussions. Similarly, the directorate is generally also not consulted for any policy formulations by other directorates. The Directorate believes that eye health promotion activities cannot be easily placed on the policy agenda of other health directorates. This is reflected in the following response:

“Different health directorates have different health priorities and as a result eye health promotion will not be given adequate attention by these directorates. Even in our own directorate, eye health promotion is not given the first priority and that confirms how challenging it may be for other health directorates to prioritize eye health than their own health priorities”.

Although the directorate understands that including eye health promotion proposals, strategies and interventions in eye health policy development may contribute significantly in the improvement of community eye health, it also believes that the lack of capacity and a stand-alone eye health promotion unit will always make eye health promotion to be considered as not being more important than other health priorities. It believes that South Africa as the economic hub of Africa should be having its own eye health promotion unit and that is the only way through which its eye health promotion proposals, strategies and interventions can have a significant impact on the African continent at large. This is reflected in the following response:

“The lack of eye health promotion directorate in the South African health care system greatly compromises any strategies and programmes for eye health promotion. Also, the obvious lack of

dedicated eye health promotion personnel in the provinces is as a result of the lack of an integrated policy in eye health promotion. As the economic hub of this continent, we were supposed to be playing a leading role in eye health promotion but then again, the lack of advocacy for eye health promotion funding will always be a hindrance and as a result community eye health will suffer as well as the African continent”.

In another in-depth, face to face interview with the National Directorate of Health Promotion, it was reported that efforts on health promotion in general were successful but it was also necessary to determine the context in which different strategies, interventions and programmes were being implemented at provincial and district levels. Also, the directorate believes that health promotion in South Africa is still a relatively new concept as a health discipline and as a result different provinces carry out their health promotion activities at varying degree levels. The directorates further indicated that in order to improve the delivery of health promotion in South Africa, community engagement and participation must be encouraged. This was shown in this response:

“For any health promotion strategy to be successful, community engagement and participation is crucial. Skills development and multi-sectoral collaboration could greatly improve the delivery of health promotion in South Africa. Furthermore, other important aspects for successful delivery of health promotion must include the need to improve health literacy, improve community participation and promote public-private partnerships. In this way,

our limited resources as government will be supplement by the private sector and in that manner, health promotion and health care will not only be the responsibility of government”.

The Directorate conceded that they do consult with the National Directorate of Chronic Diseases, Disabilities and Geriatrics during policy formulations especially on other aspects of health promotion and not necessarily on eye health promotion. However, the Directorates had always included eye screenings for children and the elderly as part of their eye health promotion strategies. Also, the Directorate indicated that the issues of staffing, training, skills development and availability of appropriate health personnel was always an important consideration in the health planning and policy development. As a result, the lack of adequate eye care personnel in the public sector has always limited the Directorate’s planning. It also reported the issue of different provinces being at diverse levels of implementation of any policy directives on health promotion programmes in general.

Furthermore, there is acknowledgement that behavioural changes are long term processes. However, this also suggests a perception that the evaluation of health promotion programmes is focused mainly on health outcomes as an indicator for improved community health. Also, the interviews suggest further limitations in the quality of records or there is no evidence of any available records at all. The following quotations were taken from the interviews with provincial health managers:

“There should be indicators in the minimum data set when looking at statistics for all health activities including eye health and all other programmes. Health promotion on the District Information System is very general. It does not outline what is being individually done in health promotion at a district level”

“Eye health should be a part of policy development and also in terms of helping with the development of health education materials for communities. Again, there is a need to ensure that eye health promotion is incorporated into routinely collected data for monthly statistics as well as identifying and developing indicators”.

The directorate believes that at this stage it is a challenge to provide any support for policy and programmatic integration at provincial and district level due to a lack of policy on eye health promotion. This was revealed in the following statement:

“There is no policy on eye health promotion and as a result it is difficult for our Directorate to come up with initiatives for eye health promotion other than our normal vision screenings. Also, the Directorate of Chronic Diseases, Disabilities and Geriatrics does not only concentrate on eye health promotion as their priority. Consequently, eye health promotion will always suffer due to a lack of a unit that will see that its activities are done properly”.

Other interviews which were telephonic, structured and non-standardised were conducted with the National Directorates of Integrated Nutrition Services; Mental health and HIV/AIDS; Youth

Health; and Maternal, Child and Women's Health. When asked about the directorate responsible for eye health promotion, the Directorates of Mental health and HIV/AIDS and Maternal, Child and Women's Health (n=2) did not know which one was responsible. All Directorates gave various responses on whether there is a direct reference to eye health in their specific national health policy documents. However none confirmed that there is a direct reference to eye health promotion in their policies. Also, they all (n=4) confirmed that their policy documents make provision for lifestyle induced risk factors such as dietary intake and exercise. Unfortunately none has reference to sun (UVR) protection in their respective policy documents.

5.1.3 Eye health promotion-related decision making at provincial level

Telephonic, structured and non-standardised interviews (Appendix F) were conducted with the provincial health managers of the Chronic Diseases, Disabilities and Geriatrics; Integrated Nutrition Services; Health Promotion; Mental Health and HIV/AIDS; Maternal, Child and Women's Health; and Youth Health Directorates (n=6). Except for the Directorate of Chronic Diseases, Disabilities and Geriatrics, all other Directorates indicated that there is no reference to eye health in their policy documents. Also, they have all indicated that they do not include any eye health promotion messages in their programmes at district level as this is not their responsibility. However, they all believed that eye health promotion messages or some elements of eye health promotion could be integrated in their programmes. This was also shown in this quotation:

“Eye health promotion messages may assist in enriching our programmes but there may be a need for training of staff members who will be responsible for carrying out this mandate. Otherwise, although we see the importance of eye health promotion messages in our programmes, at the moment the lack of trained staff makes it difficult to do this” (Mental Health and HIV/AIDS Unit, Eastern Cape Province).

The other directorates believed that eye health promotion messages could only be integrated in their health programmes once the Directorate of Chronic Diseases, Disabilities and Geriatrics had made an initiative of ensuring that such messages were part of their programmes. This was also shown in the quotation below:

“Eye health promotion messages may be an important aspect of our outreach programmes especially at district level. However, it is important for us to get some guidance from the relevant directorate on how to carry such messages forward” (Integrated Nutrition Services, North-West Province).

Furthermore, all other directorates believed that the only way through which they could give support for eye health promotion in the provinces was when there were qualified personnel to carry out such responsibilities. Subsequently, it has also been reported that they were currently unable to do any eye health promotion work in their programmes due to lack of funds and knowledgeable personnel in the area of eye health promotion. This was also shown in these quotations”

“The lack of dedicated funds for eye health promotion and personnel trained in eye health promotion makes it difficult to do eye health promotion and is therefore an important barrier in integrating health programmes. Furthermore, the inadequate number of optometrists in the province has always made it difficult to carry out any eye health promotion activities in the province at large” (Health Promotion, Mpumalanga).

“We do not even have a single optometrist in the public services so the issue of health promotion will always be hard to integrate with other health promotion programmes due to lack of insightful information from the relevant stakeholders. As it is, there is no eye health promotion activities in our province that are done by any directorate” (HIV/AIDS Unit, Northern Cape Province).

However, the Directorate of Chronic Diseases, Disabilities and Geriatrics in the KwaZulu-Natal and the Eastern Cape provinces reported that they have very minimal barriers to eye health promotion due to the involvement of NGOs such as the ICEE and Siyabona Sonke in their provinces respectively. Also, the North-West Province also believes that it may benefit from Siyabona Sonke as they have recently signed a Memorandum of Understanding (MoU) that will include eye health promotion as part of delivering eye care services in their province. This is also reflected in the following responses:

“The ICEE has assisted in the elimination of most barriers to eye care and health promotion in the province. They have assisted in the training of ophthalmic nurses who work in public hospitals. As

a result of this initiative, we see eye health promotion getting some great assistance by this organisation” (Chronic Diseases, Disabilities and Geriatrics, KwaZulu-Natal).

“NGOs are ready to play a major role in improving eye health promotion in the province as the Department of Health has recently signed an MoU with Siyabona Sonke which seeks to assist the province with the delivery of eye care in the province especially in the rural areas. As a result of this, most barriers such as lack of funding and inadequate personnel with eye care experience will be eliminated in our province” (Chronic Diseases, Disabilities and Geriatrics, North-West).

5.1.4 Locating eye health promotion in eye health related documents

The Directorate of Chronic Diseases, Disabilities and Geriatrics where eye health promotion is located provided the following guide lines which are their only documents on eye health in general:

5.1.4.1 National guideline on prevention of blindness in South Africa

5.1.4.1.1 Analysis of the document

The national guideline on prevention of blindness in South Africa is a document that concentrates on the prevention of avoidable blindness as a component of the vision 2020 global initiative. It focuses on the prevention of diseases and has set out four levels of prevention which may be interpreted as a strategy for eye health promotion. These levels include:

- Primary prevention which consists of measures to prevent diseases, injuries or conditions that can result in complications, impairments or disabilities. Such measures include health education, immunisation, maternal and child health services and safety promotion.
- Secondary prevention which consists of early identification and intervention in the treatment of diseases, injuries or conditions to prevent the development of complications or impairments.
- Tertiary prevention which consists of measures to limit or reduce impairments or disabilities.
- Quaternary prevention which consists of measures to reduce the effect of untreatable diseases

The document has also listed four objectives of the national prevention of blindness programme which included:

- To provide support to the Prevention of Blindness Programmes in the provinces and SADC countries
- To coordinate the Prevention of Blindness Programmes in South Africa
- To protect and promote the rights of blind persons
- To reduce the prevalence of blindness in the country from 0.75% to 0.50% by the year 2005.

Table 5.6: Analysis of the guideline on prevention of blindness in South Arica

Question	Evidence
Supporting documents in the guideline?	The Constitution, National Bill of Health and the Bill of Human Rights
What are the proposals for eye health promotion?	<ul style="list-style-type: none"> • Health education • Immunization • Safety promotion • Maternal services
Is there a scientific basis for selection criteria?	Yes, there is scientific basis for the selection criteria

5.1.4.2 National guideline on the management and control of eye conditions at primary level

5.1.4.2.1 Analysis of the document

The objectives of this guideline include:

- To effectively manage eye conditions at primary level thereby limiting complications and potential blindness
- To apply cost-effective interventions and accessibility to eye care for persons with eye disease/problems

Table 5.7: Analysis of the guideline on management and control of eye conditions at primary level

Question	Evidence
Supporting documents in the guideline?	The Constitution, National Bill of Health and the Bill of Human Rights
What are the proposals for eye health promotion?	<ul style="list-style-type: none"> • Vitamin A supplementation • Education on personal hygiene • Maternal services to detect STDs
Is there a scientific basis for selection criteria?	Yes, there is scientific basis for the selection criteria

5.1.4.3 National guideline on refractive error screening for persons 60 years and older

5.1.4.3.1 Analysis of the document

The objectives of this guideline include the identification, referral and provision of services for the targeted adults who may benefit from refractive correction by:

- Provision of screening services
- Provision of refractive services
- Provision of cost-effective correction devices
- Establishment of appropriate referral channels
- Establishment of estimates of refractive errors needs for the targeted population

Table 5.8: Analysis of the guideline on refractive errors screening for persons 60 years and older

Question	Evidence
Supporting documents in the guideline?	The Constitution, National Bill of Health and the Bill of Human Rights
What are the proposals for eye health promotion?	<ul style="list-style-type: none"> • Provision of vision screening exercises • Provision of refractive services • Provision of spectacles
Is there a scientific basis for selection criteria?	Yes, there is scientific basis for the selection criteria

5.1.4.4 National guideline on cataract surgery

5.1.4.4.1 Analysis of the document

The objectives of these guidelines include:

- To correct blindness and impaired vision
- To reduce the economic burden to the individual, family and community
- To improve the quality of life of the individual.

Table 5.9: Analysis of the guideline on cataract surgery in South Africa

Question	Evidence
Supporting documents in the guideline?	The Constitution, National Bill of Health and the Bill of Human Rights
What are the proposals for eye health promotion?	<ul style="list-style-type: none"> • Marketing cataract surgery • Information on availability and success of cataract surgery • Case detectors
Is there a scientific basis for selection criteria?	Yes, there is scientific basis for the selection criteria

One of the objectives of the research was to determine if the national guidelines on eye health issues are consistent with evidence-based literature on eye health care. Unfortunately there was no evidence that was presented to support any of the programmes that are listed in the guidelines.

Although these documents exist, none of the eye care managers in the provinces seemed to know about them except for the Director for Health Promotion in the National Directorate of Chronic Diseases, Disabilities and Geriatrics.

5.1.5 Locating eye health promotion in other identified health policy documents

5.1.5.1 National and Provincial health policy analysis

Analysis of health policy documents indicated that 38% of the national documents (n=13) examined do include eye health statements. For example, the national annual performance plan (2012/13-2014/2015) include vision screening as part of school-based health programmes that will be provided to detect barriers to learning among learners throughout the country. The document indicated that vision screening may be done by nurses or health promotion practitioners. However, it is worrying that the rest of the documents have not mentioned anything with regard to eye care in their policy documents. Also, this confirms why most directorates across all provinces have indicated that vision screening is not part of their health promotion programmes. An illustration of the national and provincial health policy documents is presented in Tables 5.10 and 5.11.

Table 5.10: Analysis of national health policy documents

Policy No.	Reference document	Is EH mentioned?	Is EHP mentioned?	Is context mentioned?	Scientific basis	Risk factor/HP mentioned	Where can EHP be incorporated?
1.	RSA constitution	No	No	None	None	None	Health promotion, Nutrition
2.	National Bill of Health	No	No	None	None	None	Health promotion, Nutrition
4.	A District Hospital Service Package for SA	Yes	No	None	No	Education, health promotion	Within PHC training
5.	National School Health Policy	Yes	No	None	No	Education, life skills, health promotion	Health promotion, School health, PHC
6.	Integrated Nutrition Programme	Yes	No	Priorities for children and all post-partum women	Yes	Health promotion	School health, PHC
7.	Comprehensive Primary Health Care Package	Yes	No	None	No	Education, exercise, nutrition	PHC, School health programme
8.	MCWH	No	No	None	No	Nutrition	Health education, PHC
9.	HIV/AIDS/STD Strategic Plan for SA	No	No	None	No	Nutrition	Health promotion, PHC
10.	Youth and Adolescent Health	No	No	None	No	Life skills	Health promotion, PHC, School health, Occupational settings
11.	Bill of Rights	No	No	None	No	Health promotion	All levels of care
12.	DoH SA Health survey	No	No	None	No	Health promotion	All levels of care
13.	RDP, National Health Plan	No	No	None	No	None	PHC, Health promotion

Although a few (n=5) national health policy documents included statements such as 'vision screening', none of the documents had any information on eye health promotion. At least the policy on Integrated Nutrition Programme (2002) had a mention of health promotion initiatives such as Vitamin A supplementation among children between the ages of 0-5 years and post-partum women. Furthermore, it mentioned initiatives such as food fortification, immunization and support for agricultural and horticultural interventions to increase the availability of micronutrients rich foods.

All the other documents identified at provincial level had no mention of eye health promotion. These documents are as shown on Table 5.11.

Table 5.11: Analysis of provincial health policy documents

Poli cy No.	Reference document	Is EH mentioned?	Is EHP mentioned?	Is context mentioned?	Scientific basis	Risk factor/HP mentioned	Where can EHP be incorporated?
1.	Ottawa Charter (1986)	No	No	None	None	None	Health promotion, Nutrition
2.	National School Health Policy	Yes	No	None	No	Education, life skills, health promotion	Health promotion, School health, PHC
3.	Integrated Nutrition Programme	Yes	No	Priorities for children and all post-partum women	Yes	Health promotion	School health, PHC
4.	Comprehensive Primary Health Care Package	Yes	No	None	No	Education, exercise, nutrition	PHC, School health programme
5.	Primary Health Care in Mpumalanga	No	No	None	No	Nutrition	Health education, PHC
6.	Bill of Rights	No	No	None	No	Health promotion	All levels of care
7.	RDP, National Health Plan	No	No	None	No	None	PHC, Health promotion

5.2 CONCLUSION

In the context of this investigation, data was collected through the utilization of interviews and questionnaire as research instruments. A tape recorder was used to capture information during face-to-face interviews. Data was subsequently analysed qualitatively and quantitatively to reveal the context of the research problem. The qualitative analysis followed a narrational mode discourse while quantitative analysis followed the use of frequency tables, figures and percentages.

In this chapter, the analysis of the results presented reveals a worrying phenomenon. There is no collaboration among the health directorates at national and provincial level. For example, the provincial Directorates of Chronic Diseases, Disabilities and Geriatrics do not use the eye health care guidelines that are located within this directorate as a reference source of their eye health promotion activities. Furthermore, majority of the health directorates do not consider eye health promotion as a priority hence they do not include eye health care in the strategies for health promotion. This is further exacerbated by the lack of information on eye health promotion and/or working together among all the health directorates.

CHAPTER 6

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

6.1 INTRODUCTION

The previous chapter primarily focused on the qualitative and quantitative data collection and analysis. The collected data served as the basis upon which the true value and weight of the research findings could be supported as having practical and meaningful implications for the study and its relevant stake-holders. In this chapter, the central aim was to identify policy proposals on eye health promotion that have potential to contribute to health sector reform in South Africa. The research examined the viability of these proposals in comparison with literature on evidence-based policy efforts in eye health promotion practices. The feasibility of implementing evidence-based policy efforts in eye health promotion was also examined. Also, any eye health promotion activities were explored. The current chapter provides an interpretation of the research findings by comparing policy proposals and perceptions to eye health promotion-related service delivery in South Africa. Furthermore, the current chapter is intended to objectively broaden the study's practical implications and meaningfulness by presenting the discussions, conclusions and recommendations.

The results indicated that there are distinct contradictions in eye health promotion-related decision making in all the identified health areas. The results also suggest that there are no policy directives in the provinces on eye health promotion. The research findings

further indicate a contradiction within and between all the identified health areas.

6.2 RESEARCH DESIGN AND METHOD

As previously indicated, the current study was descriptive in nature. Thus a combination of qualitative and quantitative research (triangulation) methods was used as a process to identify the research population and obtain data on eye health promotion policies and programmes in all nine provincial departments of health in South Africa.

The study used telephonic interviews, in-depth interviews and self-administered questionnaires as instruments to critically analyze the South African health care policies and programmes with regard to eye health promotion. Also, all available health policy documents and material from national and provincial health directorates with the capacity to impact on eye health including all documents from the National Directorates of Integrated Nutrition Services; Mental health, HIV/AIDS; Youth Health; and Maternal, Child and Women's Health were reviewed.

6.3 SUMMARY AND INTERPRETATION OF THE RESEARCH FINDINGS

6.3.1 Health priorities and eye health promotion

Although provinces had various health priorities, Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrome (AIDS) was reported to be the leading health priority across the country by most (n=20) health directorates' managers. The national prevalence of HIV/AIDS is estimated to be 11.4% (5.2

million people) among South Africans of all age groups (Connolly, Colvin, Shishana & Stoker 2008:776). Considering the detrimental health effects of HIV/AIDS, it was therefore justifiable why the disease was given more priority above all other health priorities. The other health priorities were reported to be breast cancer, breast feeding, lifestyle practices and women's health. All these health priorities have potential to lead to serious eye complications. Therefore, when doing health screening for these health conditions, it is important to consider their eye health effects. However, this may only be possible if serious changes are made in the South African primary health care system to include eye health promotion. These changes should include the integration of eye health programmes into the health promotion programmes of all other health directorates. Obviously, this may need more financial and human resources to be successful. Therefore, there is a need for a political will to make changes from policy makers and authorities in government.

6.3.1.1 Eye health priorities across the provinces

As previously reported, only 8 eye care managers from 8 provincial health directorates participated in the study. The Northern Cape Province has no eye care manager and as a result eye care services such as those offered by optometrists are not available. There was no statistical data on eye health promotion activities across the country including at the National Department of Health. This reflects the difficulties experienced when collecting data from all provinces. All participating provinces have reported cataract (98%) and refractive error (94%) as the most prevalent conditions in their respective provinces. According to Pizzarello et al

(2004:615), the world's leading causes of avoidable visual impairment are cataract, trachoma, onchocerciasis, childhood blindness (including VAD), refractive error and low vision. The findings in this study are therefore consistent with conditions in the rest of Africa. For example, cataract has already been reported as the leading cause of blindness in South Africa (DoH 2002). Unfortunately, in most cases, blindness due to cataract is avoidable.

According to Puoane, Steyn, Bradshaw, Laubscher, Fourie, Lambert and Mbananga (2012:1046), obesity is now on the rise among all population groups in South Africa. Obesity also predisposes DM (Poune et al 2012:1046). The prevalence of DM among South Africans aged ≥ 30 years is estimated at 5.5% (2.5 million people) (Bradshaw, Norman, Pieterse, Naomi & the South African Comparative Risk Assessment Collaborating Group 2007:700). Therefore obesity may be playing a major role in the high prevalence of cataract in South Africa as early cataract development is also be associated with DM (Cheung & Wong 2007:180). Therefore, with the reported prevalence of DM among South Africans (DoH 2002; Pouane et al 2012:1046), it is possible to find incidences of early cataract development due to this condition. Also, this may suggest a comprehensive strategy should be developed for eye health promotion in order to include issues that address obesity and DM during health promotion programmes.

According to a study conducted in the KwaZulu-Natal Province by Naidoo et al (2003:3764), refractive error is another cause of visual impairment and avoidable blindness and it is more prevalent in the rural areas. Dandona and Dandona (2001:237) argue that refractive error as a cause of blindness has not received much attention because many definitions of blindness have been based on the best-corrected distance VA. Despite this, refractive error is the second largest cause of treatable blindness after cataract (Zerihun & Mabey 1997:19). Refractive error may also be a serious cause of visual impairment in South Africa. Unfortunately there is no evidence to suggest otherwise. Although this may be the case, it is however commendable that most provinces are giving both cataract and refractive error the highest level of attention.

Low vision is another cause of visual impairment and is reportedly highly prevalent in the developing countries (Oduntan 2005:44), the current study found that low vision was relatively low in most provinces. However, the lack of evidence to support such claims was disturbing. The prevalence of low vision in South Africa is estimated at 0.7-1.2% (Lewallen & Courtright, 2001:898), and therefore this calls for a more evidence-based health promotion approach which is currently non-existent in the South African primary health care system. The lack of evidence further cast a serious doubt on the effectiveness of the current strategies that are used in the areas where eye care is provided. It will therefore be important for low vision services to be incorporated into the eye health care services across all provinces in South Africa. Also, useful information on eye health issues should be properly

documented and filed appropriately for intervention strategies, statistical information and research purposes.

Although other eye conditions such as Vitamin A Deficiency (VAD), hypertensive retinopathy, diabetic retinopathy, glaucoma and blindness have also been reported to be low, there was also no evidence to support this claim. The report also contradicts what is found in the literature regarding, for example, VAD in South Africa. In a South African study conducted by Nojilana, Norman, Bradshaw, Stuijvenberg, Dhansay, Labadarios and the South African Comparative Risk Assessment Collaborating Group (2007:748), it has been reported that in one-third of children aged between 0-4 years and 1-6% of pregnant women, VAD was found to be deficient. According to Christian, West, Khatry, Kimbrough-Pradhan, LeClerq, Katz, Shrestha, Dali and Sommer (2000:542), VAD is a major public health nutrition problem in the developing countries. It affects mainly young children, in whom deficiency can cause xerophthalmia and lead to blindness (Christian et al 2002:542). Also, it is estimated to affect 127 million preschool children and 7.2 million pregnant women worldwide (West 2002:2857s).

Xerophthalmia, a condition that results from VAD in childhood, is still the leading cause of severe visual impairment and blindness (Underwood & Arthur 1996:1040). In consideration of the prevalence of VAD in South Africa, it is therefore important that eye health promotion programmes should include screening for VAD among preschool children. As a result, the constitution of a team that conduct eye health promotion activities should not only

include personnel in eye care but also those in other fields such as nutrition. This will eventually place South Africa in a favourable condition to meet the VISION 2020 targets as set out in Box 6.1.

The public health significance of VAD in the prevention of blinding malnutrition and ensuring the well-being and survival of children in much of the developing world is now understood as the result of several large, randomized, community-based intervention trials (Underwood & Arthur 1996:1040). Although only some of the children included in the study were clinically deficient, their health and survival were notably enhanced by improved vitamin A status (West 2003:78). Therefore, it is important that health promotion programmes are coupled with initiatives to supplement preschool children with Vitamin A.

Box 6.1: Showing targets for the control of blindness in children in accordance with three components of VISION 2020 programme

VISION 2020 targets for the control of blindness in children

Specific disease-control measures

- Reduce the global prevalence of childhood blindness from 0.75 per 1000 children to 0.4 per 1000 children by the year 2020.
- Eliminate corneal scarring caused by VAD, measles or ophthalmia neonatorum.
- Eliminate new cases of congenital rubella syndrome.
- Provide appropriate surgery to all children with congenital cataract, with immediate and effective optical correction in suitably equipped specialist centres.
- Ensure that all babies at risk of ROP have fundus examination by a trained observer 6-7 weeks after birth.
- See that all school children have a simple vision screening examination, and that glasses are provided to all who have a significant refractive error. This should be integrated into the school health programme.

