



CLEAR FOCUS

The economic impact of vision loss in New Zealand in 2009

An overview of the report prepared by
Access Economics Pty Limited

The full **Clear Focus** reportⁱ was co-commissioned from Access Economics Pty Limited by the VISION 2020 New Zealand Trust and Vision 2020 Australia. A generous invitation from Vision 2020 Australia to join this 2009 review has led to the first comprehensive analysis of the financial and personal costs of vision loss in New Zealand.

This overview has been prepared by the Royal New Zealand Foundation of the Blind (RNZFB), in collaboration with Access Economics and the VISION 2020 New Zealand Trust. The financial support of the Royal Australian and New Zealand College of Ophthalmologists (New Zealand branch) is gratefully acknowledged.

VISION 2020 New Zealand is a national body committed to the elimination of avoidable blindness and vision loss in New Zealand. Established in 2009, the VISION 2020 New Zealand Trust is part of **VISION 2020: The Right to Sight**, the global initiative to eliminate avoidable blindness. VISION 2020 is a joint programme of the World Health Organization and the International Agency for the Prevention of Blindness.

VISION 2020 New Zealand is committed to cross-sectoral collaboration to develop an evidence base for 'population eye health' in New Zealand. This report is a material first step towards this important objective.

RNZFB is New Zealand's primary provider of vision-related habilitation and rehabilitation services to blind and partially sighted people. The RNZFB's vision is empowering and supporting blind and partially sighted New Zealanders to ensure that they have the same opportunities and choices as everyone else.

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Copies of this overview and the full **Clear Focus** report are available online from www.vision2020.net.nz or www.rnzfb.org.nz.



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Foreword

This is a very important piece of work. The sad reality is that preventable loss of vision, which is so often debilitating and tragic, affects far too many New Zealanders. Yet there is no clear, agreed national strategy for the prevention of blindness. This report highlights the pressing need for a national focus on vision loss and our collective obligation to give expression to New Zealand's commitment to the World Health Organization's global initiative VISION 2020: the Right to Sight, aimed at eliminating avoidable blindness and vision loss by the year 2020. A variety of strategies and actions are required in New Zealand including risk reduction, enhanced early detection, workforce development and coordination, equity of access to eye health and vision care services, improved systems for the delivery of eye care, and the gathering and dissemination of quality evidence.

If we are to achieve maximum benefits for all New Zealanders, experience has taught us that we will need to focus our attention on those communities which are most likely to miss out on care. These are frequently the same communities which suffer poor health in many other respects and have most difficulty accessing high quality and timely health care. For example, the overall prevalence of vision impairment and blindness in Māori aged 45-74 years is twice that of non-Māori and the prevalence of vision impairment and blindness due to uncorrected refractive error in Māori aged 45-74 years is twice that of non-Māori.

I congratulate VISION 2020 New Zealand and the Royal New Zealand Foundation of the Blind for their foresight in promoting and supporting this project. This report represents an essential step in securing an effective national response to preventable vision loss.



Peter Crampton

Pro-Vice Chancellor, Division of Health Sciences and Dean,
Faculty of Medicine, University of Otago.

Professor Peter Crampton (MBChB; PhD; FAFPHM, MRNZCGP) is a specialist in public health medicine. His research is focused on social indicators, social epidemiology and health care policy.

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Background

VISION 2020 New Zealand in collaboration with Vision 2020 Australia commissioned a report from the independent economic analysts, Access Economics Pty Limited titled **Clear focus – the economic impact of vision loss in New Zealand in 2009 (Clear Focus)**. It complements a similar report about vision loss in Australia.

Clear Focus estimates the prevalence of mild to severe vision loss, including blindness, in the non-Māori and Māori populations. The costs of vision loss to government, industry and the New Zealand community are calculated and projected to 2020. These costs include direct costs to the health system, other direct financial costs to the New Zealand economy, and costs to individuals in loss of wellbeing.

Many New Zealanders are needlessly experiencing vision loss and blindness. By addressing uncorrected refractive error and cataract alone, **more than two thirds** of those with vision loss in New Zealand could have their sight restored.