Human resources development

- Ensure that the prevention of childhood blindness is an explicit aim of all primary health care programmes
- Ensure that all secondary level eye care clinics have facilities to provide appropriate glasses for children with significant refractive errors
- Provide training so that there will be one optometrist per 100 000 people by the year 2020
- Provide training so that there will be at least one worker to manage low vision for every 20 million people by 2010, and for every 5 million by 2020
- Ensure that one ophthalmologist is trained in the management of paediatric eye conditions for every 50 million people by 2020, and one per 10 million people by 2020

Appropriate technology and infrastructure development

- Ensure the development of low cost, high quality, low vision devices, which should be widely available, even in low income countries
- Establish a network of specialist "child eye care" tertiary centres

(Gilbert & Foster 2001:232)

Furthermore, in a study by Steyn et al (2001:1717), a survey on the prevalence of hypertension among South Africans revealed high levels of hypertension and inadequate treatment status. It is therefore arguable that the prevalence of hypertensive retinopathy could also be high among South Africans. Unfortunately the provincial health departments could not provide any information regarding the prevalence of hypertensive retinopathy due to lack of records or probably due to poor record keeping across the country. In the light of a possible high prevalence of hypertensive retinopathy among South Africans, it would be more beneficial for all eye health promotion programmes to screen for hypertension sufferers and subsequently screen them for any possible retinal changes due to hypertension. This will obviously call for a careful planning of the constitution of the health care team that may form part of eye health promotion programmes. Eye care practitioners such as optometrists may therefore play a major role in the diagnosis of ocular complications of hypertension. Although it may be a challenge to get optometrists to form part of eye health promotion programmes in the current set up, if policies are changed to recognize the role of optometrists in all provinces and there is a political will to do so, then employing this group of important primary health care practitioners may be done without difficulties.

Although DM is linked to diabetic retinopathy (Fong, Aiello, Gardner, King, Blankenship, Cavallerano, Ferris & Klein 2004:84), in the current study there was no evidence for any screening for this blinding condition. Also, there are no records of its prevalence among diabetes sufferers. It now follows that the non-existent eye

health promotion strategy in the South African primary health care system has some detrimental consequences on the lives of those who are affected by diabetic retinopathy among other serious health conditions that have detrimental effects on the health status of the eyes.

6.3.1.2 Eye health promotion

6.3.1.2.1 Social impact of poor eye health

In the current study, 6 eye care managers confirmed that the social impact of various eye conditions affecting individuals was severe. Although there was no evidence to support this claim, the social impact of poor eye health has been documented in other several studies (Kuper, Polack & Limburg 2008:68; Naidoo 2007:415; Foster, Gilbert & Johnson 2008:37). Visual impairment and blindness are among the leading causes of poor health. For individuals with good eye health, the importance of sight is often left unnoticed, conducting basic tasks is never an issue and there is no risk of losing employment or morbidity. According to Du Toit, Palagyi, Ramke, Brian and Lamoureux (2010:2308), healthy eyes and good vision play a critical role in the development of an individual and how the person interacts with others in society. Therefore, visual loss impacts negatively on an individual's quality of life and has major impact on the global economy (Du Toit et al 2010:2308). This is more likely to be the case with most individuals who have severe eye conditions with poor medical care due to different barriers to up take of any available eye care services in South Africa.

The association between visual impairment and the deterioration of an individual's quality of life is also highlighted by Gilbert, Sha, Jadoon, Bourne, Dineen, Khan, Johnson and Khan (2008:31) who asserts that individuals are found to be worse off and poorer after contracting a disability, including visual impairment and blindness. Furthermore, Lamoureux, Fenwick, Moore, Klaic, Borschmann and Hill (2009:4106) indicated that visual impairment or blindness threatens to restrict an individual from being able to conduct daily tasks and maintaining the dignity and respect which is earned by the ability to be independent. Also, those who already suffer from the disease suffer from other conditions such as depression, distress and sometimes dementia, in cases of older people (Bekibele & Gureje 2008:612). Consequently, there is a need for professionals such as psychologists and social workers to form part of the eye health promotion team. The manner of operation with these professionals should be detailed in the eye health promotion policy document.

According to Payot and Barrington (2011:91) other factors that are affected by visual impairment include physical mobility, functionality, education or academic status and social interaction and overall functionality. These disabling factors prevent affected individuals from finding employment and securing a good life for themselves, and thus they become more vulnerable to poverty.

6.3.1.2.2 Risk factors for poor eye health

The current study revealed that risk factors associated with poor eye health that were prevalent in the provinces were linked to various factors such as lack of access to basic eye care, dietary

intake and lifestyle practices. In the rural areas, 75% of the eye care managers linked poor eye health with lack of access to basic eye care. According to Ntsoane and Oduntan (2010:183), there are three primary factors that influence the utilization of eye care services and these include: availability, affordability and accessibility. In south Africa, the availability of services vary from province to province and from district to district. Other provinces, such as the Northern Cape, have no eye care services at all while others, such as the Western Cape, have entrusted eye care services to private sector practitioners. Also, poor-practitioner-patient-ratio, and lack of educational programmes may be attributed to the usage of eye care services.

Furthermore, such a lack of access to basic eye care services can also be linked to the factor of poverty. This is also confirmed by Kuper, Polack, Eusebio, Mathenge, Wadud and Foster (2008:e244) who stated that there is a direct link between poverty and eye health. With Africa being the most under-privileged continent in terms of poverty, political unrest, quality of life and human suffering, the issue of poverty can therefore not be excluded as a barrier to accessing eye health services in South Africa.

South Africa is regarded as the sixteenth largest country (burden of poverty out of 67 countries) for which poverty measurements are reported and is the fifth largest country in Sub-Saharan Africa (Aliber 2003:473). South Africa comprises of a population of 50.59 million people (Stats SA 2011) and a Gross Domestic Product (GDP) per capita of R29 422 (USD\$4 200 per capita/annum).

Approximately 16 million people in South Africa are living on less than Purchasing Power Parity (PPP) of USD\$2 a day. In 1995, an estimated 58% of the South African population were categorized as being poor, as calculated by using a national poverty line of R2000 (R322 per person) per month (Ozler 2007:487). Although there has been a decline in poverty since then, 28% of South Africans are still poor (District Health Barometer 2009) and poverty has been reported to be associated with poor health (Kuper et al 2008:e244). Given this situation, lack of financial resources for transport to an eye care facility may be a serious risk factor for poor eye health. However, the South African Government must be commended for the social security grants that are currently being paid out on monthly basis to the underprivileged and deserving citizens. Social security grants may thus be able to alleviate the problem of lack of finances to pay for transport and perhaps nominal fees for services such as drivers' licence certificate when required.

The HST estimates that there are approximately 225 000 people in South Africa who are blind. Also, there are about 80% of adults over the age of 40 years, and 10% of children who are in need of refractive services and correction (Lewis, Patel, Yorston & Charteris 2007:375). Unfortunately, optometry and ophthalmological services are expensive to obtain and, until just a few years ago, were almost exclusively accessible only to those living in urban areas through the private sector (Palagyi, Ramke, Du Toit & Brian 2008:50). The overwhelming majority of South Africans who are poor live in the rural areas without access to quality eye care services. In addition to the lack of adequate and

accessible services, the expensive nature of eyeglasses makes them cost prohibitive to the poor.

Visual problems are a leading cause of disability, and hence one of the key barriers for people in South Africa to access schooling and the labour market (Palagyi et al 2008:48). Also, access to eye care services can also be measured by the travel time required by public transportation to reach the nearest eye care provider. Therefore, poor accessibility due to distance and a lack of eye care facilities in the immediate areas could be a serious determinant for the utilization of eye care services in South Africa. Consequently, when issues of eye health promotion are discussed, it will be important to consider the improvement of public transport facilities in the rural areas as well as eye care facilities as part of efficient health promotion strategies.

Although poverty has been reported to be directly associated with poor eye health, it is understood that visual impairment and blindness do not occur in a vacuum (Naidoo 2007:415). The majority of preventable eye health problems in developing countries are closely related to poverty mainly due to the lack of sanitation, poor or inadequate water supply, malnutrition and the lack of education (Naidoo 2007:415). The issue of eye health promotion therefore becomes a multifaceted approach with a multidisciplinary team of health care providers. For such an approach, there will be a strong requirement for a political decision to be made in order to budget accordingly for eye health promotion at national level.

Another risk factor for poor eye health can be associated with harmful traditional eye care practices. According to Courtright (1995:1569), Traditional Eye Medicines (TEM) instilled directly into the eye are usually responsible for poor visual outcomes. TEM usually damage the eye as a result of direct toxic substance application on the eye due to the introduction of microorganisms which lead to infection. It is therefore likely that TEM are responsible for 5-10% of the blindness due to corneal disease in Africa (Courtright 1995:1570). With a number of people in South Africa using traditional healers, it may be possible that some of the corneal diseases that lead to blindness are as a result of the use of TEM. It now follows that traditional healers may need to be trained in eye health promotion and other possible ways of treating different eye conditions in order to eliminate some of the blinding practices.

6.3.1.2.3 Strategies for eye health promotion

The success of health promotion programmes requires a multidisciplinary approach. In this case, multidisciplinary should include community members and health professionals in various disciplines. It is encouraging that about 30% of the eye health promotion programmes in the provinces in the current study were community outreaches. Although the details of these outreaches were not available, they form the basis for implementing a sound multidisciplinary approach to eye health promotion in South Africa.

It would be more beneficial to the masses if eye health promotion strategies were developed following key strategies in the Ottawa Charter for health promotion and the principles of Self Care (SC)

and Community Participation (CP). SC is a process whereby a lay person functions on his/her behalf in health promotion and prevention and in disease detection and treatment at the level of primary health resource in the health care system. According to Bhuyan (2004:11), SC clearinghouses may be set up at provincial level to coordinate the programme activities in consultation with district and national teams. SC may be promoted in the schools and workplaces. For developing personal skills of individuals, SC information, generated through a participatory process, may be disseminated using a wide range of communication tools.

On the other hand, CP, which emphasizes the bottom-up approach in planning and implementation of development programmes including health development, is an initiative where people are seen as active participants, compared to the conventional top-down approach, where people are considered as passive recipients of programmes designed for them by professionals and government officials. The underlying themes of both these issues are the involvement and empowerment of people in promoting and caring for their own health. Also, participation by community members must be viewed as partnerships in health promotion to improve the health status of the community at large (Bhuyan 2004:11). This will further encourage other members of the community to participate in different ways and thus also increase in numbers over time.

Any possible barriers to community participation and strategies to overcome such barriers are as shown in Figure 6.1. Obviously, for these strategies to be successful in health promotion, the

implication is that there may be a need for supportive policies to be developed.

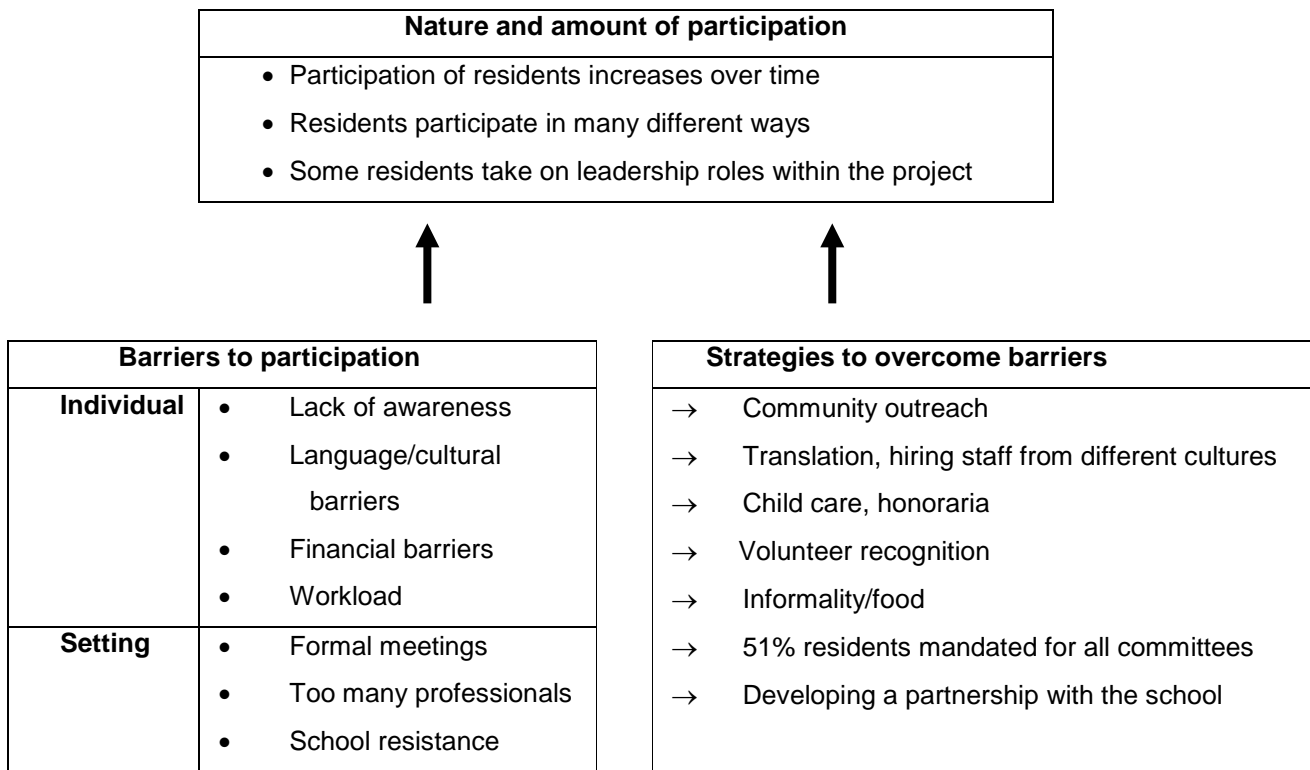


Figure 6.1: Nature and amount of participation, barriers and strategies to overcome barriers (Adapted from Bhuyan 2004:11).

According to Laverack and Labonte (2000:255), health promotion often comprises a tension between ‘bottom-up’ and ‘top-down’ programming. The former, more associated with concepts of community empowerment, begins on issues of concern to particular groups or individuals, and regards some improvement in their overall power or capacity as the most important health outcome. The latter, more associated with disease prevention efforts, begins by seeking to involve particular groups or individuals in issues and activities largely defined by health

agencies, and regards improvement in particular behaviours as the important health outcome. Each of these approaches is different and distinct in characteristics which may make them somewhat exclusive. The key differences between ‘top-down’ and ‘bottom-up’ approaches are as shown in Table 6.1.

Table 6.1: Showing key differences between top-down and bottom-up approaches.

Targeted issues	Top-down	Bottom-up
Root/metaphor	Individual responsibility	Empowerment
Approach/orientation	Weakness/deficit Solve problem	Strength/capacity Improve competence
Definition of problem	By outside agent such as government body	By community
Primary vehicles for health promotion and change	Education, improved services, lifestyle	Building community control, resources and capacities toward economic, social and political change
Role of outside agents	Service delivery and resource allocation	Respond to community needs
Primary decision makers	Agency representatives, business leaders, ‘appointed community leaders’	Indigenous appointed leaders
Community control of resources	Low	High
Community ownership	Low	High
Evaluation	Specific risk factors Quantifiable outcomes and ‘targets’	Pluralistic methods documenting changes of importance to the community

(Labonte 1990:4)

The relevance of SC and CP in eye health promotion may play a major role in achieving the desired results of health promotion. Information technology has revolutionized the availability of information on health to the consumers (Bhuyan 2004:11). The

areas of consumer health informatics, which deals with issues related to information on health and medical care to consumers through the application of information technology, has expanded rapidly (Eysenbach 2000:1713). In the United States of America (USA), exciting development in this area include designing a new generation of software programmes for home management of many chronic diseases like HIV/AIDS, substance abuse, diabetes, depression, and formation of electronic self-help groups. In effect, the industrial age medicine is being replaced by information age health care in the USA.

In the industrial medicine, developed more than a century ago, health care was primarily provided by professionals at primary, secondary and tertiary levels overlooking SC, which is the most pervasive form of health care (Ferguson 1995:28). In information age health care, lay persons manage a vast proportion of illness by themselves using information from various sources and as a result, the role of professionals in health care is reduced to a certain extent. Although this may not necessarily be applicable in the South African context due to a relatively low access to technological resources for the majority in the rural areas, the use of information technology may be worth trying out for effective health promotion especially among citizens who are technologically inclined. The information age is contrasted with industrial age medicine in Figure 6.2.

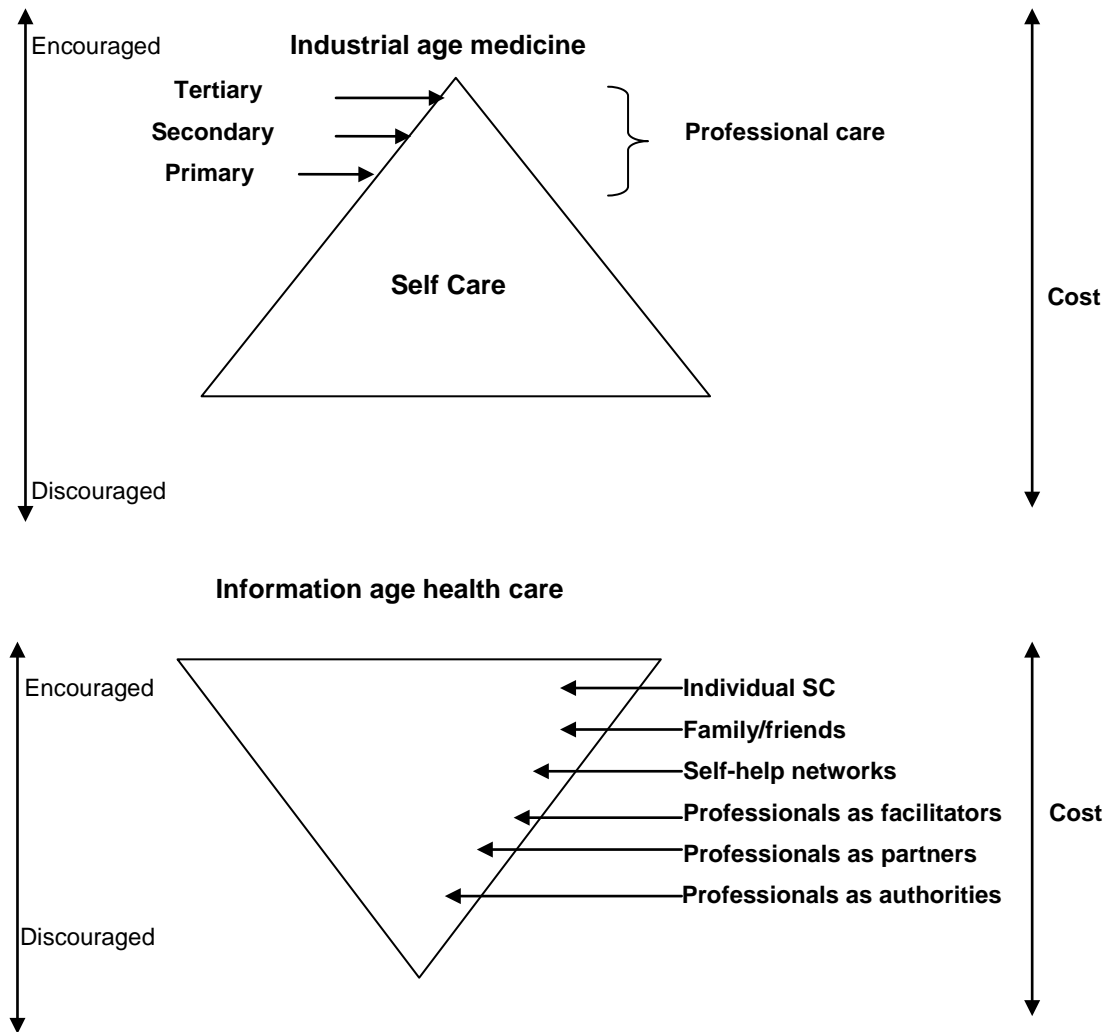


Figure 6.2: Changing map of health care (Adapted from Ferguson 1995:30).

Self-reliance and empowerment are the underlying themes of SC and CP. These concepts are rooted in the broad democratic principles of rights and duties of individuals to participate in the activities that affect their lives. According to Bhuyan (2004:11), it would be more beneficial for developing countries, South Africa included, to consider the implementation of health promotion programmes following the five key strategies of the Ottawa Charter.

Figure 6.3 shows the health care pyramid and proposed model for health promotion. Health and health promotion lie at the base of the pyramid. At this level, health SC of the individual is the determinant of one's lifestyle and behaviour. Here lay person plays the most predominant role for his/her health promotion. The second level is primary health care, which is defined as the essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a low cost that the community and the country can afford to maintain at every stage of their development in the spirit of their self-determination (WHO 1978). It is the first level of contact for individuals, the family and the community with the national health system. At this level too, lay persons play a major role in their health care, supplemented by professionals. The next levels are secondary and tertiary care respectively, having highly skilled workers and sophisticated diagnostic and therapeutic technology, where progressive health problems are dealt with (WHO 1991). This is a level where health professionals play a predominant role.

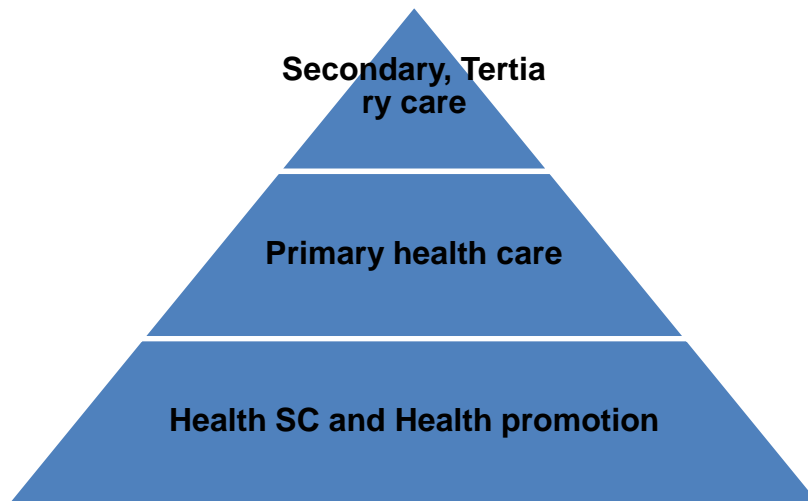


Figure 6.3: Health care pyramid and model for health promotion programme. The levels of care show efforts of Building healthy public policy, Creating supportive environment, Developing skills, strengthening community action and reorienting health services.

Furthermore, SC and the use of information age health care may be vital in the South African eye health care context as other provinces have reported that they do not have eye care in their primary health care system. The Northern Cape Province has indicated that they do not have an optometrist, an important human resource in primary eye care, in their health care system and other Provinces such as Northwest and Mpumalanga only had 4 and 6 optometrists respectively. The only provinces that had higher numbers of optometrists in their primary health care system were Limpopo and Gauteng which had 135 and 28 respectively. However, it must be commended that other Provinces like Mpumalanga and Gauteng are training ophthalmic nurses and health promoters as case detectors to form part of their eye health promotion teams.

According to Gott and O'Brien (1990:137), nurses are important human resource in health promotion and are generally enthusiastic about health promotion. Also, the Royal College of Nursing Australia (2000) has, in its health promotion position statement, stated that nurses are very well positioned for health promotion because of their education and access to the community to provide health promotion services. It also argues that nurses, as the largest group of health professionals, have a higher degree of visibility and credibility within the community – making them important to the development and implementation of health promotion strategies. Therefore, in order to complement the number of eye care professionals needed for eye health promotion, it may be important to legitimize and increase the training of nurses into ophthalmic nurses and possibly 'refractionists' as is the case in Mpumalanga Province to assist in eye health promotion programmes.

In the current study, school visits accounted for 75% of the strategies that were used by provincial health departments to conduct their eye health promotion programmes. This approach has been proven to achieve some goals in health promotion and it is therefore not surprising that various Departments of Health across the country have adopted it (Moon, Mullee, Rogers, Thompson, Speller & Roderick 1999:111). According to Deschesnes, Martin and Hill (2003:388), the concept of Health Promoting Schools (HPS) was first proposed by WHO in the early 1980s. The aim of HPS is to achieve healthy lifestyles for the total school population by developing supportive environments conducive to health promotion. HPS offers opportunities for, and

requires commitments to, the provision of a safe and health-enhancing social and physical environment (Deschesnes et al 2003:388).

According to Booth and Samdal (1997:366), the literature generally sets out three components or domains of activity that characterize the HPS approach:

- The formal health curriculum that gives school-aged children the essential knowledge and social skills that will allow them to make enlightened choices affecting their physical and psycho-social health;
- The school environment and the school climate, the health services and policies of the school; and finally
- The school/community interactions.

Although most provinces used the HPS approach, it was not clear whether there is an influence from their approaches in the school curriculum. Since there were no documentary proofs to support the claims of this initiative, it was therefore concluded that it is possible that there is no link between health promotion activities that are conducted by the provincial health departments and the school health curriculum.

HPS approach requires a substantial change in the way schools and their staff practice school health. This involves moving from practices that rely mainly on classroom-based health education models to a more comprehensive, integrated construct of health promotion that focuses both on children attitudes and behaviors, and their environment (Deschesnes et al 2003:388). However, in

Canada, the concept of Comprehensive School Health Programme (CSHP) is more frequently used (Canadian Association of School Health 1991) than the HPS concept. A CSHP is an integrated set of planned, sequential, school-affiliated strategies, activities, and services designed to promote optimal, physical, emotional, social, and educational development of students. The program involves and is supportive of families and is determined by the local community based on community needs, resources, standards, and requirements (Allensworth, Wyche, Lawson & Nicholson 1995:55). Such an approach will have to be coordinated by a multidisciplinary team that includes optometrists, ophthalmic nurses, psychologists, social workers and community leaders such as pastors and heads of community based organizations.

According to Deschesnes et al (2003:390-392), there are four key conditions to furthering implementation of CSHP approaches. These include:

- **Negotiated planning and coordination to support the comprehensive, integrated nature of the approach**

WHO (1996) reported that among the obstacles to putting this type of approach into practice was the lack of common understanding of the HPS or CSHP concepts. However, although there are some varying views in the interpretation and implementation of multiple interventions, giving due consideration to the multiple facets of a comprehensive (multi-target and multi-strategy) intervention and the appropriate way to integrate them is a fundamental issue. The potential effectiveness of this kind of approach lies not in the success of

the components taken in isolation, but rather in well-orchestrated, coherent strategies, i.e., health education, public policies, and communication, which concurrently target several dimensions of health and well-being deemed to have a high priority (Allensworth & Kolbe 1987:409). For that reason, it is important that the intervention focus simultaneously on children, school environment and school/family/community links using various strategies to address the multiple objectives (Deschesnes et al 2003:390).

In multidimensional programs such as this one, careful planning is often seen as a prerequisite for achieving the desired results and maintaining participant satisfaction (Kegler, Steckler, McLeroy & Malek 1998:338). It is equally important for tracking the progress of the work carried out through the different steps that have been identified in the action plan, and for maintaining an adequate level of integration between the different activity domains. It is through planning such as this that the consistency and comprehensive nature of the approach can be preserved. This first aspect of planning is anticipated and allows the various actors to give a direction to the action and to achieve convergence among them through their agreements with respect to the different components of the action plan.

- **Intersectorial action to actualize the partnership between school, family and community**

Another fundamental issue relates to the problem of putting the partnership component into actual practice, a component

that is believed to act as a catalyst in a comprehensive, integrated approach to child-youth health promotion. CSHP concept emphasizes the importance of good relations between the school, the family and community stakeholders (Moon et al 1999:121).

However, despite a desire to strengthen these links and facilitate greater openness on the part of the schools towards their communities, there is no clear information on how to make this partnership a reality. The design of such a partnership influences the participation of, and potential collaboration between, stakeholders in the schools and those representing other community sectors such as NGOs or local government (Deschesnes et al 2003:391).

Within the specific framework of broader practical application of a comprehensive, integrated approach to child-youth health promotion, partnership has even greater relevance if it is believed that the multiple determinants associated with children's different living environments must be acted upon concurrently. In that context, the alliances developed between stakeholders or partners representing different child environments are the lifeblood of the program. That means that the program relies on coordination of school and community stakeholder efforts to create a synergy of mutually reinforcing actions with optimal impact on youth health and well-being (Allensworth 1995:56).

- **Political and financial support from decision makers as leverage for adequate implementation of comprehensive approaches**

According to Stewart, Parker and Gillepsie (2000:253), the lack of political and financial support from the sectors involved in these kinds of initiatives constitutes a significant barrier to their implementation. Thus a lack of resources for providing personnel training, coordination, intersectorial participation and so forth can undermine implementation of a comprehensive action plan. Due to a lack of support, there is a danger that the interventions will not be intensive enough to produce significant and lasting effects.

Although the political and financial commitment and support of policy makers is considered essential for successful health promotion intervention (Leeder 1997:413), such commitment is still inadequate in many countries that subscribe to these principles (Ziglio, Hagard & Griffiths 2000:143). McEvoy and Welker (2000:330) believe that the failure of many social programmes stems from a quick-fix mentality and from a lack of recognition of the complexity of organizational and social structures which in turn leads to a tendency to invest in one-time interventions of low intensity, producing few lasting changes. In this context, access to a support structure of health and education sectors committed to this kind of initiative is necessary in order to encourage buy-in from key stakeholders such as school staff.

- **Evaluation as a means to help develop effective interventions further**

The future of CSHP will depend on its stability to demonstrate that it has a meaningful effect on child-youth health and educational achievement (Allensworth, Lawson, Nicholson, & Wyche 1997:18). One of the fundamental goals of evaluative research is in fact to verify the effectiveness of programmes; in other words, their ability to produce the desired effects in terms of health, well-being or academic achievement. As such, evaluation is an important component, since it serves to guide actions and justify the energy and resources devoted to them (Deschesnes et al 2003:391).

Despite the appropriateness of such a goal, a preliminary, and thus more immediate question than assessing the outcomes of such initiatives on child-youth health and well-being has to do with feasibility and adequacy of implementing this type of social intervention in the current environment. However, one fundamental requirement that needs to be met is the identification of the essential components of the approach in evaluation and the demonstration of how they fit together, so as to propose intervention models that can be put into practice in natural contexts.

Given that environment-related components have not been implemented to the same extent, they deserve special attention. Effective collaboration between schools, parents and other key community stakeholders, which is at the heart of such initiatives, should also be the focus of in-depth

research, with a view to providing a solid foundation for developing this aspect further (Gottlieb, Keogh, Jonas, Grunbaum, Walters, Fee, Saunders & Baldyga 1999:307). Furthermore, in order to guide adequately, the intervention as well as the assessment of these environmental components, their development must have a theoretical or conceptual basis that is appropriate for these different levels of intervention (Deschesnes et al 2003:392). Therefore, as a complement to psychosocial theories on behavioural change, those leading with organizational change and local development warrant special attention. The implementation of this type of intervention could also benefit from the research on intersectorial action and research from education field on organizational change in schools.

Finally, evaluation results stemming from a variety of initiatives, both school-based and community-based, in different contexts, are also desirable in order to gauge their respective contributions, as well as the problems and challenges they pose for anyone wishing to undertake this type of initiative.

All the mentioned conditions are expected to provide the leverage to enhance the implementation of these promising approaches that have the potential to meet the educational, health and well-being needs of school-aged children better. The health-promoting school concept is a very promising framework which provides a comprehensive strategic approach to school health. According to St Leger and Nutbeam (2000:257), there is evidence to suggest

that school-health programmes are cost effective and will enhance the achievement of both educational and health goals. However, many barriers exist currently which are inhibiting its widespread adoption. Symons, Cinelli, James and Groff (1997:220-221) argued that there were four groupings of barriers that inhibit the expansion of the health-promoting schools:

- Lack of administrative support;
- Local obstacles, e.g. poorly-trained teachers and limited time at school to address health issues;
- Limited governmental support for school health programmes and initiatives;
- Conventional patterns of funding and research in education and health promotion, namely the limited funding to multi-disciplinary and intercultural evaluation and research.

The drivers for HPS in many countries are twofold – the leadership and vision of the health and education sectors to improve and resource school health programmes, and the pivotal role of teachers in shaping and improving the HPS concept in their communities (St Leger and Nutbeam 2000:257). Educational outcomes are closely associated with health status (St Lager & Nutbeam, 1999:51).

Clearly, both the health and education sectors need to collaborate to resource school communities and teachers in particular, to take the HPS framework and develop their own initiatives to improve both the health and educational status of their students (St Lager and Nutbeam 2000:258). It is also encouraging to see that the

South African government has recently launched their HPS initiative that is headed by both ministers in the departments of health and education. However, the training of health personnel and teachers in particular is lacking and is currently not being addressed. This might pose a serious threat to the efficiency of any strategy that the government intends to use for the school-health programmes.

According to St Leger and Nutbeam (2000:258), teachers are an important workforce for any school-health programmes. The building blocks of HPS include physical environment, social environment, policy development, community links, health sector collaboration, curriculum changes and teacher involvement. Teachers become more active even outside classrooms by working with other key stakeholders in the school communities such as learners, parents, health agencies, local government to develop and implement integrated and strategic initiatives. It is therefore important that any school-health programmes should include the training of teachers especially in an area of eye health promotion which is currently being grossly neglected by authorities in most provincial health departments.

It is important that conditions of organizational capacity are dealt with to ensure that schools have the environment that supports the individual capacity of staff and learners to perform at high levels. Schools can then attend to effective management and governance, teacher quality and effective pedagogy, and the curricula, standards, and assessments that ensure academic achievement and school success (Newmann, King & Youngs

2000:290). According to Hoyle, Samek and Valois (2008:2), only when schools have developed organizational capacity can they successfully develop and sustain a culture of health promotion in which teachers can teach, learners can learn, and the administration can attend to effective management of the organization, thereby ensuring the accomplishment of the institutional mission of schooling. The relationships among conditions of capacity, the climate for positive development, the role of the school, and its institutional mission are as shown in Figure 6.4.

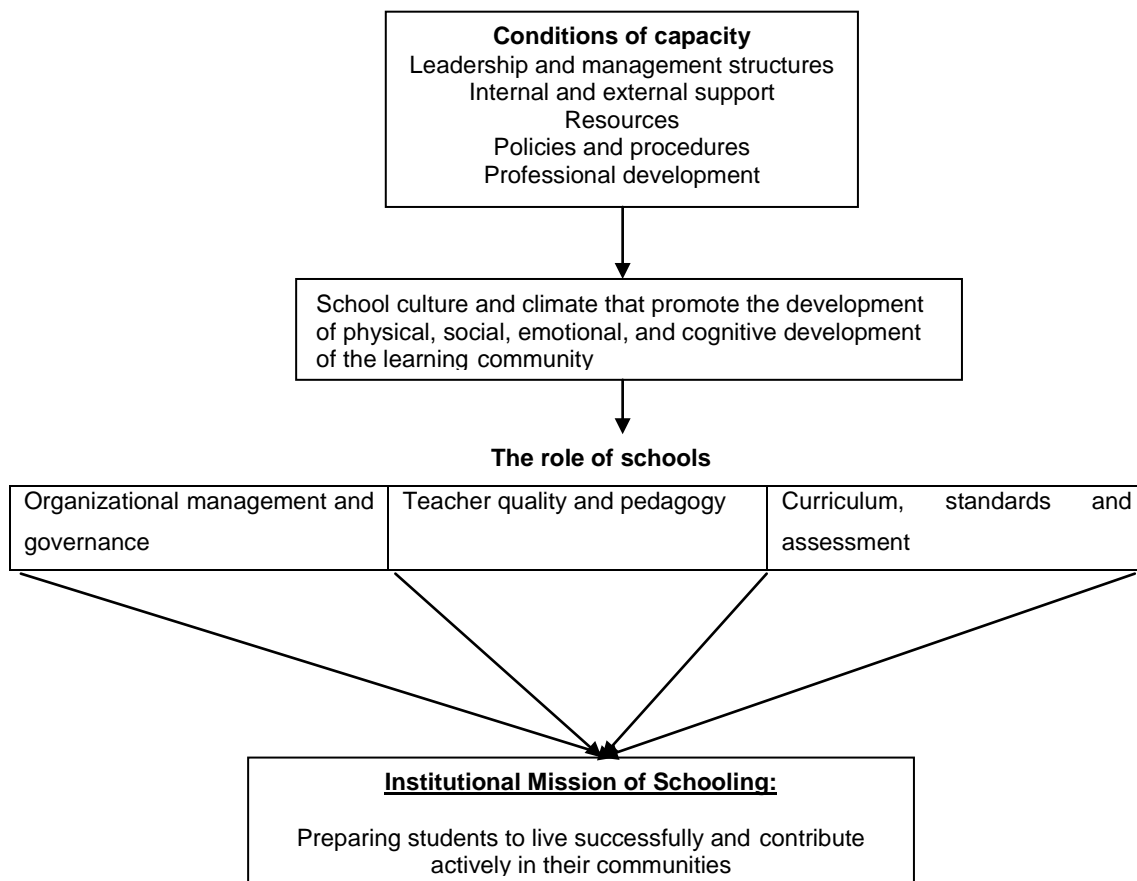


Figure 6.4: Building capacity to achieve the Institutional Mission of Schooling (Adapted from Hoyle et al 2008:3).

6.3.2 Eye health promotion-related decision making

According to Chernichovsky and Potapchik (1999:118), for any eye health promotion strategy to be successful, governments need to play their part by implementing protective health legislation. This is in contrast with the report by the National Directorate of Chronic Diseases, Disabilities and Geriatrics that reported the lack of an integrated eye health promotion policy in the South African primary health care system as a serious concern for eye health promotion at large. Although the directorate stated that they still engage in eye health promotion activities despite the lack of policy directives, another reported problem was inadequate capacity to carry out

eye health promotion activities across the country. With a documented 0.75% of blindness in South Africa (NDoH 2002), there is a serious need for eye care professionals and health promoters trained in eye health promotion strategies in order to reduce risks that may lead to visual impairment and avoidable blindness. The lack of capacity for eye health promotion in South Africa is therefore expected to affect the WHO's global vision 2020 initiative which aims to eliminate 100 million cases of avoidable blindness by the year 2020.

Although the Directorate of Health Promotion also reported that efforts on eye health promotion were successful, the lack of any evidence further compound the problem of eye health promotion in the South African primary health care system. Such a lack of evidence clearly indicates that whatever programmes or eye health promotion strategies that are being used are not evaluated to improve them for future interventions. According to Tang, Ehsani and McQueen (2003:841), improving the evidence base of health promotion is important for effective health promotion interventions. It is generally accepted that with quality findings from intervention studies, practitioners can make better decisions to achieve effectiveness in their interventions. Furthermore, without evidence of effective health promotion, it may be difficult to get policy support (Tang et al 2003:841). This may be the reason why there is no advocacy for eye health promotion at national level. This is further supported by the reported lack of an eye health promotion directorate as well as lack of funding for eye health promotion initiatives by the Health Promotion Directorate.

According to Jacobs, Clayton, Dove, Funchess, Jones, Perveen, Skidmore, Sutton, Worthington, Baker, Deshpande & Brownson (2012:57), to meet and exceed expectations for continuing improvement in health promotion, a drive for more widespread use of evidence-based strategies for effectively addressing current challenges in public health is needed. Also, public health practitioners should always incorporate scientific evidence in making management decisions, developing policies, and implementing programmes. Unfortunately this is currently not the case when it comes to eye health promotion hence there are no eye health promotion policy developments in South Africa.

Furthermore, in line with the scientific rules of enquiry, which include predictability, repeatability and falsifiability, when determining the strength of evidence, Tang et al (2003:841) stated that a typology of evidence emerges evidence-based health promotion. This is classified in the following manner:

- Evidence of implemented interventions that meet the criteria for scientific fact, i.e., they are proved predictable, and repeatable, regardless of time and place. Assuming there is compliance, immunisation is a classic example of intervention where the elements of the intervention are known, the cause effect interaction is apparent and have universal application.
- Evidence from interventions that produce desired outcomes and are predictable but are repeatable only at a local level within a certain period of time.

- Evidence from interventions that work as predicted to produce desired outcomes, without meeting the casualty criterion, and are repeatable at anytime and anywhere.
- Evidence from interventions that work as predicted without meeting the casualty criterion, and are repeatable only at a local level within a certain period of time.

All the above classifications can be incorporated into the eye health promotion policy development for South Africa provided there is a political will to do so.

The following model (Figure 6.5) depicts one way in which evidence-based findings could be applied in eye health promotion areas in order to develop appropriate strategies for implementation. This cyclical approach to evaluating programmes in eye health promotion could help to ensure that eye health related priorities are identified and addressed against a set of standards, norms or guidelines (Gray 1997:128). Guidelines or standards would then be set for implementation or existing practices could be measured against these guidelines (Singh 2005). Also, there is a need to implement identified changes and re-evaluate the programme for effectiveness and efficiency, thus demonstrating the importance of process evaluation.

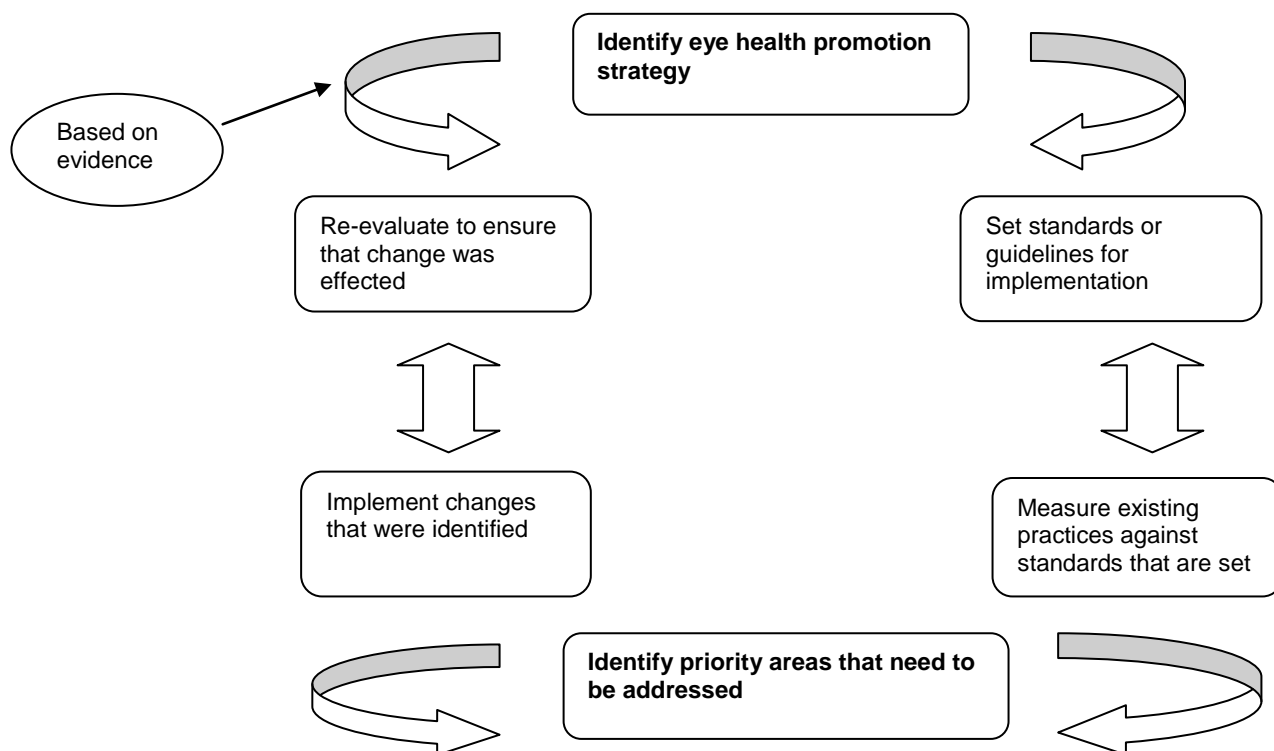


Figure 6.5: An evidence-driven eye health promotion programme.

In public health decision making, it is important to consider the development, implementation, and evaluation of effectiveness of policies and programmes through the application of principles of scientific reasoning. This should include systematic uses of data and information systems and appropriate use of program planning models (Jacobs et al 2012:57). In the South African eye health promotion context, this may not be applicable due to a lack of dedicated personnel at national level who work on eye health promotion initiatives.

At both the national and provincial levels, health directorates believe that community participation is important for effective eye health promotion. This is further confirmed by Hubley and Gilbert

(2006:280), who indicated that eye health promotion involves a combination of three components: health education directed at behaviour change at community level. This is aimed at increasing the adoption of prevention behaviours and uptake of services; improvements in health services such as the strengthening of patient education and increased accessibility and acceptability; and advocacy for improved political support for blindness prevention policies. However, it must be noted that these strategies are not being followed by all eye care managers in the provinces and have all reported lack of capacity as the problem.

The study found gaps in communication between the national and provincial health directorates. Managers at the national and provincial levels both provided interesting insights to confirm the known shortcomings in the current delivery of eye health promotion activities in South Africa. The identified shortcomings included perceived financial constraints, lack of capacity and eye health priority not being one of the top priorities on health policy-making agenda.

6.3.2.1 Eye health promotion in health policy documents

Analysis of health policy documents on (n=13) in the Directorates of Integrated Nutrition Services, Health Promotion, Mental Health and HIV/AIDS, Maternal, Child and Women's Health and Youth Health indicated that 38% included eye health statements that were only limited to vision screening. However, none of these documents had any statement on eye health promotion. The lack of eye health promotion policy may be directly linked to the lack of such statements in all other health policies.

The rest of the policy guidelines (n=4) located within the Directorate of Chronic Diseases, Disabilities and Geriatrics had specific messages for eye health care in general. The national guideline on prevention of blindness in South Africa is one such document that does not refer to any strategic plan to include eye health promotion in the primary health care system. However, a statement such as 'prevention of diseases through health education, immunization, maternal and child health services, and safety promotion' form a good foundation for the proposal of eye health promotion strategy to be developed based on these principles. Similarly, the national guideline on the management and control of eye care at primary level includes statement that refer to issues of Vitamin A supplementation, education on personal hygiene and maternal services to detect sexually transmitted diseases. This statement can be used in a more constructive manner in eye health promotion especially in a policy statement that may put issues in perspective regarding the methods and strategies that can be used to meet the objectives of eye health promotion.

Another guideline on refractive error screening for persons 60 years and older includes initiatives such as vision screening exercises, provision of refractive services and provision of spectacles. This may obviously form part of the eye health promotion strategy given that refractive error has been reported to be one of the avoidable causes of visual impairment and blindness in South Africa (Naidoo et al 2003:3764). The national guideline on cataract also included important information for eye health

promotion strategies and this was in relation to the marketing of cataract surgery, information on availability and success of cataract surgery as well as case detectors. It is important to consider that information on cataract surgery and its success is not readily available and certain stigmas around surgery in general may need to be addressed especially in the rural areas where there is diverse cultural beliefs. Therefore, information contained in all the above four national guidelines is relevant for eye health promotion strategies. Unfortunately, the information is currently so disintegrated that even eye care managers in various provinces across South Africa have no knowledge of their existence.

The results in the current study suggest that the four national guidelines on eye care issues are weak or are not known at all. To successfully influence the process of eye health promotion, despite the fact that there is currently no policy in eye health promotion, it requires more than simple, document-based policy reforms that are strong on rhetoric and good ideas, but have not achieved the widespread stakeholder support necessary to carry them through to funding and implementation. It is therefore important that the current four national guidelines on eye care are incorporated into a new strategy for eye health promotion.

The recognition of legislation and health policy to guide eye health process in South Africa could be regarded as a failure. Although apartheid played a major role in pooling eye care resources in certain areas only, such as Elim Hospital in the Limpopo Province, such an unfortunate era should not be playing a role in the

democratic South Africa today. Historical imbalances, in terms of urban and rural curative focus still persist in the current delivery of eye health care services. Primary eye health care has not improved since 1994 as there continues to be no knowledge of statistical records on eye care across South Africa. Provinces like the Western Cape even enjoy the use of private eye care practitioners to service citizens in that region. Although such an initiative may be working, it further reveals the state in which South Africa has diversified eye care across all provinces to an extent that eye health promotion is none-existent. Consequently, the private sector is the provider of most basic eye care services including eye health promotion in South Africa.

The current private-public split is therefore an important factor to consider in eye health related policy development and planning. Also, the biomedical influences on undergraduate training would mean that more people would choose to go for a lucrative private market that is dominated by competitive monopoly. This is also reflected in the attrition of public sector workforce for the private sector or for overseas work contracts. However, the bureaucracy in the public health sector could also act as a hindrance to improving the public sector eye health workforce through barriers in employment opportunities and affirmative action policies. Furthermore, it would only benefit the public health sector if undergraduate optometry students were allowed to serve one year of internship before being allowed to leave for private sector contracts. This would in turn give more impetus to any eye health promotion strategies as there would be more human resource for such initiatives.

6.3.2.2 Integrating health promotion strategies

In the current study, there was a general agreement among health directorates' managers that it was necessary to integrate eye health promotion with other health promotion activities to ensure improved effectiveness and sustainability of eye health care. The research evidence suggest that there is a lack of clear understanding among the identified health managers at national and provincial levels on the dynamics, limitations and processes of eye health promotion service delivery. However, this was largely associated with the lack of eye health promotion policy in South Africa. As a result, provinces have no clear directives on how eye health promotion activities will be integrated and who will take the initiative to integrate the programmes.