Low vision and blindness rehabilitation services are critical for people with vision loss and are central to improving quality of life, access to education and employment and reducing barriers to full participation within the community.

In 2009, the New Zealand Government endorsed the World Health Assembly **Action Plan for the Prevention of Avoidable Blindness and Visual Impairment**. With less than 10 years to go, a collaborative effort by Government and the sector is needed to meet the objectives of this plan and eliminate avoidable blindness and vision loss in New Zealand by the year 2020.

Frequency and causes of vision loss and blindness

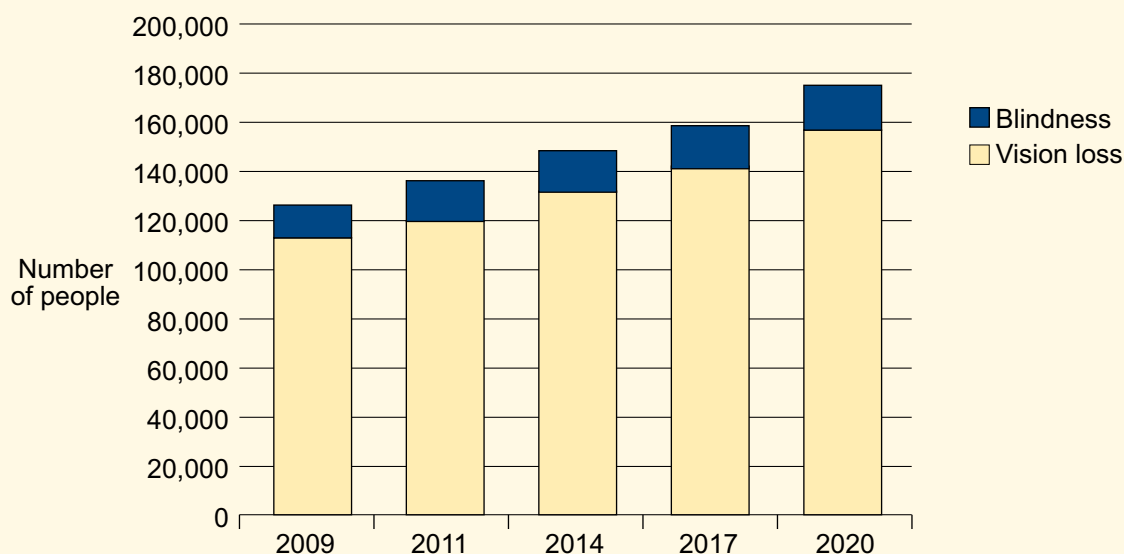
Vision loss and blindness continues to be a huge and overlooked problem in New Zealand.

In 2009, almost 125,000 New Zealanders aged 40 years or over had vision loss, representing 6.1% of the population in that age group. This number includes around 12,000 Māori. Around 12,000 New Zealanders were blind, with the largest proportion of these (86%) aged 70 years or over. A further 14,400 people had uncorrected presbyopia.

It is projected that the number of people aged 40 years or over with vision loss will rise to almost 174,000 by 2020 and those who are blind will rise to 18,300. In addition, the number of people with uncorrected presbyopia is projected to rise to 17,000 by 2020. This rise reflects the ageing population, and assumes a policy-neutral environment, and that the age and sex prevalence of vision loss in New Zealand remains the same in 2020.

Clear Focus defines vision loss as being less than the vision threshold for driving, which is measured as 6/12. The number means that an individual can see at six metres what a person with unimpaired vision could see at twelve metres. Blindness is defined as visual acuity of less than 6/60 or visual field of less than 10 degrees. Using these criteria, the estimated 12,000 blind New Zealanders would be eligible for RNZFB membership. Some of the 125,000 with vision loss would also be eligible.