Furthermore, another reported problem was the lack of appropriate eye care professionals as custodians of any possible integrated eye health promotion programmes. The implications are that the burden of integrating health programmes is left upon the district health personnel (Ntayiya, Mntuyedwa, Nomabunga, Klaas, Gogo & Magaqa 1998). This lack of accountability could be one of the leading contributory factors in the delay surrounding the integration of district health services in South Africa (Lush, Walt, Cleland & Mayhew 2001:29). It is therefore not even surprising that there is no eye health promotion policy in South Africa. However, members of South African communities are being negatively affected by the lack of this political will to increase capacity for eye health promotion. Also, majority of eye care professionals such as optometrists (n=3187) are largely in the private sector with only 280 optometrists employed in the public sec

The disparity in the distribution of these important primary eye care professionals is more likely to be a major causative factor for the lack of input from appropriate eye care professionals in the integration of eye health promotion activities with other health promotion activities that are conducted by other health directorates. However, it must also be pointed out that currently, the South African National Department of Health is also not actively recruiting these optometrists to fill in strategic positions in the department. However, this may also be a consequence of the lack of a dedicated eye health promotion directorate thus making it difficult for eye care professionals such as optometrists to be absorbed into the Directorate of Chronic Diseases, Disabilities and Geriatrics where eye health promotion is supposedly located. It is therefore important that a separate directorate is created in order to develop a proper structure for eye health promotion in South Africa.

6.3.2.2.1 The impact of policy process and power in health integration

According to Walt (1994:12), the extent to which the neo-federal structure of the South African health system has the potential to accentuate this, and introduce conflicts of interest and power across national and provincial stake holders needs to be examined. Also, the health policy process in South Africa appears to be dominated by power, protection of professional interests and maintenance of autonomy (Singh 2005). National health management decision-making may be driven by political pressure and the need to conform to national policies. Provincial health managerial decision-making on the other hand, appears to be

driven by protecting professional interests and preserving autonomy. Both levels of decision-making are therefore driven by different agendas and influences. This might account for the poor communication between national health planners and provincial managers.

A clearer understanding of this picture is evident when one examines the nature of optometry undergraduate training. Optometry degrees are essentially clinical degrees with no eye health promotion component in them. Despite efforts by different universities offering the degree and the Brein Holden Vision Institute (BHVI) (formerly known as ICEE) to improve community eye health research and service delivery, there are no changes in the scope of optometry training to include eye health promotion. As a result, health planners, decision-makers, managers and service providers entering the public health sector would be very much influenced by the bio-medical approach to eye health care (Singh 2005). Furthermore, there are not enough leaders in eye health that could advocate for paradigm shifts in undergraduate training at a higher political level.

The scarcity of resources would mean that institution-based curative or clinical interventions would naturally feature on a health planner or manager's agenda of health priorities. Also, research shows that the bulk of resources are directed to health personnel' salaries, drugs and institutional management (DoH 2002). As a result, inadequate finances are made available for preventive measures. Furthermore, an institutional-based focus on health care can be measured quantitatively and can show defined health

outcomes such as patient attendance, records on treatment procedures and health utilisation rates would provide a sound rationale and justification for the allocation of health resources. Also, preventive and promotive health efforts would be directed towards community development and empowerment. These efforts are usually long term, complex and cannot be easily reduced to quantifiable data. Health planners could also be under political pressure to show quick results that the new government is making visible success in achieving improved community health in South Africa. This would thus account for the persistent delays in the district health integration despite the availability of sound rhetoric policy.

According to this study, there is no trace of any eye health promotion policy being planned. However, the impact of Apartheid policies may have had a significant impact in perpetuating health inequalities across the country thus leading to the lack of eye health promotion policy. Although this may be the situation, it further suggests that the changing disease patterns, the impact of demography and professional control in health service delivery is very much typical of other developing countries (Segall 2003:26). Therefore, as a developing country, it is important for South Africa to develop an integrated eye health promotion policy.

6.3.3 Reorienting health delivery in South Africa

In view of the current situation in eye health promotion in the South African primary health care system, it is therefore important to consider restructuring health services delivery as a matter of urgency in the primary health care system. Although the proposed

NHI plan may yield some positive results in this regard, changes in eye care and particularly in eye health promotion may take too long to be effected. This may largely be due to the lack of eye health promotion policy in the Department of Health and appropriate personnel to effect those changes. According to Kelleher (1996:48), the complexities and apparent dualities in defining health promotion practice in South Africa have serious complications for health policy development. Although policy and programmatic integration would provide invaluable opportunities to improve eye health-related service delivery, this is insufficient. A shift in paradigm is required to challenge the traditional delivery of eye health promotion and other related primary health care efforts (Corrigan, Newton, Gibbons & Locker 2001:42; Forrest & Miller 2001:51; Hobdell, Peterson, Clarkson & Johnson 2003:285). The current delivery of health promotion service in South Africa is disorganised and fragmented despite concerted efforts to integrate district health services.

There is an urgent need to restructure management in health promotion and redefine health priority settings (Singh 2005). The results revealed that each of the identified health directorates have a built-in health-promoting component that focuses on risks to health as a result of lifestyle practices. These practices include unhealthy behaviours such as substance abuse, dietary intake, unhealthy sexual encounters and trauma. It is therefore proposed that a combination of Healthy Lifestyle Approach and the Integrated Common Risk Factor Approach (Sheiham & Watt 2000:399) to health promotion might provide a foundation to

establish a committed and functional health management structure in South Africa.

A directorate on Comprehensive Healthy Living (CHL) (Figure 6.6) could function at all levels of the health system (national to district level) and could embrace all health programmes involved in this approach. Thus the health promoting component of eye health and all other directorates that address substance abuse could be located within this directorate. This directorate would focus on advocacy for health action, mobilising and strengthening community action, creating supportive environments and empowering communities on health-related social development. The directorates in health promotion could also be absorbed into this management structure.

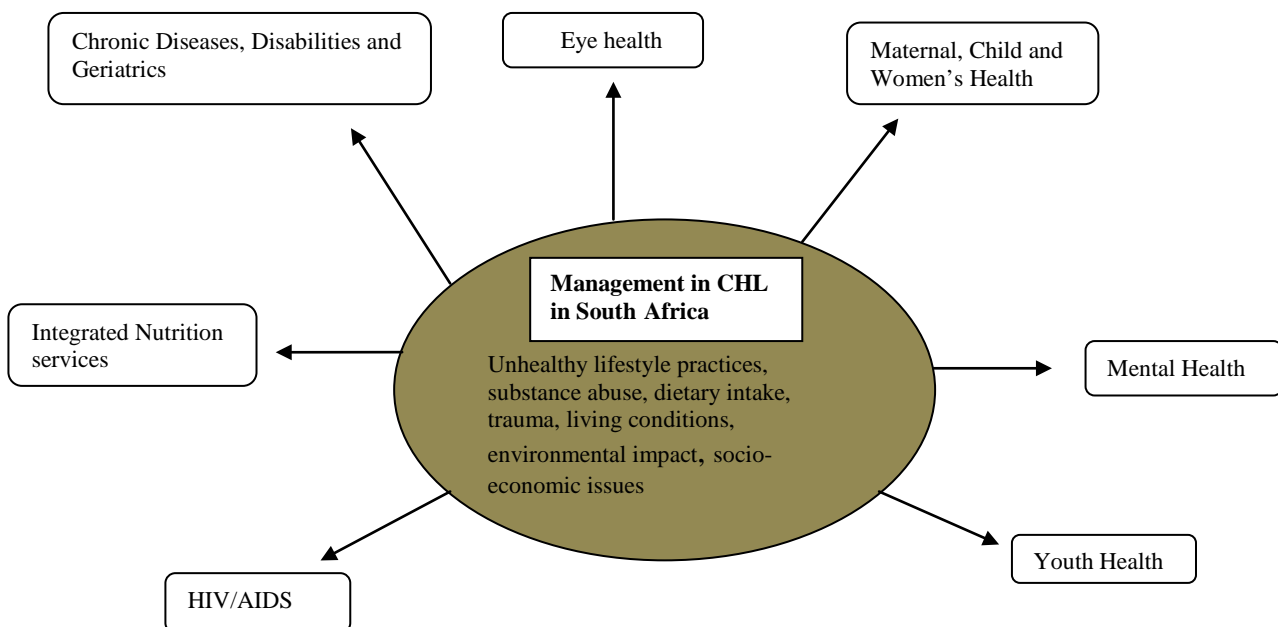


Figure 6.6: Illustrating a Health Management Structure on Comprehensive Healthy Living (CHL).

Both the literature and the research findings highlight the impact of limited resources on health care in South Africa (Barron 2000:3). An identified directorate or management structure CHL would be part of allocative health planning and would therefore qualify for a dedicated budget. Issues of resource allocation, which includes financial and human resources, could thus be directly addressed within this management. It would also be easier to communicate with management in different health areas within the same directorate or management structure. Furthermore, this directorate or management could network with all other directorates involved in social and economic development. Provincial and district management structures on CHL would need to consider local needs and appropriateness of programmes, infrastructure and capacities for service delivery in addition to the current inequalities in health service provision.

Partnerships in health care could also be developed with the private sector and all other stakeholders in community development (Scott 1999:22; Walt & Gilson 1994:353). Thus the prevention of disease and promotion of healthier lifestyles is integrated into overall community and social development. This comprehensive approach to eye health promotion could increase potential health gains and accountability as opposed to the current situation in public health promotion in South Africa especially eye health promotion.

6.3.3.1 Evidence-based eye health promotion

Another objective of the study was to determine if any proposed strategies and interventions on eye health promotion were

consistent with published, evidence-based research. Unfortunately, apart from vision screening exercises, nothing else was done in eye health promotion. This was mainly because of lack of a policy directive on eye health promotion. Although the health promotion teams that visited communities, schools and other settings performed tests for hypertension and diabetes, they could not determine if any visual loss was as result of these systemic diseases or not. This could largely be due to the nursing staff doing vision screening that did not have adequate knowledge in eye care.

The use of qualified personnel in eye care issues can eliminate the chances of missing serious eye conditions that may have detrimental effects on members of the communities. Also, failure to use appropriate personnel in eye care may jeopardise the VISION 2020 initiative as many serious eye conditions may not be referred for proper evaluation and management. Considering that the National Department of Health in South Africa has not prioritized eye care in their health promotion strategy, it is therefore important an advocacy strategy for eye health promotion be adopted.

In order for a change to be effected in eye health promotion, the most important aspect of advocacy to improve the delivery of eye care should be in the fore front of any intervention (Thulasiraj 2007:66). Advocacy can help individuals or organizations to obtain more resources, and it can support programme implementation and service delivery. According to Thulasiraj (2007:66), when planning for an advocacy strategy aimed at improving eye care delivery, it is important to identify those groups who are in a

position to make a difference. They can make important decisions that directly affect service delivery or simply influence others in a way that will improve the situation.

According to Dineen (1999:36), the Ottawa Charter, as a strategic document, outlined five key elements for health promotion and these are shown in Table 6.2. These elements should form part of an advocacy strategy for eye health promotion.

Table 6.2: Elements of health promotion relevant and applicable to eye health promotion

Health public policy	<ul style="list-style-type: none"> • Development of formal eye care policies and target setting at national, provincial and district levels • Design implementation and evaluative research of cost recovery schemes, e.g. cataract surgery
Personal skills development	<ul style="list-style-type: none"> • Training of community eye health promoters and health professionals in community eye health • Literacy programmes – both in terms of general and basic health literacy skills
Community participation	<ul style="list-style-type: none"> • Involvement of the community in planning, implementation and evaluation of eye care programmes • Incorporation of community members in eye care service delivery
Supportive environments	<ul style="list-style-type: none"> • Nutrition programmes (vitamin A supplementation, fortification programmes) • Accessibility to sanitation and safe drinkable water relevant to the prevention of trachoma
Re-organization of health services	<ul style="list-style-type: none"> • Integration of eye care services in existing primary health care programmes • Increased focus on research into eye conditions as well as on ‘appropriate’ service delivery mechanisms

(Dineen 1999:36)

Furthermore, Thulasiraj (2007:66-67) suggests that the following groups be targeted for advocacy:

- Policy makers (government): policy makers at all levels of government should be targeted by those advocating for better eye care delivery. Policy makers are in a position to create and implement regulations. They can also offer incentives and monitor compliance. Also, advocacy messages should focus on the positive impact that eye health promotion initiatives will have, which in turn will reflect on policy makers themselves. For example, in a case of refractive error services, advocacy can focus on the positive impact these services will have on education (better attendance and better results) and on the increased productivity that will result in the workforce.
- Community leaders: these individuals, who can be elected community leaders, local industrialists, village elders, or heads of voluntary organizations have direct contact with the community and can exercise significant influence on them. The support of these individuals has a significant impact on general eye care, especially on the success of community oriented activities such as community outreach and vision screening.

Advocacy targeting community leaders needs to focus on the magnitude and impact of visual impairment and blindness, as well as on the causes, treatment options, costs, and benefits. Once these leaders come to understand the problems and

the possible solutions, they can usually be persuaded to support eye care work.

Following successful advocacy to community leaders, it is likely that they will become proactive in promoting eye care and can be counted upon to provide tangible support for setting up outreach activities or permanent primary eye care facilities. They can also provide support for the development of a community-based referral system and can play a significant role in encouraging community members to sign up as potential cornea donors.

- Health professionals: these are key targets for advocacy to improve eye care delivery. For some eye conditions, community screening is not cost-effective, therefore, health professionals can be invaluable allies in finding patients at risk. They can play a crucial role in early detection and referral. Also, this may apply to all professions. For example, midwives can play a role in identifying babies at risk of retinopathy of prematurity.

6.3.3.2 Appropriate set up for health promotion

As previously reported, the current study revealed that the only eye health promotion strategy used across the country by different health directorates is vision screening. Although vision screening is an important procedure in eye health promotion activities, because poor eye health is usually as a result of many factors, it must be used with a combination of other important aspects of health care in general. In that manner, an appropriate environment will be

created for effective eye health promotion strategy. According to Hubley and Gilbert (2006:279), for efficient eye health promotion strategy, addressing the role of human behaviour is critical. In some cases, this might involve encouraging the adoption of eye health promoting behaviours and in other cases, the discouragement of behaviours that damage eye health.

The role of human behaviour and the scope of intervention depend on the specific disease, e.g., for conditions such as eye injuries, VAD, and sexually transmitted diseases, there is a considerable scope for primary prevention. Secondary prevention involving recognition of symptoms and early presentation for treatment is appropriate for other conditions, e.g., cataract, trichiasis, and eye infections (Hubley & Gilbert 2006:279).

In line with creating a favourable environment for effective health promotion, Hubley and Gilbert (2006:279) stated that carefully well planned educational programmes can be effective provided two critical requirements are fulfilled: the underlying influences on behaviour are addressed, and the appropriate methods, target groups and settings are selected. These requirements will be discussed as follows:

6.3.3.2.1 Changes in behavioural patterns

Qualitative research methods provide useful insights into reasons for use and non-use of eye health services. For example, barriers to the uptake of cataract services from patients' perspective can include one or more of the following: acceptance of impaired sight as an inevitable consequence of old age, fear of the operation,

contact with individuals who have had bad experiences, lack of encouragement from family, lack of knowledge concerning where surgery is provided, distance from the service, lack of a person to accompany the patient to hospital, poor state of hospitals, long waiting lists, and costs.

Other studies in Malawi, Nigeria, Gambia and Nepal (Courtright, 1995:1569; Johnson et al 1998:218; Lewallen 2000:20; Rabiou 2001:776; Shrestha et al 2004:319), cost was revealed as the most important barrier to uptake of services. According to Vaidyanathan, Limburg, Foster and Pandey (1999:107), barriers vary from location to location and can also change over time. In a study of glaucoma in Togo, the lack of confidence in the service being provided was identified as an important factor (Balo, Serouis, Banla, Agla, Djagnikpo & Gue 2004:187) in the uptake of services. Also, many communities have traditional beliefs on the nature, cause, and prevention of blinding conditions. For example, an ethnographic study of women in Nepal found that night blindness (common in vitamin A deficiency) was recognised and the condition was considered serious (Christian, West Jr, Khatry, Katz, Shrestha, Pradhan, LeClerq & Pokhrel 1998:231). This therefore suggests a need for education that can affect behaviour change and consequently increase the uptake of eye care services.

In a review study by Abdulla and Al-Sharqi (2012:1), it has been suggested that eye health education and service provision lessen the barriers to service uptake and increase the uptake of eye care services. This strategy can also be employed in the South African

context particularly when an eye health promotion strategy is formulated.

6.3.3.2.2 Appropriate environment for education

Many influences on behaviour including culture, economics, power, and tradition operate at the community level (Hubley & Gilbert 2006:279). A community based programme is one which works within a geographically defined area, takes into account influences that operate at community level, and seeks to involve community members in the decision making process and in implementation (Hubley 1999:33). The ideal situation is that the community decides its own health priorities, as well as the solutions, and how these will be resourced, implemented, monitored, and evaluated.

An early study in the late 1970s in the former homeland of Gazankulu, found that community based approaches using volunteers and community groups could have some impact on eye health knowledge and on the incidence of trachoma (Sutter & Ballard 1983:1813). Also, the community groups were involved in an agricultural project to plant vegetables for their homes. Through the unity that existed as a result of working together, they easily managed to work together to eliminate the scourge of trachoma in that region. It now follows that trachoma is non-existent in South Africa.

Schools are another setting that affords enormous potential for blindness prevention programmes, and the obvious benefits of good vision on learning might be expected to act as a strong

motivation for parents, teachers, and children to support blindness prevention programmes (Hubley & Gilbert 2006:282). One approach is for teams of health educators to visit schools and run health education sessions. This approach was shown to result in improved knowledge of onchocerciasis in Nigeria (Shu, Okonkwo & Onwujekwe 1999:215) and trachoma in Ethiopia (De Sole & Martel 1988:255). However, a more sustainable approach is to train teachers, which is the approach used in the vision testing programme in India (Murthy 2000:89).

Furthermore, a comprehensive school based approach should have three components: firstly, health education using activity based methods; secondly, a health promoting school environment which includes provision of water and sanitation, safe risk free play facilities and school gardens; and, thirdly, school services involving health workers, teachers, and children in screening children for refractive errors, provision of spectacles, and management of simple eye health problems. It is of interest that the South African National Department of Health in conjunction with the National Department of basic education have recently launched an Integrated School Health Policy (DoH 2012). The policy aims to provide a variety of health services that include vision screening of pupils from grades R-12. It is unfortunate that no other services for eye health promotion are part of this policy. It is therefore important that a proper strategy for eye health promotion designed in South Africa.

6.3.3.2.3 Proposed usable methods for health promotion

The two most important health education methods are mass media and face to face communication, either separately or together

(Hubley & Gilbert 2006:281). Mass media has potential to reach large numbers at a low cost per person reached. This was recently illustrated by a project in India which inserted an E chart and instructions on use into four daily newspapers. A telephone survey of 603 people after one advertisement found that, of the 125 people sampled who subscribed to that newspaper, 43 stated that they used the card to test their vision (Murthy 2001:952). A limitation of newspapers is that they only reach the literate, newspaper reading section of the society, but they are particularly useful if the aim is to reach professional and middle class groups, which might be important for advocacy. The relative importance of radio and television varies from region to region (Hubley & Gilbert 2006:281). It is thus important to find out what media are available and who access them, and base the choice of media on the local pattern of use.

According to Hubley and Gilbert (2006:281), health education through mass media can be delivered in a range of formats such as advertisements, jingles, news bulletins, documentaries, and dramas. Also, the use of 'entertainment education', in which health education is incorporated within drama and music can achieve the role of health promotion. With young people, observably, showing a lot of interest and enthusiasm in both drama and music in South Africa, the use of media to disseminate information on eye health promotion can improve their lifestyle practices by way of changing behavioural patterns and attitudes towards their health in general.

A key element of effective mass media is initial research and testing of programmes before broadcast to ensure that messages

are simple, relevant, acceptable, attract attention, and are understood (Hubley & Gilbert 2006:281). It is generally accepted that mass media are particularly appropriate when the behaviour changes to be promoted are simple and there are no significant barriers to the community taking action. With more difficult behaviours, especially those that are underpinned by strong cultural beliefs, mass media need to be supplemented by more intensive community based approaches. Face to face discussions might be slower and more labour intensive, but they provide opportunities for direct engagement and participation of individual communities (Hubley & Gilbert 2006:281). Clearly, it will be important for the South African government to play a leading role to achieve these kind of initiatives. Policies and programmes will need to be drafted and funds made available. Qualified personnel may also need to be contracted and others trained within the communities to supplement health care workers.

6.3.3.2.4 Improving eye care services delivery

Health education should take place alongside improvement in services. Improvements should address locally identified barriers, which might include quality of clinical care – for example, timing of clinics and operating sessions; ensuring men and women have separate waiting areas; providing culturally acceptable food and prayer areas; ensuring clean environment (Hubley & Gilbert 2006:282). This can be achieved if the proposed strategies contained in the NHI draft policy can be implemented. However, implementing patient education in resource poor settings may not achieve desired results. Currently most hospitals and clinics in South Africa are in a bad state. Issues of overcrowding, shortage

of health care personnel, shortage of food in some hospitals, and certain health care personnel raping patients should be prioritized and be part of service improvements in the South African primary health care system. However, all these can be achieved if the Office of Standards Compliance set up through the NHI can meet its deliverables targets.

Furthermore, there is a need to improve the quality of information provided to patients to promote adherence to treatment regimens and follow-up, to increase awareness of possible side effects and action needed to prevent recurrence. This can be achieved if a range of approaches including teaching in groups, using videos in waiting areas, training lay people as peer counsellors/educators, involving other family members, training clinic staff to give clear and relevant advice supported with leaflets or charts are used.

It must however be emphasized that for successful implementation of any proposed strategies for health promotion, there must be a congruent proposed strategy to evaluate the programmes in order to improve service delivery. Monitoring and evaluation of any possible eye health promotion activities across the provinces has not been reported hence the conclusion that eye health promotion was actually not fully implemented across the country. According to Hubley (2004:24), the information needs for implementation and evaluation of eye health promotion is an integral part for any successful health promotion initiatives. A proposed model for

implementation of eye health promotion strategies and evaluation is as show shown in Figure 6.7.

Eye health promotion, to be successful, must be built on details of its understanding and the intended audience. The vital contribution qualitative and quantitative data make to planning a health promotion strategy (Figure 6.7) is critical as each community poses its own particular challenges and opportunities for creative solutions (Hubley & Gilbert 2006:282). Information from research about what an intended audience thinks, knows, and does about a particular health concern leads on to the development of the health education strategy, including the setting and nature of the intervention. Materials need to be developed and pilot tested, to ensure that the messages are correctly interpreted and understood.

According to Hubley and Gilbert (2006:282), evaluation is essential to the expansion of eye health promotion. Evaluation should provide the information and feedback to make improvements in future activities. While the ultimate goal is improved eye health, it is useful to incorporate intermediate indicators, such as increased awareness, behaviour change, skills, self efficacy, coverage and quality of services, and adoption of specific policies.