Projections of New Zealanders aged 40 or over with vision loss

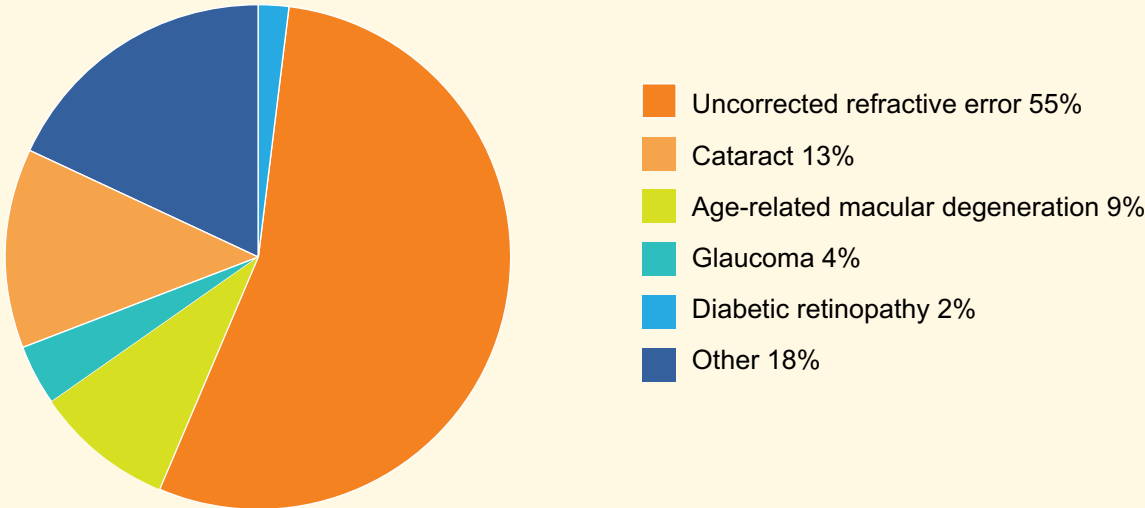


Almost 125,000 New Zealanders have vision loss.

Most vision loss is correctable, preventable or treatable.

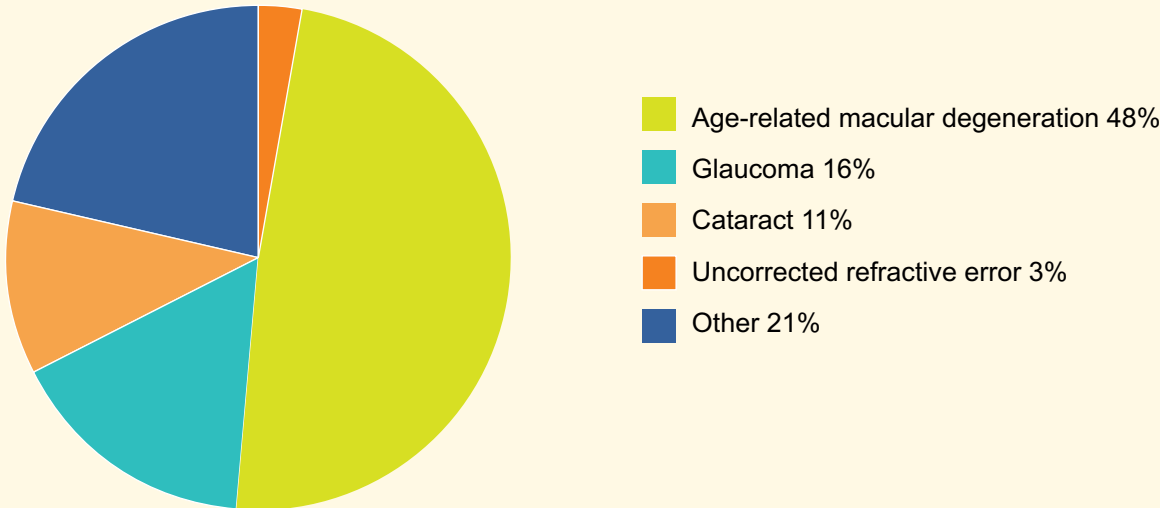
Most vision loss was caused by uncorrected refractive error—around 55%. Cataract caused 13% of vision loss, age-related macular degeneration 9%, glaucoma 4% and diabetic retinopathy 2%.

Vision loss by cause among New Zealanders aged 40 or over, 2009



The most common causes of blindness were age-related macular degeneration (48%), glaucoma (16%), and cataract (11%).

Blindness by cause among New Zealanders aged 50 or over, 2009



Age-related macular degeneration is the leading cause of blindness in New Zealanders over 50.