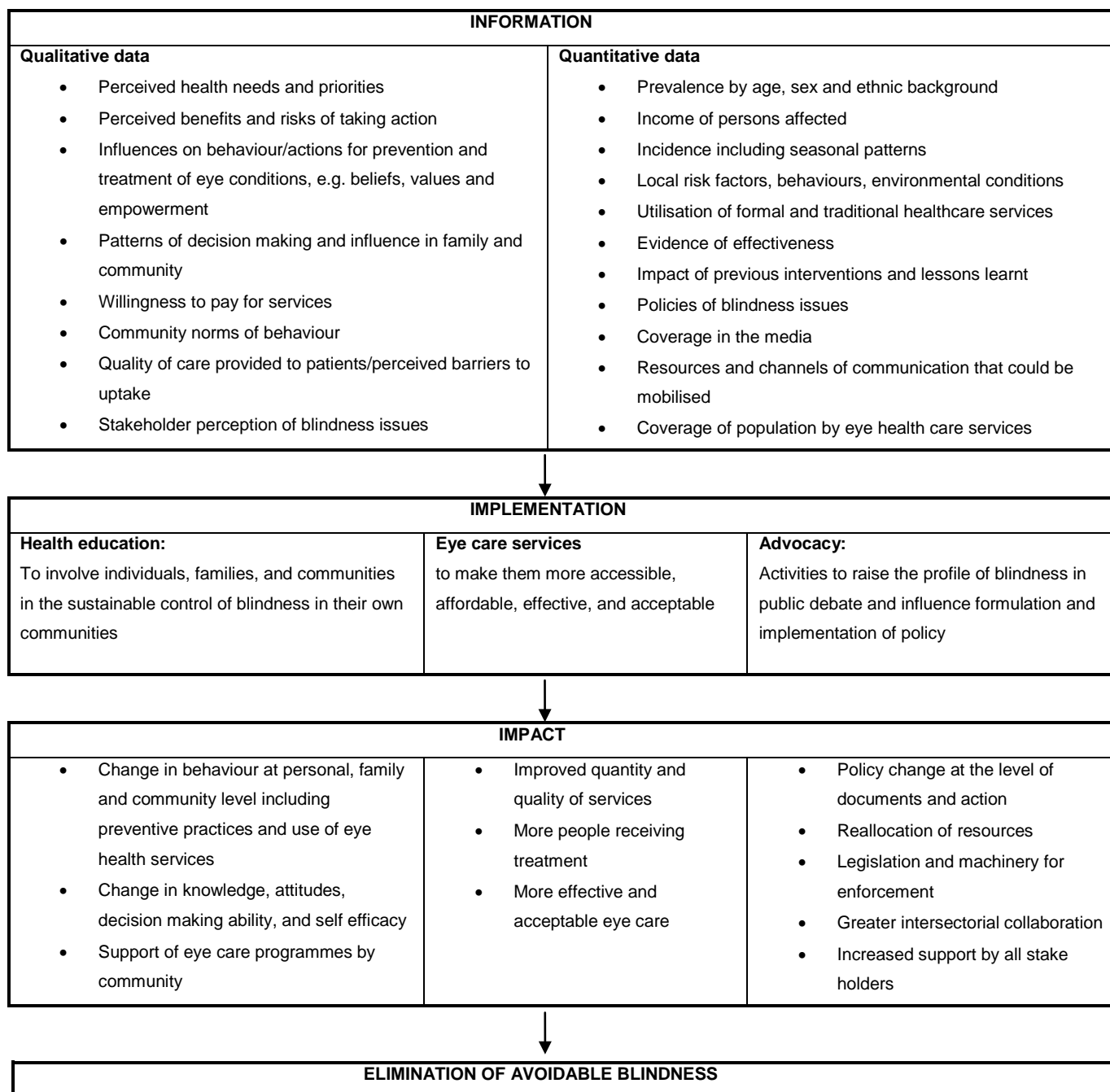


Figure 6.7: Information needs for implementation and evaluation of eye health promotion (Adapted from Hubley and Gilbert 2006:282).

6.4 CONCLUSIONS

The following conclusions are based on the findings of the study and serve as the framework upon which recommendations were constructed.

6.4.1 Participants in the study

National health directorates such as Health Promotion and Chronic Diseases, Disabilities and Geriatrics as well as provincial health directorates of Integrated Nutrition; HIV/AIDS; Chronic Diseases, Disabilities and Geriatrics; Youth Health; Mental Health; and Maternal, Child and Women's Health were included in the study. Also, managers in eye care from 8 provinces participated in the study. The Northern Cape Province has no eye care manager and as a result there are no optometric services in the public health care system.

6.4.2 Health priorities in South Africa

Health priorities in South Africa are currently limited to breast feeding, breast cancer awareness, HIV/AIDS, lifestyle practices and women's health. HIV/AIDS is given more attention than any other health priority. Eye health is not considered a top priority by the health directorates in the South African health care system. Consequently, issues of eye health promotion are almost non-existent in the current health promotion strategies. In order to maximise the efficiency of any eye health promotion strategies, all health directorates should be targeted to efficiently disseminate messages of eye health promotion in their platforms of health promotion programmes.

6.4.3 Eye health priorities across the country

Cataract and refractive error are conditions that are most prevalent across South Africa. However, other conditions such as low vision, diabetic retinopathy, conjunctivitis, hypertensive retinopathy, VAD and pterygium were reported to be prevalent. There were no statistical records to confirm the prevalence of all these conditions across the country. Unfortunately, most of these conditions can lead to visual impairment and avoidable blindness. Therefore, issues of eye health promotion need to be taken seriously if South Africa is determined to meet the goals set for VISION 2020 and subsequently improve the quality of lives of its citizens and more especially children who are affected by VAD and consequently childhood blindness.

6.4.4 Eye health promotion activities

Eye health promotion is virtually non-existent and most probably due to the lack of eye health promotion strategy or policy in South Africa. The current study revealed that poor eye health among South Africans was due to lack of access to basic eye care, dietary intake and lifestyle practices. These are the issues that need to be addressed at policy level. Issues of advocacy, poverty, lack of human resources, community participation, and school health should be thoroughly addressed when a policy in eye health promotion is developed by policy makers in government. Also, the health promotion focal persons located in all provinces have no knowledge of any eye health promotion initiatives hence they are not involved in any eye health promotion programmes. However, the availability of the national guidelines on various issues of eye

care forms a good platform for the proposal of the development of an integrated eye health promotion policy in South Africa.

6.4.5 Eye health promotion in health policy documents

Unfortunately, no health policy document in the South African health care system refers to eye health promotion. Although the guidelines on various issues regarding eye care have reference to important issues that are relevant to eye care, these guidelines make no mention of specific strategies for eye health promotion. Furthermore, they make no mention of eye health promotion. Some of the other health policy documents from various health directorates only make mention of vision screening in their health promotion programmes. This further confirms that eye health promotion is non-existent in the South African primary health care system.

6.4.6 Integrating eye health promotion strategies

With a lack of a clear strategy from the Directorate of Chronic Diseases, Disabilities and Geriatrics, where eye health promotion is supposedly located, it is virtually impossible for other health directorates to have a strategy for eye health promotion, more especially because eye health is not a priority in the South African health care system. Although managers of these other health directorates agreed that there is a need for integration, they reported a serious limitation of capacity to carry out any initiatives for eye health promotion. Therefore, until such time when a strategy of eye health promotion is developed, eye health will always be in the back foot and many individuals will be affected. Consequently, this will increase the burden on the government as

many people will be dependent on the social grant to survive due to the burden of disease.

6.4.7 Reorienting eye health services delivery in South Africa

In view of the current situation in eye health care in South Africa, there is a need for urgent consideration of the importance of a model for eye care and eye health promotion. Currently, there are very few primary eye optometrists (8%) and ophthalmic nurses in the public sector with the other 92% (mostly optometrists) being in private sector. Approximately 80% of the public is serviced by the 8% of eye care practitioners who are in the public health service. The other 20% of the public is currently catered for by 80% of eye care practitioners in the private health sector.

Primary eye care practitioners such as optometrists and nurses are an integral part of any eye health promotion strategy and therefore should be readily available in the public sector. However, there is a hope that the proposed NHI will bring some change to the primary eye care system in South Africa. However, such a change may take too long to be realized if there is no policy on eye health promotion. Therefore, as part of strengthening primary health care in South Africa as proposed in the NHI green paper, processes should be set in place to draft a policy in eye health promotion. Also, there is an urgent need to restructure management in health promotion and redefine health priority settings in South Africa.

New directorates such as one on Comprehensive Healthy Living could be developed to deal with issues of unhealthy behaviours

which eventually affect eye health. This directorate would work with other health directorates to assist in areas of healthy living and may therefore have adequate capacity to address issues that affect eye health as a result of unhealthy lifestyles. Also, a new directorate of Eye Health Promotion should be developed so that eye health care may be given enough support and capacity to discharge its mandate and thus meet its Millennium Development Goals.

6.4.8 Evidence based eye health promotion

As a confirmation that there is no eye health promotion strategy in South Africa, there was no documentary proof to confirm efforts on eye health promotion. Although there were reports that eye health promotion was being done in some provinces such as KwaZulu-Natal, Limpopo and Gauteng, there was no evidence. This therefore suggests that any eye health promotion programmes that were there were not being evaluated for efficiency and future improvement. Evidence-based health promotion is an important element of any health promotion programme. It is therefore believed that the development of a model for eye health promotion will address this important aspect as well.

6.5 RECOMMENDATIONS

Although the study had various objectives, the main one was to examine the potential for policy proposals to contribute to improved community eye health. The study indicated that potential opportunities to integrate eye health service delivery have not been adequately explored. Rhetorical statements on primary health care philosophies and commitments to integration and

multi-sectorial collaboration are generally included in the documents examined. However these statements have not been translated into pragmatic policy formulations or implementable programmes and strategies for eye health promotion in particular. The research findings suggest that the health policy process for various health disciplines remains a vertical process despite the inclusion of these rhetorical statements. Also, the policy statements showed that eye health promotion in particular is not a key priority area in the health care system. Furthermore, the study showed that there were no coordinated activities that were undertaken by the South African National Department of health directed to the aspect of eye health promotion.

In view of the lack of a coordinated strategy for eye health promotion in South Africa, the findings in the study suggest the following:

6.5.1 Establishment of a Directorate of Eye Health Promotion

Eye health promotion is currently located under the Directorate of Chronic Diseases, Disabilities and Geriatrics and is headed by a director whose training is not in eye health care. Consequently, eye health has not progressed to a level where eye health promotion is prominent across the country. It is therefore suggested that an Eye Health Promotion Directorate be established in order to deal with issues of eye health promotion effectively and efficiently. Also, adequately qualified eye health care practitioners should be part of this directorate.

6.5.2 Development of Eye Health Promotion Policy

Following the establishment of a Directorate of Eye Health Promotion, the process of formulating an eye health promotion model should begin. The Ottawa Charter should be used as the basis for the formulation of this policy and should include some of the following key issues that are vital in any health promotion strategy:

6.5.2.1 Health education

This is an important aspect for any health promotion strategy. Community members should be educated on certain behavioural patterns that are detrimental to their health. Also, issues of services uptake should be addressed at this level. Furthermore, eye health education should be incorporated into the school curriculum. Therefore, the Department of Basic Education and the Department of Health should work together to develop strategies that will assist in eye health promotion at this level.

6.5.2.2 Improvements on health services

Some of the barriers to uptake of services have reportedly been the low confidence of patients on the services that are rendered among other issues. This obviously emanate from past experiences in health care facilities where eye care services are rendered. It is therefore important that eye care services are improved and plans to improve services should be aligned with the NHI policy proposals that are earmarked to be rolled-out in the near future to all South Africans.

6.5.2.3 Medical attention

The medical approach to health promotion should effectively address issues of immunization, nutrition and health screening. Immunization of children may prevent conditions such as measles and polio which have detrimental effects on eye health. Also, VAD has been reported to be highly prevalent in some parts of South Africa, therefore, issues of nutrition should be addressed in the proposed new policy on eye health promotion. Furthermore, screening for potential blinding eye diseases may help in early intervention and thus improving the quality of lives of the affected individuals.

6.5.2.4 Empowerment and social change

Community based projects have worked in the past in eliminating blinding diseases such as trachoma in South Africa. The policy on eye health promotion should outline strategies of community participation and self care in eye health promotion. These initiatives will effectively empower communities towards social change which will lead to improved health in general.

6.5.2.5 Advocacy

The lack of a model for eye health promotion is directly linked to issues of advocacy and the lack of political support for blindness prevention policies. This is also confirmed by the lack of eye care services in other provinces such as the Western Cape and the Northern Cape. In provinces where eye care is available, there is no adequate support for eye health promotion programmes and the issues of staffing have resulted in delayed service delivery for affected patients. It is therefore important that the eye health

promotion policy should be able to address this issue for the sustainability of its programmes.

6.5.2.6 Programmes evaluation

For any effective health promotion strategy, evaluations of health promotion programmes to increase the role of intervention and measure the impact of inputs and subsequent outcomes is vital. The policy should address this important aspect intensively including issues of records keeping for statistical and research purposes.

The details of how eye health promotion programmes should be rolled-out have been fully discussed previously in this chapter. It is therefore important that the National Department of Health starts to engage in a discourse of formulating an integrated eye health promotion model for South Africa as proposed in Figures 6.8. and 6.9.

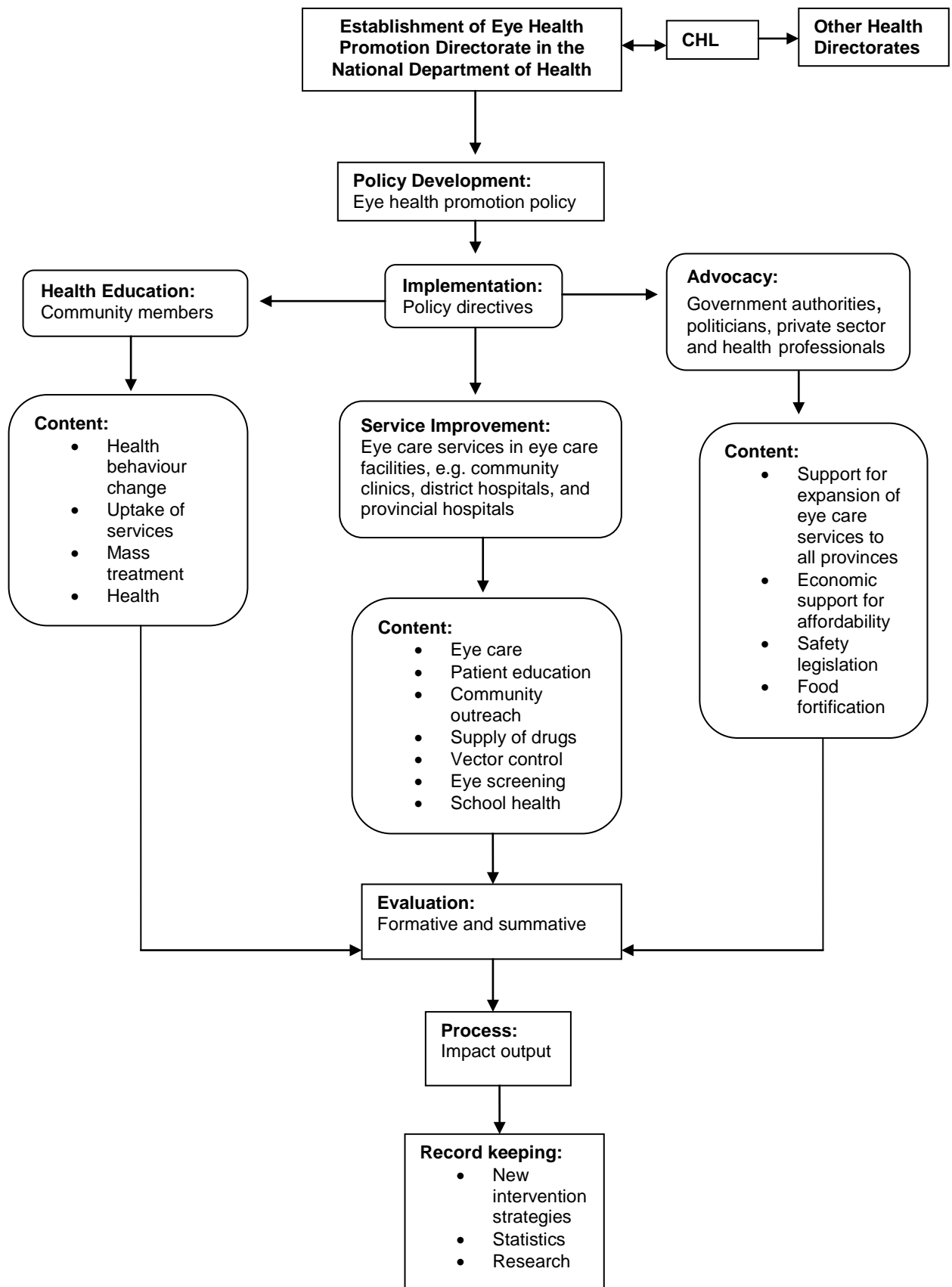


Figure 6.8: Showing a proposed schematic representation of a new Directorate of Eye Health Promotion and details of new policy development on eye health promotion in South Africa.

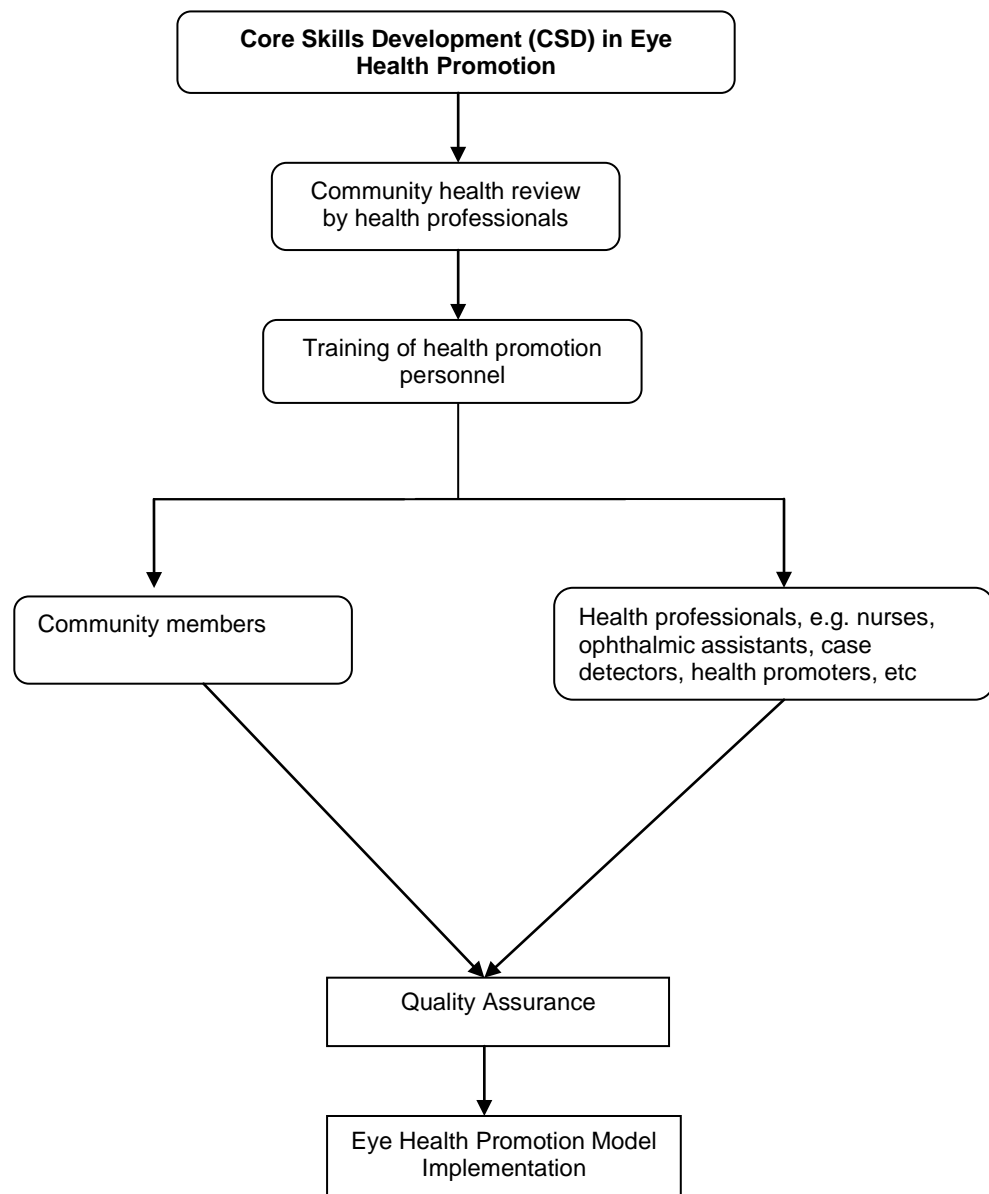


Figure 6.9: Showing the proposed model for CSD in Eye Health Policy Development. CSD will be important to develop and pilot management strategies before implementation.

6.6 CONTRIBUTIONS OF THE STUDY

In the absence of a policy on eye health promotion in South Africa and in view of the current state of eye care services delivery which are disintegrated with provinces following different models of eye care, the study sought to integrate the strategies for eye care services delivery in South Africa by proposing the formulation of a new Directorate of Eye Health Promotion and the development of a policy on eye health promotion as shown in the recommendations detailed in this chapter. Also, the proposals made in this study are important for the newly proposed NHI policy and will therefore be a significant contribution in the primary health care system.

Furthermore, the contributions of this study are vital in the improvement of eye care services in South Africa and thus positively improving the quality of lives of most South Africans who are currently experiencing avoidable blindness due to a number of barriers to uptake of eye care services which will be addressed and possibly be eliminated through the implementation of the proposed new policy directives. It is also important to note that if the proposed strategies are implemented, South Africa may then be in a good position to meet WHO's VISION 2020 initiative of eliminating cases of avoidable blindness by the year 2020. As previously discussed, eye health promotion is viewed as the most important aspect of helping the world to reach the goals of this initiative. In view of this positive contribution, the study therefore has a global impact in eye care and eye health promotion.

6.7 LIMITATIONS OF THE STUDY

The analysis of health policy is an inherently complex research process and the conceptual model used here illustrates the value of a multi-level approach, incorporating both quantitative and qualitative research techniques. This section presents an evaluation of the weakness and limitations of the conceptual framework.

6.7.1 Weakness of the study

The study identified participants at various levels of the public health system to provide different perspectives on eye health promotion-related policy and planning. However, the study did not fully examine the possible impact and influence of the private sector on eye health promotion. The research findings suggest that the private sector could provide valuable support for community eye health promotion as soon as an eye health promotion strategy is developed. A follow-up study may need to explore realistic public-private partnerships in eye health promotion in South Africa.

The research used inductive approach to allow for the creation of new dimensions in eye health-related policy development and planning. However this approach also has its limitations. Issues such as barriers to eye health policy formulation and implementation as well as district health integration were not extensively covered. However it must be noted that part of the reason for not covering these areas extensively was linked to the non-availability of any evidence on eye health promotion activities across the country. Thus the data obtained from the questionnaires and interviews did not provide in-depth information

on the barriers to eye health policy development, implementation and integration. Also, the study did not focus exclusively on the responses obtained from qualitative data analysis due to the overwhelmingly lack of information on eye health promotion activities in all provinces of South Africa.

Apart from the conceptual framework, the research process also included some fundamental assumptions, each of which presents a substantial barrier to effective service delivery in South Africa. One assumption was that the inclusion of eye health promotion proposals could help improve eye health status by raising awareness for health action. The results of the study suggest that eye health promotion issues first need to be placed onto other key policy agendas. This needs to be done at a level where health action can be initiated. The results further suggest that this process is currently fragmented and that there is no evidence of success rate in policy integration, largely due to a lack of such policies in eye health care. The next assumption was that if eye health promotion activities were properly executed then these interventions would contribute to improved eye health status. The research findings suggest that the content, nature and process of eye health promotion activities, together with the availability of resources and capacity building will be required if any strategies on eye health promotion are to impact positively on eye health status.

Despite these limitations, the conceptual framework has helped in gaining better understanding of the complex process in health policy development. It is therefore understood that although policy

development processes may have serious barriers, the benefits of inherent policy derivatives may result in improved primary eye care services in South Africa.

6.8 CONCLUDING REMARKS

The study has revealed that opportunities exist for eye health promotion to be effectively integrated into key health policy development efforts in South Africa. There is however a need to consider the context, content and appropriateness of eye health promotion services in South Africa. Also, there is a need for a clear strategy to link policy makers across sectors, departments and provinces to facilitate health policy and programmatic integration. Furthermore, the study has revealed that it is important that effective evaluation strategies are developed to measure inputs, outputs, process, outcomes and the impact of eye health promotion services within the social system. Therefore, policy makers in Government, eye care practitioners, the private sector and health promotion advocates should now engage in eye health promotion policy development to meet both the MDGs and the VISION 2020 (the Right to Sight campaign). Also, as previously stated, an Eye Health Promotion Model will be important for the proposed NHI. Without such a model, the NHI will be highly compromised in issues of eye care and will therefore be unable to meet some of its major objectives.

REFERENCES

Abdulla, K.N. & Al-Sharqi, O.Z. 2012. Barriers to the uptake of eye care services in developing countries: a systematic review of interventions. *Health Education Journal* 1-13.

Ackers, L. & Abbott, P. 1996. *Social Policy for Nurses and the Caring Professions*. Open University Press. Buckingham. Great Britain: 43-66.

Adams, A. & Cox, A.L. 2008. Questionnaires, in-depth interviews and focus groups. In: Cairns, P. & Cox, A.L. eds. *Research methods for human computer interaction*. Cambridge, UK: Cambridge University Press.

Ajuwon, A.J., Oladepo, O.O., Sati, B. & Otoide, P. 1997. Improving primary school teachers' ability to promote visual health in Ibadan, Nigeria. *International and Community Health Education* 16 219-227.

Alali, A.O. & Jinadu, B.A. 2002. *Health Communication in Africa: Contexts, Constraints and Lessons*. New York: University Press of America, Inc.

Aliber, M. 2003. Chronic poverty in South Africa: incidence, causes and policies. *World Development* 31(3) 473-490.

Allensworth, D.D. & Kolbe, L.J. 1987. The Comprehensive School Health Program: exploring an expanded concept. *Journal of School Health* 57 409–412.

Allensworth, D.D., Lawson, E., Nicholson, L. & Wyche, J. 1997. *Schools and Health: Our Nation's Investment. Comprehensive School Health Programs in Grades K-12*. Institute of Medicine, National Academy Press, Washington, DC.

Allensworth, D.D., Wyche, J., Lawson, E. & Nicholson, L. 1995. *Defining a Comprehensive School Health Program: An Interim Statement*. Division of Health Sciences Policy, National Academy Press, Washington, DC.

Allingham, R.R., Wiggs, J.L., Hauser, E.R., Larocque-Abramson, K.R., Santiago-Turla, C., Broomer, B., Del Bono, E.A., Graham, F.L., Haines, J.L., Pericak-Vance, M.A. & Hauser, M.A. 2005. Early adult POAG linked to 15q11-13 using Ordered Subset Analysis. *Investigative Ophthalmology and Visual Science* 46(6) 2002-2005.

Andrew, G. & Pillay, Y. 2005. *Priorities for the national health system (2004-2009)*. In *South African Health Review*. HST, Durban, 2-5.

Anyangwe, S.C.E., Mtonga, C. & Chirwa, B. 2006. Health inequities, environmental insecurity and the attainment of the Millennium Development Goals in Sub-Saharan Africa: the case study of Zambia. *International Journal of Environmental Research and Public Health* 3(3) 217-277.

Arnstein, S.R. 1969. A ladder of citizen participation. *American Institute of Planners Journal* 35 216-224.

Atkinson, S. 2002. Political Cultures, Health Systems and Health Policy. *Journal of Social Science and Medicine* 55(1) 113-124.

Ayalew, W., Gebriel, Z.W. & Kassa, H. 1999. *Reducing vitamin A deficiency in Ethiopia: Linkages with a women-focused dairy goat farming project*. Washington DC: International Centre for Research on Women, 1-27.

Badura, B. & Kickbusch, I. 1991. *Health Promotion Research. Towards a New Social Epidemiology*. WHO Regional Publications. European Series. No. 37. World Health Organisation. Copenhagen: 59-79.

Baggott, R. 2000. *Public Health: Policy and Politics*. Palgrave. Great Britain: 2-18.

Bailey, R., Downes, B., Downes, R. & Mabey, D. 1991. Trachoma and water use: a case study in a Gambian village. *Transactions of the Royal Society of Tropical Medicine and Hygiene* 85(6) 824-828.

Bailey, R.N. & Heitman, E. 2000. *An optometrist's guide to clinical ethics*. American Optometric Association, St. Louis.

Balo, P.K., Serouis, G. & Banla, M. 2004. Knowledge, attitudes and practices regarding glaucoma in the urban and suburban population of Lome, Togo. *Sante* 14 187-191.

Bamashmus, M.A. & Al-Akily, S.A. 2010. Profile of childhood blindness and low vision in Yemen: a hospital-based study. *Eastern Mediterranean Health Journal* 16(4) 425-428.

Bamberger, M. 2000. *Integrating quantitative and qualitative research in development projects*. Washington, DC: World Bank.

Bambra, C., Joyce, K.E. & Maryon-Davies, A. 2010. '*Strategic review of health inequities in England post-2010: Task group 8: priority public health conditions: final report.*' Project Report. University College London, Department of Epidemiology and Public Health, the Global Health Equity Group, London.

Barker, C. 1998. *Analysing Health Care Policies. Health Services Policy Module – NUFF 5500*. Nuffield Institute for Health. International Division. United Kingdom. Unpublished.

Barker, C. 1997. *Designing a Policy Study*. Health Services Module – NUFF 5500.

Barker, C. 1996. *The Health Care Policy Process*. The Cromwell Press Ltd.

Baum, F. 1998. *The new public health: An Australian Perspective*. Oxford University Press.

Bazely, P. 2002. *Issues in mixing qualitative and quantitative approach to research*. Presented at the 1st International Conference – qualitative research marketing and management of economics and business administration, Vienna.

Bekibebe, C.O. & Gureje, O. 2008. Impact of self reported visual impairment on quality of life in the Ibaden study of ageing. *British Journal of Ophthalmology* 92 612-615.

Best, J.M. 2007. Rubella. *Seminars in Fetal and Neonatal Medicine* 12(3) 182-192.

Bhuyan, K.K. 2004. Health promotion through self-care and community participation: elements of a proposed programme in the developing countries. *BMC Public Health* 4:11.

Bloom, G. 2001. Equity in Health in Unequal Societies: Meeting Health Needs in Contexts of Social Change. *Journal of Health Policy* 57(3) 205-224.

Booth, M.L. & Samdal, O. 2008. Health-promoting schools in Australia: models and measurements. *Australian and New Zealand Journal of Public Health* 21(4) 365-370.

Bonomi, L., Marchini, G., Marraffa, M., Bernardi, P., Morbio, R. & Vortotto, A. 2000. Vascular risk factors of primary open-angle glaucoma: The EgnaNeumarkt Study. *Journal of Ophthalmology* 107(7) 1287-1293.

Barron, P. 2000. *The District Health System – Progress to Date*. HST Update. Issue No. 51. The Health Systems Trust. Durban: 3-4.

Bowman, K.G. 2007. A research synthesis overview. *Nursing Science Quarterly* 20:2 171-176

Bowling, A. 1997. *Research methods in health*. Open University Press.

Boynton, P.M. & Greenhalgh, T. 2004. Selecting, designing, and developing your questionnaire. *British Medical Journal* 328(7451) 1312-1315.

Bracht, N. 1990. *Health Promotion at the Community Level*. Sage Publications. Inc. USA: 52-58.

Bradshaw, D., Norman, R., Pieterse, D. & Naomi, S.L. 2007. Estimating the burden of diseases attributable to diabetes in South Africa in 2000. *South African Medical Journal* 97 700-706.

Breslin, C.W. 2007. The National Coalition of Vision Health. *Canadian Journal of Ophthalmology* 42(6) 790-791.

Brieger, W.R., Ramakrishna, J. & Adeniyi, J.D. 1998, In: Carlaw R, Ward B, eds. *Primary health care: the African experience*. Oakland, California: *Third Party Publishing Company*, 341-371.

Brugha, R. & Varvasovszky, Z. 2000. Stakeholder analysis: a review. *Health Policy and Planning* 15(3) 239-246.

Brugha, R. & Zwi, A. 1998. Improving the Quality of Private Sector Delivery of Public Health Services: Challenges and Strategies. *Health Policy and Planning* 13(2) 107-120.

Burris, S., Gable, L., Stone, L. & Lazzarini, Z. 2003. The role of state law in protecting human subjects of public health research and practice. *The Journal of Law, Medicine and Ethics* 31(4) 654-662.

Canadian Association for School Health. 1991. *Comprehensive School Health: A Consensus Statement*. Surrey, BC.

Carr, E.C.J. & Worth, A. 2001. The use of the telephone interview for research. *Journal of Research in Nursing* 6(1) 511-524.

Chernichovsky, D. & Potapchik, E. 1999. Genuine federalism in the Russian health care system: changing roles of Government. *Journal of Health Politics, Policy and Law* 24(1) 115-144.

Cheung, N. & Wong, T.Y. 2007. Obesity and eye diseases. *Survey of Ophthalmology* 52(2) 180-195.

Chobanian, A.V., Bakris, G.L., Black, H.R., Cushman, W.C., Green, L.A., Izzo Jr, J.L., Jones, D.W., Materson, B.J., Oparil, S., Wright Jr, J.T., Rocella, E.J. & The National High Blood Pressure Education Program Coordinating Committee. 2003. Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure. *Hypertension* 42 1206-1252.

Christian, P., West, K.P., Jr., Khatry, S.K., Kimbrough-Pradhan, E., LeClerq, S.C., Katz, J., Shrestha, S.R., Dali, S.M. & Sommer, A. 2000. Night blindness during pregnancy and subsequent mortality among women in Nepal: effects of vitamin A and β carotene supplementation. *American Journal of Epidemiology* 152 542–547.

Christian, P., West, K.P., Jr., Khatry, S.K., Pradhan, E.K., LeClerq, S.C., Katz, J., Shrestha, S.R. & Pokhrel. 1998. Night blindness of pregnancy in rural Nepal – nutritional and health risks. *International Journal of Epidemiology* 27 231-237.

Cianni, G., Volpe, L., Lencioni, C., Miccoli, R., Cuccuru, I., Ghio, A., Chatzianagnostou, K., Bottone, P., Teti, G., Del Prato, S. & Benzi, L. 2003. *Diabetes research and clinical practice* 62(2) 131-137.

Clarke E. (2000). Legislating for Equity. In *Equity in South Africa*. HST Update. Issue No.49. The Health Systems Trust. Durban: 12.

Cole, D.C., Eyles, J., Gibson, B.L. & Ross, N. 1999. Links between humans and ecosystems : the implications of framing for health promotions strategies. *Health Promotion International* 14 65-72.

Connolly, M., Colvin, M., Shishana, O. & Stoker, D. 2008. Epidemiology of HIV in South Africa – results of national, community-based survey. *South Africa Medical Journal* 94 776-781.

Constitution of the Republic of South Africa. 1996. No. 38 Act 106 of 1996 Government Printers: Pretoria.

Corrigan, M., Newton, J.T., Gibbons, D.E. & Locker, D. 2001. The Mouth-Body Split: Conceptual Models of Oral Health and their Relationship to General Health among Ethnic Minorities in South Thames Health Region. *Community Dental Health* 18 42-46.

Coulson, N. 2000. "Éditorial" In *South African Health Review*. HST update, issue No. 53.

Coulson, N. 1999. *Health Promotion*. South African Health Review.

Coulson, N., Goldstein, S. & Ntuli, A. 1998. *Promoting health in South Africa: An Action Manual*. Heinemann, Sandton, Johannesburg.

Courtright, P. 1995. Eye care knowledge and practices among Malawian traditional healers and the development of collaborative blindness prevention programmes. *Social Science Medicine* 41(11) 1569-1575.

Courtright, P., Kanjaloti, S. & Lewallen, S. 1995. Barriers to acceptance of cataract surgery among patients presenting to district hospitals in rural Malawi. *Tropical and Geographical Medicine* 47 15-18.

Croasdale, A. 2008. South African Department of Health. Deputy Director: Chronic Diseases, Disabilities and Geriatrics (personal communication, October 2).

Dandona, R. & Dandona, L. 2001. Refractive error blindness. *Bulletin of the World Health Organization* 79(3) 237-243.

Dandona, R., Dandona, L., John, R.K., McCarty, C.A. & Rao, G.N. 2001. Awareness of eye diseases in an urban population in southern India. *Bulletin of the World Health Organization* 79 96-102.

Daniels, N. 2002. *Accountability for reasonableness in private and public health insurance*. In: Coulter A, Ham C, editors. *The global challenge of health care rationing*. Buckingham: Open McIntyre D, Muirhead D, Gilson L.

Departments of Health and Basic Education. 2012. *Integrated school health policy*, South Africa.

Department of Health 2002. *Annual Report 2001/2002*. Printed by Formset.

Department of Health. 2006. *A report on the South African Move for Health Initiative (Vuka), (2004-2005)*. Department of Health, Pretoria. Minister of Health Budget Speech.

Department of Health. 2005. *South African Millenium Development Goals*. Country Report: Department of Health, Pretoria.

Department of Health. 2004. *Annual report*, Department of Health, Pretoria.

Department of Health. 2002. *National Guideline on Prevention of Blindness in South Africa*. Directorate: Chronic Diseases, Disabilities and Geriatrics, December.

Department of Health. 1999. *The primary health care package for South Africa: set of norms and standards*. Pretoria, South Africa: Government Printers.

Department of Health. 1997. *White paper for the Transformation of the Health System*. Department of Health, Pretoria.

Department of Education. 1996. *National Commission on Higher Report*. Department of education, Pretoria.

De Vries, H. 1998. *Planning health promotion*. In Weston, R. and Scott, D. *Evaluation of Health Promotion*. Stanley Thornes, Cheltenham, 92-108.

De Fronzo, R.A. 1999. Pharmacologic therapy for Type 2 diabetes mellitus. *Annals of International Medicine* 131(4) 281-303.

De Leeuw, E. 1993. *Health Policy, Epidemiology and Power*. The Interest Web. Health Promotion International. Oxford University Press: 49-52.

Denzin, N.K. & Lincoln, Y. 1994. *Handbook of qualitative research*. Thousand Oaks. CA: SAGE.

Deschesnes, M., Martin, C. & Hill, A.J. 2003. Comprehensive approaches to school health promotion: how to achieve broader implementation? *Health Promotion International* 18(4) 387-396.

De Sole, G. & Martel, E. 1988. Test of the prevention of blindness health education programme for Ethiopian primary schools. *International Journal of Ophthalmology* 11 255-259.

Devendra, D., Liu, E. & Eisenbarth, G.S. 2004. Type 1 diabetes: recent developments. *British Medical Journal* 328(7442) 750-754.

Dineen, B. 1999. Health promotion and community participation in eye care services. *Community Eye Health* 12(31) 35-36.

Distelhorst, J.S. & Hughes, G.M. 2003. Open-angle glaucoma. *American Family Physician* 67(9) 1937-1944.

Downie, R.S., Fyfe, C. & Tannahill, A. 1991. *Health Promotion – Models and Values*. Oxford University Press: 46-65.

Dror, Y. 1993. Improving public policy analysis: Study material for top executives, Department for Development Support and Management Services, UN, New York.

Durant, J. 2002. Risk factors for the development of cataract: a literature review. *Optometry Practice* 3 9-27.

Du Toit, R., Palagyi, A., Ramke, J., Brian, G. & Lamoureux E.L. The impact of reduced distance and near vision on the quality of life of adults in Timor-Leste. *Ophthalmology* 117(12) 2308-2314.

Easterly, W. 2009. How the Millennium Development Goals are unfair to Africa. *World Development* 37(1) 26-35.

Elliot, A. 2004. Complexities of an Evidence-Based Clinical Practice. *Journal of Evidence Based Dental Practice* 4 200-209.

Ellwood, R.P. & Mullane, D.M. 1996. Identification of Areas with High Levels of Untreated Dental Caries. *Community Dentistry and Oral Epidemiology* 24 1-6.

Enoch, J.M., Barroso, L. & Huang, D. 1993. Cataract: a critical problem in the developing world. *Optometry and Vision Science* 70(11) 986-989.

Etya'ale, D. 2002. Eliminating Onchocerciasis as a public health problem: Beginning of the end. *British Journal of Ophthalmology* 86 844–846.

Evans, R.G., Barer, M. & Marmor, T.R. 1994. *Why are some people healthy and others not – the determinants of health of populations*. Aldine de Gruyter, New York, NY.

Eysenbach, G. 2000. Consumer health informatics. *British Medical Journal* 320 (7251) 1713-1716.

Ferguson, T. 1995. Consumer health Informatics. *Healthcare Forum Journal* 38 28-33.

Filmer, D., Jeffrey, S. & Pritchett, L.A. 2002. Weak links in The Chain II: A Prescription for Health Policy in Poor Countries. *The World Bank Research Observer* 17(1) 47-66.

Forrest, J.L. & Miller, S.A. 2001. Enhancing your Practice through Evidence-Based Decision Making. *Journal of Evidence-Based Dental Practice* 1 51-57.

Foster, P.J., Baasanhu, J., Alsbirk, P.H., Munkhbayar, D., Uranchimeg, D. & Johnson, G.J. 1996. Glaucoma in Mongolia: a population-based survey in Hovsgol Province, Northern Mongolia. *Archives of Ophthalmology* 114(10) 1235-1241.

Foster, P.J., Devereux, J.G., Alsbirk, P.H., Lee, P.S., Uranchimeg, D., Machin, D., Johnson, G.J. & Baasanhu, J. 2000. Detection of gonioscopically occludable angles and primary angle closure glaucoma by estimation of limbal chamber depth in Asians: modified grading scheme. *British Journal of Ophthalmology* 84 186-192.

Foster, A., Gilbert, C. & Johnson, G. 2008. Changing pattern in global blindness: 1988-2008. *Community Eye Health* 21(67) 37-39.

Fong, D.S., Aiello, L., Gardner, T.W., King, G.L., Blankenship, G., Cavallerano, J.D., Ferris, F.L. & Klein, R. 2004. Retinopathy in diabetes. *Diabetes Care* 27(1) 84-87.

Foster, A. & Gilbert, C. 2008. Changing patterns in global blindness: 1988-2008. *Community Eye Health Journal* 21(67) 36-38.

Fotouhi, A., Hashemi, H. & Mohammed, K. 2006. Eye care utilization patterns in Tehran population: a population based cross-sectional study. *British Journal of Ophthalmology* 6 4-12.

Frenk, J. 1995. Comprehensive Policy Analysis for Health System Reform. *Health Policy* 32(1-3) 255-277.

Gadebe, T. 2007. AU chair calls for Africa's economic recovery. Available from <http://www.allafrica.com/stories/200705070800.html>. (Accessed on 18 January 2013).

Gibson, C.H. 1991. A concept analysis of empowerment. *Journal of Advanced Nursing* 16 354-361.

Gilbert, C. & Foster, A. 2001. Childhood blindness in the context of VISION 2020-The Right to Sight. *Bulletin of the World Health Organization* 79 222-232.

Gilbert, C. & Foster, A. 2001. Blindness in children: control priorities and research opportunities. *British Journal of Ophthalmology* 85 1025-1027.

Gilbert, C.E., Foster, A. & Minassian, D. 1999. Measuring the burden of childhood blindness. *British Journal of Ophthalmology* 83 387-388.

Gilbert, C.E., Shah, S.P., Jadoon, M.Z., Bourne, Dineen, B. Khan, MA. Johnson & Khan, M.D. 2008. Poverty and blindness in Parkiston: results from the Pakistan natural blindness and visual impairment survey. *British Medical Journal* 336 29-32.

Glasgow, R.E, Vogt, T.M. & Boles, S.M. 1999. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *American Journal of Public Health* 89 1322-1327.

Glanz, K., Lewis, F.M. & Rimer, B.K. 1997. *Health Behaviour and Health Education: Theory, Research and Practice*. Jossey-Bass, San Fransisco, CA.

Glendinning, C. 2003. Breaking down Barriers: Integrating Health and Care services for Older People in England. *Journal of Health Policy* 65(2) 139-151.

Goldstein, J. 1988. A far-from-equilibrium systems approach to resistance to change. *Organizational Dynamics* 17 16–26.

Gott, M. & O'Brien, M. 1990. The role of the nurse in health promotion. *Health Promotion International* 5(2) 137-143.

Gottlieb, N.H., Keogh, E.F., Jonas, J.R., Grunbaum, J.A., Walters, S.R., Fee, R.M., Saunders, R.P & Baldyga, W. 1999. Partnerships for comprehensive school health: collaboration among colleges/universities, state-level organizations, and local school districts. *Journal of School Health* 69(8) 307-313.

Govender, R.D. 2005. The barrier and challenges to Health Promotion in Africa. *South African Family Practice* 47(10) 39-42.

Gray, J.A.M. 1997. *Evidence-Based Health Care*. How to make Health Policy and Management Decisions. Churchill Livingstone.

Gray, J.A.M. 2001. *Evidence-Based Healthcare*. Second Edition. Churchill Livingstone.

Green, A. 1995. The State of Health Planning in the 90's. *Health Policy and Planning* 10(1) 22-28.

Green, J. & Britten, N. 1998. Qualitative research and evidence based medicine. *British Journal of Medicine* 316 1230-1232.

Gross, A., Veglio, F., Porta, M., Grignolo, F.M. & Wong, T.Y. 2005. Hypertensive retinopathy revisited: some answers, more questions. *British Journal of Ophthalmology* 89 1646-1654.

Gubrium, J.F. & Holstein, J.A. 2001. *Handbook of Interview Research: Context and Method*. Sage Publications.

Guldan, G.S. 1996. Obstacles to community health promotion. *Social Science and Medicine* 43(5) 689-695.

Hagenimana, V.M., Oyunga, J., Low, M., Njoroge, N., Gichuki, J. & Kabira, P. 1999. *The effect of women farmers's adoption for orange-fleshed sweet potatoes; raising vitamin A intake in Kenya*. Washington DC: International Centre for Research on Women 1-24.

Ham, C. 1997. Priority setting in health care: learning from international experience. *Health Policy* 42 49-66.

Harris, E., Sainsbury, P. & Nutbeam, D. 1999. *Perspectives on Health Inequity*. Australian Centre for Health Promotion, Sydney.

Harrison, D. 1999. Social System Intervention. Chapter 6. Section 6.1. In *Perkins E.R, Simnett I, Wright L, [Editors]. Evidence-Based Health Promotion*. London: John Wiley & Sons Ltd: 125-137.

Hawes, H., Nicholson, J. & Bonati, G. 1991. *Children, health and science: Child-to-child activities and science and technology teaching*, Science and Technology Education Document Series No 41. ED-91/WS/38, eds. Paris: UNESCO, 122.

Hawe, P., Noort, M., King, L. & Jordens, C. 1997. Multiplying health gains: the critical role of capacity – building within health promotion programme. *Health Policy* 39(1) 29-42.

Hawes, H. & Scotchmer, C. 1993. *Children for Health*. London, New York: Child-to-Child Trust/UNICEF, 185.

Henning, C. 2005. *Finding your way in qualitative research*. Pretoria: Van Schaik Publishers.

Hillman, J.S. 1979. Acute closed-angle glaucoma: an investigation into the effect of delay in treatment. *British Journal of Ophthalmology* 63 817-821.

Hobdell, M., Peterson, P.P., Clarkson, J. & Johnson, N. 2003. Global Goals for Oral Health 2020. *International Dental Journal* 53 285-288.

Hofstee, E. 2006. Constructing a good dissertation: a practical guide to finishing a Master's, MBA or PhD on schedule. Sandton: EPE.

Holden, B.A. 2007. Uncorrected refractive error: the major and most easily avoidable cause of vision loss. *Community Health Journal* 20(63) 37-39.

Holden, B.A., Fricke, T.R., Ho, S.M., Wong, R., Schlenker, G., Cronje, S., Burnett, A., Papas, E., Naidoo, K.S. & Frick, K.D. 2008. Global vision impairment due to uncorrected presbyopia. *Archives of Ophthalmology* 126(12) 1731-1739.

Hopkins, W.G. 2008. Research designs: choosing and fine-tuning a design for your study. *Sports Science* 12 12-21.

Hoyle, T.B., Samek, B.B. & Valois, R.F. 2008. Building capacity for the continuous improvement of health-promoting schools. *Journal of school health* 78(1) 1-8.

Huble, J. 2004. *Communicating health – an action guide to health education and health promotion*, 2nd ed. Oxford: Macmillan.

Huble, J. & Gilbert, C. 2006. Eye health promotion and prevention of blindness in developing countries: critical issues. *British Journal of Ophthalmology* 90 279-284.

Huble, J. 1999. Community participation – putting the community into community eye health. *Community Eye Health* 12 33.

Integration of risk factor interventions. Washington, DC, Department of Health and Human Services, 1985: 1-62.

Jacobs, J.A., Clayton, P.F., Dove, C., Funchess, T., Jones, E., Perveen, G., Skidmore, B., Sutton, V., Worthington, S., Baker, E.A., Deshpande, A.D. & Brownson, R.C. 2012. A survey tool for measuring evidence-based decision making capacity in public health agencies. *BMC Health Services Research* 12:57.

Jain, A., Sarrat, D. & Fong, D. 2003. Preventing diabetic retinopathy through control of systemic factors. *Current Opinion in Ophthalmology* 14(6) 389-394.

Jamison, D.T. & Mosley, W.H. 1991. Disease Control Priorities in Developing Countries: Health Policy Responses to Epidemiological Change. *American Journal of Public Health* 81(1) 15-22.

Johnson, J.G., Goode Sen, V. & Faal, H. 1998. Barriers to the uptake of cataract surgery. *Tropical Doctors* 28 218-220.

Johnson-Welch, C. 1999. *Focusing on women works: research on improving micronutrient status through food-based interventions.* Washington DC: International Centre for Research on Women, 1-30.

Jooste, H.L. 2006. *Audit report on Health Promotion Practitioners and Services in Mpumalanga.* Department of Health, Nelspruit, Mpumalanga.

Joseph, M.V. & Hubley, J.H. 1984. *Schools and primary health care – a slide set on the Kangazha school health project in Kerala, India*. St Albans: Teaching Aids at Low Cost.

Justin, L. & Gottlieb, M.D. 2002. Age-related macular degeneration. *Our Vision of Vision Health* 288(18) 2233-2236.

Kanda, A., Abecasis, G. & Swarop, A. 2008. Inflammation in the pathogenesis of age-related macular degeneration. *British Journal of Ophthalmology* 92 448-450.

Kasi, P.M., Gilani, A.L., Ahmad, K. & Janjua L. 2004. Blinding trachoma: a disease of poverty. *Plos Med* 1:e44.

Kanski, J.J. 1994. *Clinical Ophthalmology: A systemic approach*: Butterworth Heinemann, 3rd Edition.

Kasi, P.M. & Gilani, A.I. 2004. Trachoma still ignored in developing countries. *Lancet* 363 1736.

Kegler, M., Steckler, A., McLeroy, K. & Malek, S. 1998. Factors that contribute to effective community health promotion coalitions: a study of 10 project ASSIST coalitions in North Carolina. *Health Education and Behavior* 25 338–353.