Controlling cigarette smoking, alcohol consumption and obesity can reduce the risk of developing AMD by nearly 50%.



Total costs in New Zealand

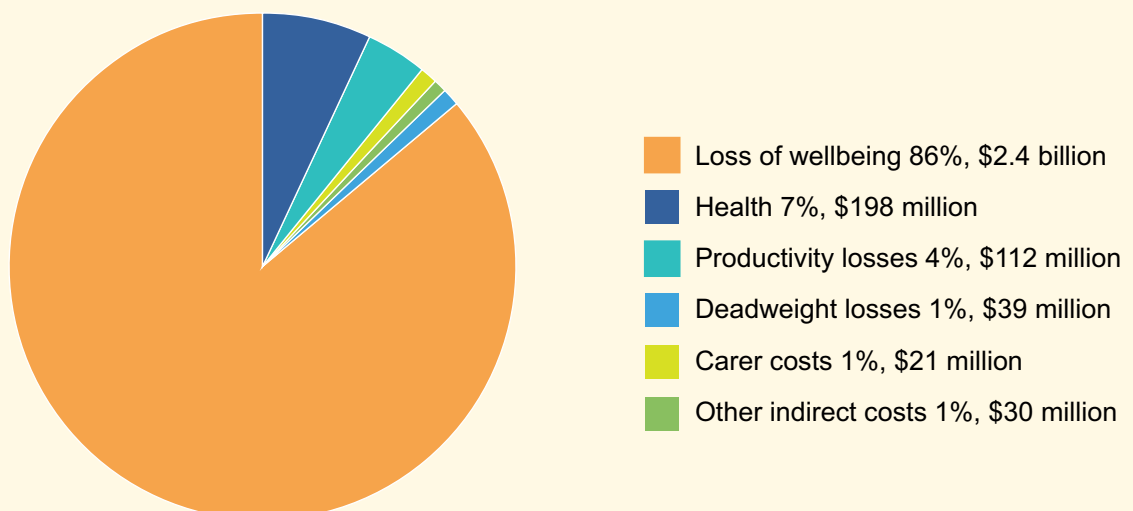
The total economic cost of vision loss in 2009 was approximately \$2.8 billion, or \$22,217 per person with vision loss aged over 40 years.

Excluding loss of wellbeing, the total cost to Government and society was \$400 million, or \$3,206 per person with vision loss aged over 40 years.

The estimated costs are made up of:

- Total health system expenditure of \$198 million, or \$1,583 per person with vision loss aged over 40 years.
- Other financial costs of \$203 million, made up of:
 - \$112 million in productivity losses largely due to lower than average employment rates and premature mortality.
 - \$39 million in deadweight losses from transfers and lost taxation.
 - \$30 million in other indirect costs (aids, modifications, 'bring forward' of funeral costs).
 - \$21 million in carer costs, reflecting the opportunity cost of informal carers' time.
- Loss of wellbeing of \$2.4 billion, including suffering and premature mortality.

Total economic cost of vision loss in 2009 (total \$2.8 billion)



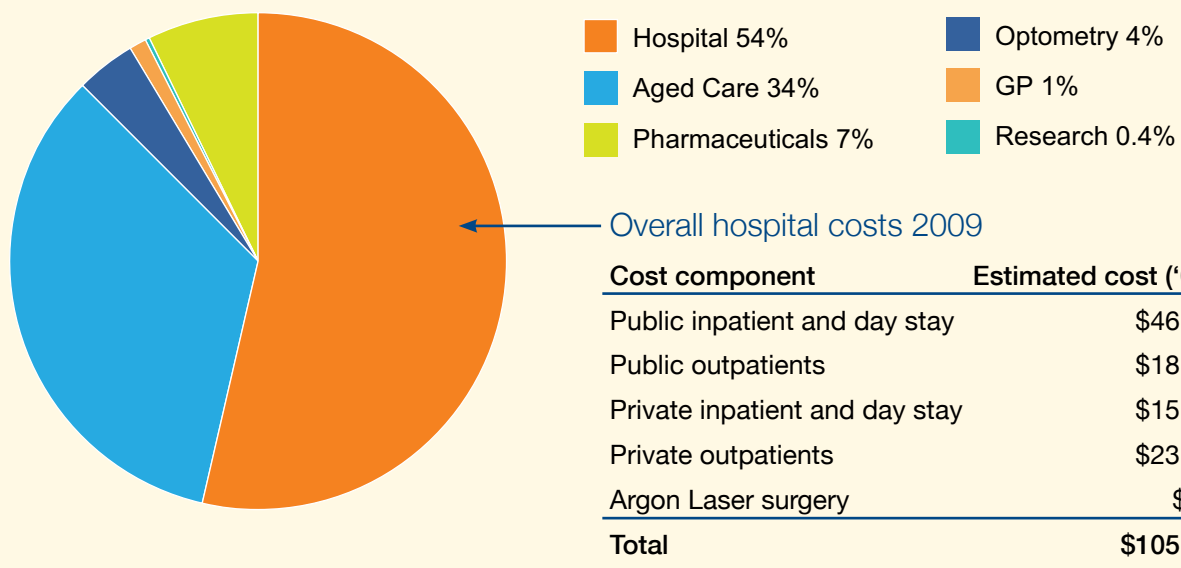
In 2009, vision loss cost the New Zealand economy approximately \$2.8 billion.

Direct health costs

Total health expenditure was estimated at \$198 million in 2009, or approximately \$1,583 per person with vision loss aged over 40 yearsⁱⁱ. Health expenditure is projected to reach \$523 million by 2020, or \$3,008 per person with vision loss.

Direct financial costs to the New Zealand health system include the relevant proportion of the costs of running hospitals and rest homes, GP and specialist medical services, the cost of prescription pharmaceuticals, allied health services, research and other direct costs. As GP and optometrist consultations were only able to be calculated for individuals with moderate to severe vision loss, it is likely \$198 million is an underestimation of total health costs.

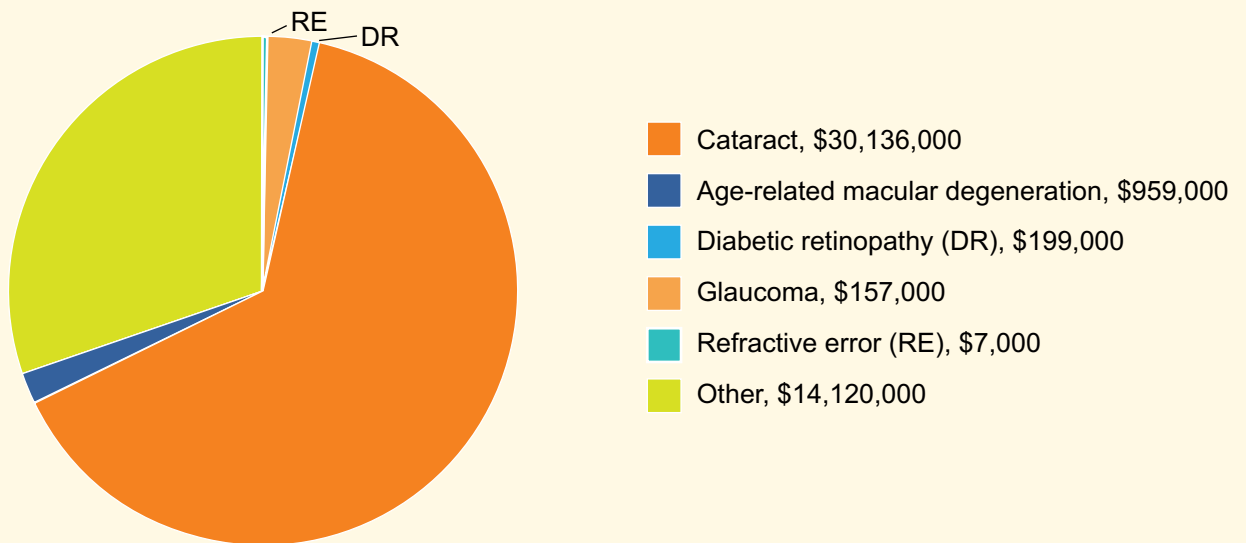
Health system expenditure in 2009 (total \$198 million)



Public hospital inpatient and day stay costs made up 24% of overall health expenditure. The following chart breaks down these costs by condition. Almost two thirds (\$30 million) of the public hospital inpatient and day stay costs were related to cataract treatment.