Kelleher, C. 1996. Education and Training in Health Promotion: Theory and Methods. *Health Promotion International* 11(1) 47-53.

Kemm, J. 2001. Health Impact Assessment: A Tool for Healthy Public Policy. *Health Promotion International* 16 79-85.

Kerr, C., Taylor, R. & Heard, G. 1998. *Handbook of Public Health Methods*. The McGraw-Hill Companies. Incorporated: 553-681.

Khan, S., Kunz, R., Kleijnen, J. & Antes, G. 2003. Five steps to conducting a systematic review. *Journal of the Royal Society of Medicine* 96 118-121.

Khan, K.S., ter Riet, G., Glanville, J., Sowden, A.J., Kleijnen, J. (Eds)., 2001. *Undertaking Systematic Review of Research on Effectiveness*. CRD Report Number 4 (Second Edition), NHS Centre for Reviews and Dissemination, University of York, UK.

Klaver, C.C.W., Kliffen, M., van Duijn, C.M., Hofman, A., Cruys, M., Grobbee, D.E., van Broeckhoven, C. & de Jong, P.T.V.M. 1998. Genetic association of Apolipoprotein E with age-related macular degeneration. *American Journal of Human Genetics* 63 200-206.

Klein, B.E.K., Klein, R., Lee, K.E. & Cruickshanks K.J. 1998. Performance-based and self-assessed measures of visual function as related to history of falls, hip fractures, and measured gait time: The Beaver Dam Eye Study. *Journal of Ophthalmology* 105(1) 160-164.

Klein, R., Klein, B.E.K. & Linton, K.L.P. 1992. Prevalence of age-related maculopathy: The Beaver Dam Eye Study. *Journal of Ophthalmology* 99(6) 933-943.

Kothari, C. 2004. *Research methodology: methods and technique*. Dharmesh Printers, New Delhi, India.

Kottke, T. Disease and risk factor clustering in the US: implications for public health policy. In: Office of Disease Prevention and Health Promotion.

Krieger, N., Northridge, M., Gruskin, S., Quinn, M., Kriebel, D., Davey-Smith, G., Bassett, M., Rehkopf, D.H. & Miller, C. 2003. Assessing health impact assessment: multidisciplinary and international perspectives. *Journal of Epidemiology and Community Health* 57 659-662.

Kumar, R. 2005. *Research methodology: A step-by-step guide for beginners*. 2nd edition. London: SAGE.

Kuper, H., Polack, S., Eusebio, C., Mathenge, W., Wadud, Z. & Foster, A. 2008. A case-control study to assess the relationship between poverty and visual impairment from cataract in Kenya, the Philippines and Bangladesh. *PLoS Medicine* 5(12) e244.

Kuper, H. Polack, S. & Limburg, H. 2006. Rapid assessment of avoidable blindness. *Community Eye Health* 19(60) 68-69.

Kupfer, C. 1999. The low vision education programme: improving quality of life. *Optometry and Vision Science* 76(11) 729-730.

Labonte, R. 1990. Empowerment notes on professional and community dimensions. *Social Policy* 26 1-12.

Lamoureux, E.L., Fenwick, E., Moore, K., Klaic, M., Borschmann, K. & Hill, K. 2009. Impact of the severity of distance and near vision impairment on depression and vision specific quality of life in older people living in residential care. *Investigative Ophthalmology and Visual Science* 50(9) 4103-4109.

Laverack, G. & Labonte, R. 2000. A planning framework for community empowerment goals within health promotion. *Health Policy and Planning* 15(3) 255-262.

Lavis, J.N., Farrant, M.S.R. & Stoddart, G.L. 2001. Barriers to Employment-Related Healthy Public Policy in Canada. *Health Promotion International* 16(1) 9-20.

Lawallen, S. & Courtright, P. 2001. Blindness in Africa: present situation and future needs. *British Journal of Ophthalmology* 85 897-903.

Lawes, C.M.M., Bennett, D.A., Feigin, V.L. & Rodgers, A. 2004. Blood pressure and stroke: an overview of published reviews. *Stroke* 35 776-785.

Lee, D.A. & Higginbotham, E.J. 2005. Glaucoma and its treatment: a review. *American Journal of Health-System Pharmacy* 62(7) 691-699.

Leeder, S.R. 1997. Health-promoting environments: the role of public policy. *Australian and New Zealand Journal of Public Health* 21 413-414.

Legard, R., Keegan, J. & Ward, K. 2003. In-depth interviews. In Ritchie J and Lewis J (eds). *Qualitative research practice: a guide for social sciences students and researchers*. London: Sage publications.

Lewallen, S. & Courtright, P. 2000. Recognising and reducing barriers to cataract surgery. *Community Eye Health* 13 20-21.

Lewis, K., Patel, D., Yorston, D. & Charteris, D. 2007. A qualitative study in the United Kingdom of factors influencing attendance by patients with diabetes at ophthalmic outpatient clinics. *Ophthalmic Epidemiology* 14(6) 375-380.

Liang, M., Liu, Y., Mladinov, D., Cowley Jr, A.W., Trivedi, H., Fang, Y., Xu, X., Ding, X. & Tian, Z. 2009. MicroRNA: a new frontier in kidney and blood pressure research. *American Journal of Physiology-Renal Physiology* 297 553-558.

Limburgh, H., Vaidyanathan, K. & Dalal, H.P. 1995. Cost-effective screening of school children for refractive errors. *World Health Forum* 16 173-178.

Linder, S.H. 2002. On The Politics of Policy Development. *Journal of Public Health Management Practice* 8(1) 62-64.

Lock, K. 2000. Health impact assessment. *British Medical Journal* 320 1395-1398.

Locker, D. 2000. Deprivation and Oral Health: A Review. *Community Dentistry and Oral Epidemiology* 28 161-169.

Lopez-Acuna, D., Pittman, P., Gomez, P., Machado deSouza, H. & Fernandez, L. 2000. *Reorienting Health Systems and Services with Health Promotion Criteria*. Technical paper prepared for the Fifth International Conference on Health Promotion, Mexico City.

Ludbrook, A. & Porter, K. 2004. Do Interventions to Increase Income improve the Health Status of the Poor in Developed Economies and Are such Policies Cost Effective? *Journal of Applied Health Economics in Health Policy* 3(2) 115-120.

Lush, L., Walt, G., Cleland, J. & Mayhew, S. 2001. The Role of MCH and Family Planning Services in HIV/STD Control: Is Integration the Answer? *African Journal of Reproductive Health* 5(3) 29-46.

MacDonald, T.H. 1998. *Rethinking Health Promotion: a Global Approach*. Routledge, London.

McEvoy, A. & Welker, R. 2000. Antisocial behavior, academic failure, and school climate: a critical review. *Journal of Emotional and Behavioral Disorders* 8 130–140.

Massof, R.W. 1998. A system model for low vision rehabilitation II. Measurement of vision disabilities. *Optometry and Vision Science* 75(5) 349-373.

Maunder, E.M.W., Matji, J. & Hlatshwayo-Molea, T. 2001. Enjoy a Variety of Foods – Difficult but Necessary in Developing Countries. *South African Journal of Community Nutrition* 14(3) 7-11.

Mayfield, J. 1998. Diagnosis and classification of diabetes mellitus: new criteria. *American Family Physician* 58(6) 1369-1370.

Mays, N. & Pope, C. 1995. Rigour and qualitative research. *British Medical Journal* 311 109-112.

McIntyre, D. & Gilson, L. 2002. Putting Equity in Health back onto the Social Policy Agenda: Experience from South Africa. *Journal of Social Science Medicine* 54(11) 1637-1656.

McQueen, D.V. 2001. Strengthening the Evidence Base for Health Promotion. *Health Promotion International* 16(3) 261-268.

Meadows, L.M., Verdi, A.J. & Crabtree, B.F. 2003. Keeping up Appearances: Using Qualitative Research to enhance Knowledge of Dental Practice. *Journal of Dental Education* 981-990.

Miles, M.B. 1994. *Qualitative data analysis: an expanded sourcebook*. Sage: Thousand Oaks.

Milio, N. 1988. Making healthy public policy: developing the science by learning the art: an ecological framework for policy studies. *Health Promotion* 2 263-274.

Molukozi, G., Mselle, L. & Mgoba, C. 1999. *Improved solar drying of vitamin A enriched foods by women's groups in Singida District in Tanzania*. Washington DC: International Centre for Research on Women, 1-28.

Moon, A.M., Mullee, M.A., Rogers, L., Thompson, R.L., Speller, V. & Roderick, P. 1999. Helping schools to become health-promoting environments – an evaluation of the Wessex Healthy Schools Award. *Health promotion International* 14(2) 111-112.

More, E. 1991. Communication and organisational change: is that all there is? *Australian Journal of Communication* 18 1–13.

Morgan, D. 1998. *Health and environmental impact assessment*. Earthscan Publications Ltd, London, UK.

Morgan, D.L. 1998. Practical strategies for combining qualitative and quantitative methods: application to health research. *Qualitative Health Research* 8(3) 362-376.

Morgan, M. & Watkins, P. 1988. Managing hypertension: beliefs and responses to medication among cultural groups. *Sociology of Health and Illness* 10(4) 561-578.

Mouton, J. 2001. *How to succeed in your master's and doctoral studies*. Pretoria: Van Schaik Publishers.

Muirhead, D. 2000. *Equity in Health Financing*. HST Update Issue No. 55. The HealthSystems Trust. Durban: 5-6.

Munoz, C. & Wesk, S.k. 1997. Trachoma: the forgotten cause of blindness. *Epidemiologic Reviews* 19(2) 205-215.

Murray, C.J.L. & Lopez, A.D. 1996. Evidence-Based Health Policy – Lessons from the Global Burden of Disease Study. *Journal of Science* 274 740-743.

Murthy, G.V., Gupta, S.K. & Dada, V.K. 2001. The use of a newspaper insertion to promote DIY testing of vision in India. *British Journal of Ophthalmology* 85 952-955.

Murthy, R.S. 2000. Community resources for mental health care in India. *Epidemiologia e Psichiatria Sociale* 9(2) 89-92.

Murthy, G.V.S. 2000. Vision testing for refractive errors in schools. *Community Eye Health* 13 3-5.

Myburgh, N.G., Owen, C.P., Hobdell, M.H., Chikte, U.M.E., Matsinhe, D. & Thorpe, S.J. 2005. A Manual for National Oral Health Policy Formulation in the African Region. *Bulletin of the World Health Organization* 56 233-239.

Naidoo K.S., Wallace D.B., Holden B.A., Minto H., Faal H.B. & Dube P. 2010. The challenge of uncorrected refractive error: driving the agenda of the Durban Declaration on refractive error and service development. *Clinical and Experimental Optometry* 93(3) 131-136.

Naidoo, K. 2007. Poverty and blindness in Africa. *Clinical and Experimental Optometry* 90(6) 415-421.

Naidoo, J. & Wills, J. 2000. *Health Promotion: Foundations for Practice*, 2nd ed. Bailliere Tindall, London.

Naidoo, K.S., Raghunandan, A., Mashige, K.P., Govender, P., Holden, B.A., Pokharel, G.P. & Ellwein, L.B. 2003. Refractive error and visual impairment in African Children in South Africa. *Investigative Ophthalmology and Visual Science* 44(9) 3764-3770.

National Assembly for Wales. 1999. *Developing health impact assessment in Wales*. National Assembly for Wales, Cardiff, Wales.

Naylor, C.D. 1988. Private Medicine and the Privatization of Health Care in South Africa. *Social Science and Medicine* 27(11) 1153-1170.

Newmann, F.M., King, M.B. & Youngs, P. 2000. Professional development that addresses school capacity: lessons from Urban Elementary Schools. *American Journal of Education* 108(4) 259-299.

Nirenberg, J. 1991. Managing change as if people mattered. *Bond Management Review* 2 11–18.

Nojilana, B., Norman, R., Bradshaw, D., Stuijvenberg, M.E., Dhansay, M.A. & Labadarios, D. Estimating the burden of disease attributable to vitamin A deficiency in South Africa in 2000. *South African Medical Journal* 97 748-753.

Ntayiya, S., Mntuyedwa, M., Nomabunga, N., Klaas, L., Gogo, F. & Magaqa, H. 1998. *Health Promotion in a Rural Health District. Making it more Effective and Efficient. Initiative for Sub-District Support*. The Health Systems Trust. Kwik Kopy Printing. Durban.

Ntsoane, M.D. & Oduntan, O.A. 2010. A review of factors influencing the utilization of eye care services. *South African Optometrist* 69(4) 182-192.

Nutbeam, D. 2000. Health literacy as a public health goal: a challenge for contemporary health education and communication strategies into the 21st century. *Health Promotion International* 15 259-267.

Nutbeam, D. 1999. The Challenge to provide 'Evidence' in Health Promotion. *Health Promotion International* 14(2) 99-101.

Oduntan, A.O. 2007. Introducing low vision care into the Government eye care services in South Africa. *South African Optometrist* 66(4) 163-175.

Oduntan, A.O. 2005. Prevalence and causes of low vision and blindness worldwide. *South African Optometrist* 64(2) 44-54.

Oduntan, A.O., Raliavhegwa, M. & Lund, P.M. 2002. Vision status of children with oculocutaneous albinism. *Ophthalmic and Physiological Optics* 22(6) 572-573.

Okuonzi, S.A. & Macrae, J. 1995. Whose Policy is it Anyway? International and National Influences on Health Policy Development in Uganda. *Health Policy and Planning* 10(2) 122-132.

Olsen, I.T. 1998. *Sustainability of Health Care: A Framework for Analysis*. *Health Policy and Planning* 13(3). Oxford University Press: 287-295.

Omoigui, N.A. 2010. Public Health Implications of Conflicts in Africa. <http://www.dwodu.com/nowa1.htm> (accessed 06-10-2010).

Onya, H. 2007. Health promotion in South Africa. *International Union for Health Promotion and Education* 14 233-237.

Oslo Ministerial Declaration – global health: a pressing foreign policy issue of our time. *Health Policy* 2007 1-6.

Ovretveit, J. 1998. *Evaluating Health Interventions*. Open University Press. United Kingdom.

Ozler, B. 2007. Not separate, not equal: poverty and inequality in post-apartheid South Africa. *Economic Development and Cultural Change* 55(3) 487-529.

Padget, S.M., Bekemeier, B. & Berkowitz, B. 2004. Collaborative Partnerships at the State Level: Promoting Systems Changes in Public Health Infrastructure. *Journal of Public Health Management Practice* 10(3) 251-257.

Palagyi, A., Ramke, J., Du Toit, R. & Brian, G. 2008. Eye care in Timor-Leste: a population-based study of utilization and barriers. *Clinical and Experimental Ophthalmology* 36(1) 47-53.

Parston, G. 1980. *Planners, Politics and Health Services*. Croom Helm. London: 66-88.

Pararajasegaram, R. 1999. Vision 2020—The Right To Sight: from strategies to action. *American Journal of Ophthalmology* 128 359–360.

Patel, M. 1986. An economic evaluation of ‘health for all’. *Health Policy and Planning* 1 37-47.

Patton, M.Q. (2002). *Qualitative Evaluation and Research Methods. Second Edition*. SAGE Publications.

Payot, A. & Barrington, K.J. 2011. The quality of life of young children and infants with chronic medical problems: review of the literature. *Current Problems in Pediatric and Adolescent Health Care* 41(4) 91-101.

Peppers, K., Tuunanen, T., Rothenberger, M.A. & Chatterjee, S. 2008. A design science research methodology for information system research. *Journal of Management Information System* 24(3) 45-77.

Petersen, P.E. 2004. Challenges to improvement of oral health in the 21st Century – The Approach of the WHO Global Oral Health Programme. *International Dental Journal* 54 329-343.

Peters, D.H. 1997. Health Expenditure, Services and outcomes in Africa: Basic Data and Cross-National Comparisons 1990-1996. The World Bank. Health, Nutrition and Population Series 1997.

Petersen, P.E. & Kwan, S. 2004. *Evaluation of Community-Based Oral Health Promotion and Oral Disease Prevention – WHO Recommendations for Improved Evidence in Public Health Practice*. *Community Dental Health* 21(4). Supplement. December: 319-329.

Pettigrew, A., McKee, L. & Ferlie, E. 1988. Understanding change in the NHS. *Public Administration* 66 297–317.

Pizareello, L., Abiose, A., Ffytche, T., Duerksen, R., Thulasiraj, R., Taylor, H., Faal, H., Rao, G., Kocur, I. & Resnikoff, S. 2004. Vision 2020: The right to sight. A global initiative to eliminate avoidable blindness. *Archives of Ophthalmology* 122 615-620.

Polit, D.F. & Beck, C.T. 2008. *Nursing research: generating and assessing evidence for nursing science*. Philadelphia: Lippincott Williams and Wilkins.

Polit, D. & Hungler, B. 1999. *Nursing research: principles and methods*. Philadelphia: Lippincott.

Pollack, I.P. 1971. Chronic angle-closure glaucoma: diagnosis and treatment in patients with angles that appear open. *Archives of Ophthalmology* 85(6) 676-689.

Pope, C. & Mays, N. 2008. *Qualitative research in health care*. British Medical Journal. Book Edition.

Pougnnet, V.N. 1995. Report of the working group to the National Eye Care Committee on Eyecare Program for South Africa.

Prost, A. & Negrel, A.D. 1989. Water, trachoma and conjunctivitis. *Bulletin of the World Health Organization* 67(1) 9-18.

Puoane, T., Steyn, K., Bradshaw, D., Laubscher, R., Fourie, J., Lambert, V. & Mbananga, N. 2012. Obesity in South Africa. The South African Demographic and Health Survey. *Obesity Research* 10(10) 1038-1048.

Quigley, H.A. & Broman, T. 2006. The number of people with glaucoma worldwide in 2010 and 2020. *British Journal of Ophthalmology* 90 262-267.

Rabiu, M.M. 2001. Cataract blindness and barriers to uptake of cataract surgery in a rural community of northern Nigeria. *British Journal of Ophthalmology* 85 776-780.

Rahi, J.S. & Solebo, A.L. 2012. Childhood eye disorders and visual impairment. *Handbook of Children with Special Care Needs* 131-152.

Raphael, D. 2000. The question of evidence in health promotion. *Health Promotion International* 15 355-367.

Reconstruction and Development Programme: a policy framework, South Africa, 1990.

Regassa, K. & Teshoma, T. 2004. Trachoma among adults in Damot Gale District, South Ethiopia. *International Health Promotion* 11(1) 9-16.

Resnikoff, S. & Pararajasegaram, R. 2001. Blindness prevention programmes: past, present, and future. *Bulletin of the World Health Organization* 79 222-226.

Resnikoff S., Pascolini D., Etya'ale D., Kocur I., Pararajasegaram R., Pokharel G.P. & Mariotti S.P. 2004. Global data on visual impairment in the year 2002. *Bulletin of the World Health Organization* 82 844-851.

Resnikoff S., Pascolini D., Mariotti, S.P. & Pokharel, G.P. 2008. Global magnitude of visual impairment caused by uncorrected refractive error in 2004. *Bulletin of the World Health Organization* 86 63-70.

Richards, D. & Lawrence, A. 1998. Evidence-Based Dentistry. *Journal of Evidence-Based Dentistry* 7-10.

Rifkin, S.B., Muller, F. & Bichmann, W. Primary health care: on measuring participation. *Soc Sci Med* 1988; **26**: 931-940.

Rifkin, S.B. 1986. Lessons from community participation in health programmes. *Health Policy and Planning* 1 240-249.

Risjord, M., Moloney, M. & Dunbar, S. 2001. Methodological triangulation in nursing research. *Philosophy of the Social Sciences* 31(1) 40-59.

Robman, L. & Taylor, H. 2005. External factors in the development of cataract. *Eye* 19 1074-1082.

Roodhooft, J.M.J. 2002. Leading causes of blindness worldwide. *Bulletin de la Societe Belge d'Ophtalmologie* 283 19-25.

Rotchford, A.P. & Johnson, G.J. 2002. Glaucoma in Zulus: A population-based cross-sectional survey in a rural district in South Africa. *Archives of Ophthalmology* 120: 471-478.

Rotchford, A.P., Kirwan, J.F., Muller, M.A., Johnson, G.J. & Roux, P. 2003. Temba glaucoma study: a population-based cross-sectional survey in urban South Africa. *Journal of Ophthalmology* 110(2) 376-382.

Rovner, B.W. & Ganguli, M. 1998. Depression and disability associated with impaired vision: The MoVies Project. *Journal of the American Geriatrics Society* 46 617-619.

Royal College of Nursing, Australia, 2000. Position Statement: Health Promotion. Available at:

http://www.rcna.org.au/UserFiles/health_promotion.pdf [accessed 12 January 2013].

Ruairi, B., Starling, M. & Walt, G. 2002. GAVI, the first steps: lessons for the Global Fund. *Lancet* 359 435–438.

Sallis, F., Cervero, R.B., Ascher, W., Henderson, K.A., Kraft, M.K. & Kerr, J. 2006. An ecological approach to creating active living communities. *Annual Review of Public Health* 27 297-322.

Sandelowski, M. 2000. Combining qualitative and quantitative sampling, data collection and analysis techniques in mixed method studies. *Research in Nursing and Health* 23 246-255.

Sanders, D. 1998. PHC 21 – *Everybody's Business*. Paper presented at an International Meeting to Celebrate 20 Years after Alma-Ata, Almaty Kazakhstan. WHO Report WHO/EIP/OSD/00.7. WHO. Geneva: 51-57.

Segall, M. 2003. District Health Systems in a Neoliberal World: A Review of Five Policy Areas. *International Journal of Health Planning and Management*. 1 S5-26.

Schimdt, K., Ruckmann, A., Kemkes-Matthes, B. & Hammes, H. 2000. Ocular pulse amplitude in diabetes mellitus. *British Journal of Ophthalmology* 84 1282-1284.

Scott, C. 1999. *Public and Private Roles in Health Care Systems. Reform Experience in Seven OECD Countries*. Open University Press. United Kingdom: 21-161.

Shah, P.S., Jadoon, M.Z., Dineen, B., Bourne, R.R.A., Johnson, G.J., Gilbert, C.E. & Khan, M.D. (2008). Refractive errors in the adult Pakistani population: The National Blindness and Visual Impairment Survey. *Ophthalmic Epidemiology* 15(3) 183-190.

Shah, M., Shah, S., Shah, S., Prasad, V., Parikh, A., Shah, M., Shah, S., Shah, S., Prasad, V. & Parikh, A. 2011. Visual recovery and predictors of visual prognosis after managing traumatic cataracts in 555 patients. *Indian Journal of Ophthalmology* 59 217-22.

Sheiham, A. 2001. Dietary Effects on Dental Diseases. *Public Health Nutrition* 4(2B) 569-591.

Sheiham, A. & Watt, R.G. 2000. The common risk factor approach: a rational basis for promoting oral health. *Community Dentistry and Oral Epidemiology* 28(6) 399-406.

Shu, E.N., Onkokwo, P.O. & Onwujekwe, E.O. 1999. Health education to school children in Okpatu, Nigeria: impact on onchocerciasis-related knowledge. *Public Health* 113 15-18.

Shrestha, M.K., Thakur, J., Gurung, C.K., Joshi, A.B., Pokhrel, S. & Ruit, S. 2004. Willingness to pay for cataract surgery in Kathmandu valley. *British Journal of Ophthalmology* 88 319-320.

Sidell, M. 1997. *Community Action for Health*. In the Challenge of Promoting Health: Exploration and Action. MacMillan, London.

Simnett, I., Perkins, E. R., & Wright, L. (Eds.). 1999. *Evidence-based health promotion*. New York: Wiley.

Singh, S. 2005. A Critical Analysis of the Provision for Oral Health Promotion in South African Health Policy Development. Doctor of Philosophy (Dental Public Health) Theses.

Singh, S. & Myburgh, N.G. 2005. A Critical Analysis of the Provision for Oral Health Promotion in South African Health Policy Analysis. Final Report: Health Systems Trust.

Sithole, T. 2008. South African National Oral Health Directorate (Personal communication, 02 October).

Skweyiya, Z. 2007. Address by the Minister of Social Development, Parliament, Cape Town.

Smith, T.S.T., Frick, K.D., Holden, B.A., Fricke, T.R. & Naidoo, K.S. 2009. Potential lost productivity resulting from the global burden of uncorrected refractive error. *Bulletin of the World Health Organization* 87 431-437.

Sofner, S. 1999. Qualitative methods: what are they and why use them? *Health Services Research* 34(5) 1101-1118.

Sowetan daily news publication. 2008. Nation building, November 4.

Speller, V. 2001. The Next Challenge – Getting Evidence into Practice. Promotion and Education Supplement 20-23.

Statistics South Africa. 2011. *Census 2011*. South Africa.

Stewart, D.E., Parker, E. & Gillepsie, A. 2000. An audit of Health Promoting Schools policy documentation. *Journal of School Health* 70 253–254.

Steyn, K., Gaziano, T.A., Bradshaw, D., Laubscher, R. & Fourie, J. 2001. Hypertension in South African Adults: results from the Demographic and Health Survey, 1998. *Journal of Hypertension* 19(10) 1717-1725.

St Leger, L. & Nutbeam, D. 2000. A model for mapping linkages between health and education agencies to improve school health. *Journal of School Health* 70 257–259.

St Leger, L. & Nutbeam, D. 1999. The opportunities and effectiveness of the Health Promoting Primary School in improving child health—a review of the claims and evidence. *Health Education Research* 14 51–69.

Stokols, D. 1996. Translating social ecological theory into guidelines for community health promotion. *American Journal of Health Promotion* 1996 282-298.

Strachan, K. 2000. *HST's Equity Project. HST Update*. Health Systems Trust. Issue No. 49. February: 6-8.

Strahlam, E., Elman, M., Daub, E. & Baker, S. 1990. Causes of pediatric eye injuries. A population-based study. *Archives of Ophthalmology* 108(4) 603-606.

Strong, P. & Robinson, J. 1990. *The NHS: under new management*. Milton Keynes: Open University Press.

Sukha, A.Y. & Rubin, A. 2009. High, medium, and low Contrast Visual Acuities in Diabetic Retinal Disease. *Optometry and Vision Science* 86(9) 1086-1095.

Sutter, E.E. & Ballard, R.C. 1983. Community participation in the control of trachoma in Gazankulu. *Social Science Medicine* 17(32) 1813-1817.

Symons, C.W., Cinelli, B., James, T.C. & Groff, P. 1997. Bridging student health risks and academic achievement through comprehensive school health programs. *Journal of School Health* 67(6) 220-227.

Tang, K.C., Ehsani, J.P. & McQueen, D.V. 2003. Evidence based health promotion: recollections, reflections and reconsiderations. *Journal of Epidemiology and Community Health* 57 841-843.

Taylor, M.L., Haglund, B.J.A. & Tillgren, P. 2000. Policy Content and Context for Health Promotion in Swedish Schools. An Analysis of Municipal School Plans. *Health Promotion International* 15(3) 185-195.

Taylor, H.R., Keeffe, J.E., Vu, H.T.V., Wang, J.J., Rochtchina, E., Pezzullo, M.L. & Mitchell, P. 2005. Vision loss in Australia. *Medical Journal of Australia* 182(11) 565-568.

Thulasiraj, R.D. 2007. Advocacy to improve the delivery of eye care. *Community Eye Health Journal* 20(64) 66-67.

Thylefors, B., Negrel, A.D., Pararajasegaram, R. & Dadzie, K.Y. 1995. Global data on blindness. *Bulletin of the World Health Organization* **73** 115–121.

Tickle, M., Craven, R. & Worthington, H.V. 1997. A Comparison of the Subjective Oral Health Status of Older Adults from Deprived and Affluent Communities. *Community Dentistry and Oral Epidemiology*. Vol. 25: 217-222.

Tobacco Product Control Amendment Act No. 12 of 1999. *Governement Gazzette* Vol. 406, Cape Town, 1999.

Tommany, S.C., Wang, J.J., van Leeuwen, R., Klein, R., Mitchell, P., Vingerling, R., Klein, B.E.K., Smith, W. & de Jong, P.T.V.M. 2004. Risk factors for incident age-related macular degeneration: pooled findings from 3 countries. *Journal of Ophthalmology* 111(7) 1280-1287.

Tones, K. & Green, J. 2004. *Health Promotion. Planning and Strategies*. Sage Publications. Tones K, Tilford S. (2001). *Successful Health Promotion: The Challenge*. In *Health Promotion: Effectiveness, Efficiency and Equity*. Nelson Thornes. Cheltenham. United Kingdom: 29-73.

Tones, K. & Tilford, S. 1994. *Health Education: Effectiveness, Efficiency and Equity*, 2nd ed. Palgrave, Basingstoke, UK.

UK Prospective Diabetes Study (UKPDS) Group. 2004. Risks of progression of retinopathy and vision loss related to tight blood pressure control in Type 2 diabetes mellitus. *Archives of Ophthalmology* 122 1631-1640.

Underwood, B.A. & Arthur, P. 1996. The contribution of vitamin A to public health. *Vitamin A and Public Health* 1040-1049.

Uys, L.R., Majumdar, B. & Gwele, N.S. 2004. The KwaZulu-Natal Health Promotion Model. *Journal of Nursing Science* 36 192-196.

Vaidyanathan, K., Limburg, H., Foster, A. & Pandey, R.M. 1999. Changing trends in barriers to cataract surgery in India. *Bulletin of the World Health Organization* 77(2) 104-109.

Valdivia, M. 2002. Public Health Infrastructure and Equity in the Utilization of Outpatient Health Care Services in Peru. *Health Policy and Planning* 17 12-19.

Van Niekirk, M.R., Nanjon, M.B., Jie, J.W., Mitchell, P., Taylor, H.R. & McCarty, C.A. 2000. The prevalence of eye-related maculopathy: The Visual Impairment Project. *Journal of Ophthalmology* 107(8) 1593-1600.

Vaus, D.D. 2001. *Research design in social science research*. London: Sage.

Walt, G. 1994. *Health Policy. An Introduction to Process and Power*. Biddles Ltd, Guilford and King's Lynn. United Kingdom.

Walt, G. & Gilson, L. 1994. Reforming the Health Sector in Developing Countries: The Central Role of Policy Analysis. *Health Policy and Planning* 9(4) 353-370.

Walt, G., Perera, M. & Heggenhougen, K. 1989. Are large-scale volunteer community health worker programmes feasible? The case of Sri Lanka. *Society of Science and Medicine* 29 599-608.

Wan, T.T.H. 1995. *Analysis and Evaluation of Health Systems. An Integrated Approach to Managerial Decision Making*. Health Professions Press. Inc. Baltimore: 5-35.

Wensor, M.D., McCarty, C.A., Stanislavsky, Y.L., Livingston, P.M. & Taylor, H.R. 1998. The prevalence of glaucoma in the Melbourne visual impact project. *Ophthalmology* 105(4) 733-739.

West Jr, K.P. 2002. Extent of Vitamin A Deficiency among preschool children and women of reproductive age. *The Journal of Nutrition* 132(9) 2857-2866.

West, K.P. 2003. Vitamin A deficiency disorders in children and women. *Food and Nutrition Bulletin* 24(2) 78-90.

West, S.K. 2004. Trachoma: new assault on an ancient disease. *Progress in Retinal and Eye Research* 23 381-401.

Wesk, S.K., Munoz, B., Rubin, G.S., Schein, O.D., Bandeen-Roche, K., Zeger, S., German, P.S. & Fried, L.P. (1997). Functions and visual impairment in a population based study of older adults. *Investigative Ophthalmology and Visual Science* 38(1) 72-82.

Whitehead, D. 2009. Reconciling the differences between health promotion in nursing and general health promotion. *International Journal of Nursing Studies* 46 865-874.

Whitehead, D. 2003. Incorporating socio-political health promotion activities in clinical practice. *Journal of Clinical Nursing* 2003 668-677.

Whitehead, D. 2001. A social cognitive model for health education/health promotion practice. *Journal of Advanced Nursing* 36 417-425.

Whitehead, D. 2001. A stage planning programme model for health education/health promotion practice. *Journal of Advanced Nursing* 36 311-320.

Whitelaw, S., Baxendale, A., Bryce, C., MacHardy, L., Young, I. & Witney, E. 2001. Settings based health promotion: a review. *Health Promotion International* 16(4) 339-353. Wiggers, J. & Sanson-Fisher, R. 1998. Evidence-Based Health Promotion. In

Evaluating Health Promotion. Scott S, Weston R. Nelson. Thornes Publishers. United Kingdom: 127-145.

Wild, S., Roglic, G., Green, A., Sicree R. & King, H. 2004. Global prevalence of diabetes: estimates for the year 2000 and projection for 2030. *Diabetes Care* 27 1047-1053.

Williams, P., Barclay, L. & Schmied, V. 2004. Defining social support in context: a necessary step in improving research, intervention and practice. *Qualitative Health Research* 14(7) 942-960.

Wilkinson, R. 1996. Income Distribution and Life Expectancy. *British Medical Journal* 304 165-168.

Wong, T.Y., Klein, R., Couper, D.J., Cooper, L.S., Shahar, E., Hubbard, L.D., Wofford, M.R. & Sharrett, A.R. 2001. Retinal microvascular abnormalities and incident of stroke: the atherosclerosis risk in communities study. *Lancet* 358 1134-1140.

Wong, T.Y. & McIntosh 2005. Hypertensive retinopathy signs as risk indicators of cardiovascular morbidity and mortality. *British Medical Bulletin* 73 and 74 57-70.

Wong, T.Y. & Mitchell, P. 2004. Hypertensive retinopathy. *The New England Journal of Medicine* 351 2310-2317.

World Bank. 2003. *Health Expenditure, Services and Use*. World Bank. World Development Indicators.

World Commission on Environmental and Development. 1988. *Our common future*. Oxford University Press, Oxford, UK.

World Health Organization Regional Office for Europe. *Health 21 – Health for All in the 21st century (European Health for All Series No 6)*. WHO, Copenhagen, Denmark.

World Health Organization. 2003. *Elimination of global blindness agenda item 14.17*. 56th World Health Assembly. WHA 56.26.

World Health Organization. 2003. *Elimination of Global Blindness Agenda item 14.17*. 56th World Health Assembly. WHA56.

World Health Organization. 2000. *Elimination of affordable visual disability due to refractive error*. (WHO/PBL/00.79), Geneva.

World Health Organization. 1997. *The Jakarta Declaration on leading health promotion into the 21st century*.

World Health Organization Regional Office for Europe. 1999. *Health 21 - Health for All in the 21st century*, WHO, Copenhagen, Denmark.

World Health Organization. 1991. *Technical report series 746*. Geneva.

World Health Organization. 1978. *Primary health care: report of the international conference on primary health care*. Geneva.

World Health Organization. Ottawa Charter for Health Promotion. 1986. *An International Conference on Health Promotion*. Geneva.

Yamamoto, T., Iwase, A., Araie, M., Suzuki, Y., Abe, H., Shirato, S., Kuwayama, Y., Mishima, H.K., Shimizu, H., Tomita, G., Inoue, Y. & Kitazawa, Y. 2005. The Tajimi study report 2: prevalence of primary angle-closure and secondary glaucoma in a Japanese population. *Ophthalmology* 112 1661-1669.

Yeatman, H.R. & Nove, T. 2002. Reorienting health services with capacity building: a case study of the core skills in health promotion project. *International Journal of Health Promotion* 17(4) 342-350.

Yip, T.L.Y., Aung, T.Y., Machin, P.T., Khaw, K.T., Seah, S. & Foster, P.J. 2007. Socioeconomic status, systolic blood pressure and intraocular pressure: The Tanjong Pagar Study. *British Journal of Ophthalmology* 91 56-61.

Yorston, D. 1998. Are intraocular lenses the solution to cataract blindness in Africa? *British Journal of Ophthalmology* 82 469-471.

Zerihun, N. & Mabey, D. 1997. Blindness and low vision in Jimma Zone, Ethiopia: results of a population-based survey. *Ophthalmic Epidemiology* 4(1) 19-26.

Zhang, J.L., Qin, Y.W., Zheng, X., Qiu, J.L. & Zou, D.J. 2003. Serum resisting level in essential hypertension patients with glucose tolerance. *Diabetic Medicine* 20(10) 828-831.

Ziglio, E., Hagard, S. & Griffiths, J. 2000. Health promotion development in Europe: achievements and challenges. *Health Promotion International* 15 143–154.

APPENDICES

APPENDIX A

INFORMATION SHEET

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Questionnaire for provincial managers in the Provincial Directorates of Chronic Diseases, Disabilities and Geriatrics; Health Promotion; Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health

Introduction

The development of eye health policy forms an integral part in the health transformation process in South Africa. It is therefore important that health policy development and eye health policy and planning are accompanied by a systematic policy and programs analysis. Also, eye health promotion efforts can be enhanced if eye health information and education can be reiterated in other health programmes or interventions. As a result, such messages can contribute to improved community health by reinforcing specific health messages.

This study strives to make a significant contribution to eye health promotion policy and planning efforts. It explores the concepts of

evidence based eye care and integrated service delivery. Therefore, the aim of this study is to determine if eye health promotion elements are being considered to provide a meaningful impact on community eye health. The study also sets out to explore the extent to which eye health promotion is included in other health programmes or policy statements.

Your response will contribute immensely in determining how improvements in community eye health can be achieved through appropriate and cost-effective eye health promotion strategies and interventions in South Africa.

All information will be highly confidential and will only be used for academic purposes. Also, the names of the respondents will not be revealed in any documents. Furthermore, documents containing information supplied will be kept in a locked locker for 5 years after which they will be destroyed by shredding.

Thank you,

**Lawrence Sithole, MOptom (Public Health Optometry)
PhD (Health Studies) student (UNISA)**

Questionnaire for provincial managers in the Provincial Directorates of Chronic Diseases, Disabilities and Geriatrics; Health Promotion; Integrated Nutrition Services; Mental health and HIV/AIDS; Youth Health; and Maternal, Child and Women's Health

PROJECT TITLE: A critical analysis of health care policy and programs with regard to eye health promotion in South Africa

Province: _____

Designation: _____

Directorate: _____

Instructions: Please read the information below and supply the requested information in the spaces provided

QUESTIONNAIRE

A. Health priorities

1. Please list all health priorities that your programme address at a provincial or district level?

2. Please list the strategies or health interventions that are designed to meet the health priority areas in your province.

B. Integration

1. One of the most important elements in eye health promotion is vision screening, the purpose of which is to identify those with visual impairment or eye conditions and subsequently refer them to appropriate eye care professionals for further examination and treatment, does any of your programmes address this aspect at primary health care level? Please answer Yes or No.

2. If yes, please explain in the space provided.

3. If no, please explain why.

4. Does your policy statement mention improvements in eye health as one of your programme's health goals? Please answer Yes or No.

5. If yes, where and in what way are these statements impact on eye health promotion? Please explain.

6. If no, please explain why there is no mention of eye health programmes in your policy statement.

7. Is there any eye health information/education messages included in the implementation of your programme? Please indicate Yes or No.

8. If yes, which category of health worker is responsible for implementing health information/education that includes eye health goals at a district level? Please explain your response.

9. Is there any evidence (statistical, annual reports, or records) to support your statement that eye health information/education messages are included and implemented in your programme? Please indicate Yes or No and substantiate on your answer

10. How can eye health promotion issues be placed in your programme's health agenda? Please explain.

*please attach a copy of your policy or programme document when you return the questionnaire.

Thank you for your cooperation.

APPENDIX B

INFORMATION SHEET

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Questionnaire provincial eye care managers

Introduction

Refractive error and eye diseases are major public health problems in South Africa as they can lead to visual impairment and blindness and these have socio-economic and psychological implications. These eye problems appear to be increasing especially in the underserved and disadvantaged communities of this country. Therefore, interventions and strategies should be designed to address the underlying determinants of risk factors for these visual impairment and avoidable blindness. The risk factors include among others, dietary considerations, regular eye examination, behavioural practices or lifestyle and basic living conditions. In particular eye and vision screening practices can play a major role in communities to reduce the impact of factors causing visual impairment and avoidable blindness.

The South African eye health promotion unit is located in the National Directorate of Chronic Diseases, Disabilities and Geriatrics. Under this directorate, there are four national guidelines on different aspects of eye care. These include the national guideline on the prevention of blindness in South Africa, national guideline on the management and control of eye conditions at primary level, national guideline on refractive error screening for persons 60 years and older and lastly national guideline on cataract surgery. The current study sets out to determine if there are any provisions for eye health promotion in the above mentioned national guidelines. The aim of this study

therefore is to critically analyze the available policy documents and eye health promotion activities in South Africa in order to contribute to improved community eye health. Also, this study strives to make a significant contribution to eye health promotion policy and planning efforts in the country.

You are hereby invited to participate in this project. Your role in this study is to provide the requested information as indicated on the next few pages of this document. Your response will contribute immensely in determining how improvements in community eye health can be achieved through appropriate and cost-effective eye health promotion strategies and interventions in South Africa.

All information will be highly confidential and will only be used for academic purposes. Also, the names of the respondents will not be revealed in any documents. Furthermore, documents containing information supplied will be kept in a locked locker for 5 years after which they will be destroyed by shredding.

Thank you,

**Lawrence Sithole, MOptom (Public Health Optometry)
PhD (Health Studies) student (UNISA)**

Questionnaire for provincial eye care managers

PROJECT TITLE

A critical analysis of health care policy and programs with regard to eye health promotion in South Africa

Province: _____

Designation: _____

Directorate: _____

Instructions: Please read the information below and supply the requested information in the spaces provided.

SECTION ONE

A. Eye health needs of your province

1. Please, estimate or respond according to available information (if any) on the prevalence of the eye conditions in **Table 1** in your province. Please use categories: High (H), Medium (M), Low (L), Estimate (E) or Not Sure (NS) to indicate your response. Insert H, M, L, E or NS in the provided column. (Please, mark x in appropriate box to indicate whether the information provided is an estimate or from available information)

Table 1: Showing prevalence of possible eye conditions in the province

Eye condition	Response	Estimate	Available information
Cataract			
Glaucoma			
Low vision			
Blindness			
Refractive error			
Stye (hordeolum)			
Pterygium			

Pinguecula			
Diabetic retinopathy			
Hypertensive retinopathy			
Age Related Macular Degeneration			
HIV/AIDS related eye infections			
Vitamin A deficiency			
Trachoma			
Trichiasis			
Bacterial conjunctivitis			
Viral conjunctivitis			
Allergic conjunctivitis			
Others (specify)			

2. How would you estimate the severity of the eye conditions in **Table 2** in terms of social impact and effect on eye health resources? Eye health resources include financial, manpower and logistical implications. Please use categories: High (H), Medium (M), Low (L) or Not Sure (NS) to indicate your response. Insert H, M, L or NS in the provided column.

Table 2: Showing prevalence of possible eye conditions in the province

Eye condition	Response	Estimate	Available information
Cataract			
Glaucoma			
Low vision			
Refractive error			
Stye (hordeolum)			
Pterygium			
Pinguecula			

Diabetic retinopathy			
Hypertensive retinopathy			
Age Related Macular Degeneration			
HIV/AIDS related eye infections			
Vitamin A deficiency			
Trachoma			
Trichiasis			
Bacterial conjunctivitis			
Viral conjunctivitis			
Allergic conjunctivitis			
Others (please specify)			

3. What epidemiological evidence is available to support your responses?

Please state or explain:

4. How would you estimate the risk factors in **Table 3** or determinants for the eye health conditions that you have identified? Please use categories: High (H), Medium (M), Low (L) or Not Sure (NS) to indicate your response. Insert H, M, L or NS in the provided column.

Table 3: Showing possible risk factors for eye care in the province

Determinants of risk factors	Distribution	
	Urban	Rural
Lack of access to basic eye care services		
Dietary intake		
Lifestyle practices		
Other (please specify)		

B. Eye health promotion programmes

1. List all health promotion programmes that are being currently conducted in your province?

Health programmes	
Urban	Rural

2. Please state the number of optometrists that are employed in your province (If not sure, write NS).

Distribution	Number of optometrists
Urban	
Rural	

3. Please state the number of ophthalmic nurses that are employed in in your province (If not sure, write NS).

Distribution	Number of ophthalmic nurses
Urban	
Rural	

4. Which methods are used to evaluate your eye health promotion programmes, if any, in your province? Please explain:

5. Who are those involved in the evaluation of these programmes?

6. Please estimate according to available information the percentage of the population that have access to eyecare services in your province?

Distribution	Percentage
Urban	
Rural	

SECTION TWO

A. Eye health policy development

1. Please list any operational eye health policy derivatives in your province?

2. Are eye health promotion strategies integrated with other health programmes? Please indicate Yes or No.
3. If yes, to what extent has the integration occurred or has been envisaged to occur in your province? Please explain:

4. If no, please explain why integration has not taken place:

5. Taking each eye health promotion strategy into account, how would you plan to promote efficiency in health education, service improvement and advocacy for policies that promote eye health?

Please explain:

6. Evidence-based eye care uses sound research evidence of eye health promotion activities, interventions or strategies that are capable of making a significant difference to community eyecare. How would you describe the capacity of eye health promotion programmes conducted in your province to improve eye health?

Please explain:

7. In your opinion, has the identified eye health promotion programmes in your province been successful in contributing to improved community eye health? Please comment on each individual eye health promotion programme in detail.

8. What evidence do you have to support your statement? Please explain:

9. Are there any national/provincial strategies or other eye health promotion programmes that you would consider to achieve the stated goals of improving community eye health? Please explain in detail:

B. Contextual influences on eye health promotion

1. How does budgetary allocation impact on the implementation of eye health promotion programmes? Please explain:

2. How does the identification of other health priorities on health policy agenda impact on the provision for eye health promotion? Please explain:

APPENDIX C

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Interview with National Directorate of Chronic Diseases, Disabilities and Geriatrics

Face to face, structured and non-standardised

Names of interviewees:

Date:

Time:

Eye health programmes

1. How were the proposals on eye health promotion selected for eye health policy development? What criteria were used to select these proposals?
2. To what extent does the programmes/strategies on eye health promotion work? Are these programmes/strategies effective?
3. What evidence do you have that these strategies/programmes on eye health promotion do work?
4. Do you believe the current strategies/programmes/interventions are sufficient or adequate to contribute to improved community eye health? Do these strategies/programmes/interventions have the capacity to deliver?

Eye health policy development

1. Does your Directorate liaise with other health directorates during policy formulation and development?
2. Is the Directorate of Chronic Diseases, Disabilities and Geriatrics consulted for other health policy formulation and development?
3. How can eye health promotion issues (proposals, strategies, interventions) be placed on the policy agenda of other health directorates?
4. How practical is it?

General

1. To what extent will the inclusion of viable eye health promotion proposals, strategies and interventions in eye health policy development contribute to improved community eye health?
2. Research shows that health promotion interventions can contribute to improved community health. To what extent will a properly executed eye health promotion programme impact on improved eye health status?
3. If eye health is adequately expressed and incorporated into policy does this mean that it will be easily implemented?
4. How can eye health promotion policy statements and activities have an impact on the African Continent?
5. Is there any other related eye health promotion issues that you would like to discuss?

Thank you,

APPENDIX D

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Interview National Directorate of Health Promotion

Telephonic, structured and non-standardised

Names of interviewees:

Date:

Time:

Questions to be asked:

1. What are the current strategies/interventions/programmes in health promotion in South Africa?
2. Do you believe that these current strategies/interventions/programmes are successful in improving community health?
3. How can we improve the delivery of health promotion in South Africa?
4. Is there a direct reference to eye health in your policy document?
5. If yes, to what extent is it covered?
6. To what extent is the Directorate of Chronic Diseases, Disabilities and Geriatrics consulted during policy formulation and development?
7. Is eye health messages included in health promotion programmes at a district level?
8. Is there any evidence (annual reports, statistics) to support your response?
9. How can your Directorate provide support for policy and programmatic integration at a provincial and district level? This includes support for eye health promotion activities.

APPENDIX E

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Interviews with the National Directorates of Integrated Nutrition Services; Maternal, Child and Women’s Health; Youth Health; and Mental Health and HIV/AIDS Unit

Telephonic, structures and non-standardised

List of Directorates Interviewed

Directorate	Person interviewed	Date
Chronic Diseases, Disabilities and Geriatrics		
Integrated Nutrition Services		
Mental and HIV/AIDS		
Maternal, Child and Women’s health		
Youth Health		

Questions asked:

1. Which directorate is responsible for eye health promotion in your province?
2. Is there any reference eye health in your policy documents?
3. Does your policy guideline address specific factors such as as dietary habits, exercise, sun (UVR) protection?
4. How can eye health promotion issues be placed on your policy agenda?

APPENDIX F

PROJECT TITLE: A critical analysis of the South African Health Care policies and programs with regard to eye health promotion

Interviews with provincial health managers in the directorates of Chronic Diseases, Disabilities and Geriatrics; Integrated Nutrition Services; Health Promotion; Mental Health and HIV/AIDS; Maternal, Child and Women’s Health; and Youth Health

Telephonic, structures and non-standardised

List of Interviewees

Directorate	Province	Person interviewed	Date
Nutrition			
Health promotion			
Chronic Diseases, Disabilities and Geriatrics			
Integrated Nutrition Services			
Mental and HIV/AIDS			
Maternal, Child and Women’s health			
Youth Health			
Chronic Diseases, Disabilities and Geriatrics			

Questions asked:

1. Does your policy document cover any statements on eye health?
2. Does your policy address any risk factors?
3. Are eye health messages included in your programme at a district level?
4. Do you believe that eye health promotion or some elements of eye health promotion can be integrated in your programme?
5. How would you envisage such an integrated programme?
6. How can you provide support for eye health promotion in your province?
7. What could be the specific barriers to integrating health programmes?