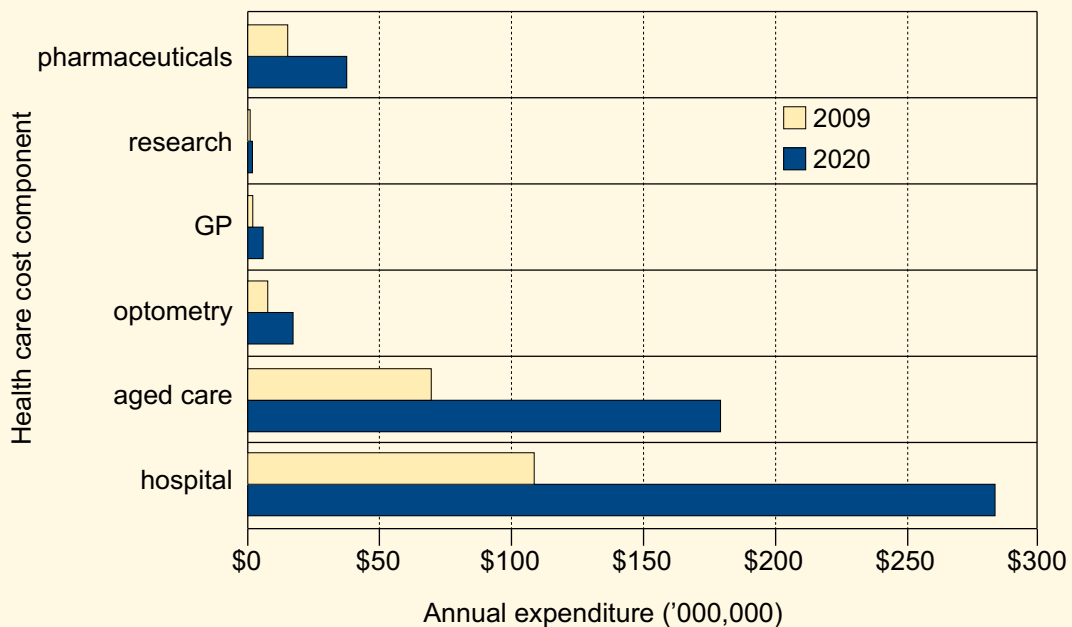
The direct costs of treating eye conditions is significant – \$198 million in 2009. Fifteen percent of this cost was made up of cataract treatment in public hospitals.

Public hospital inpatient and day stay expenditure by disease, 2009



Health system costs are expected to increase between 2009 and 2020. The largest increase is in hospital costs, which are projected to increase from an estimated \$106 million to \$280 million.

Health system costs (\$), 2009 and 2020



Costs are projected to more than double to \$523 million by 2020, or \$3,008 per person with vision loss aged over 40, assuming a policy-neutral environment.

Other financial costs

The financial costs of vision loss to the economy outside of the health system are equally as important. These include productivity losses of those with vision loss, productivity losses of their carers and other indirect costs such as the costs of aids and modifications. These totalled \$203 million in 2009ⁱⁱⁱ.

- **Lost earnings** for people who are blind or have vision loss are estimated to have cost the economy just over \$112 million in 2009.
- The **cost of carers**, including their lost earnings, is estimated at \$21 million.
- Aids, equipment, home modifications and other **indirect costs** are estimated as \$30 million.
- **Deadweight losses** associated with transfers (taxation revenue foregone due to lost earnings and welfare payments) are estimated as almost \$39 million.

Summary of other financial costs associated with vision loss in 2009

<u>Cost type</u>	<u>Total cost (\$)</u>
Productivity losses	\$112,220,000
Carer opportunity costs	\$21,020,000
Aids/ home modifications/ other indirect costs	\$30,430,000
Deadweight losses	\$39,000,000
Total	\$202,660,000

Vision loss has significant social and economic costs.

The non-health system costs of vision loss were almost \$203 million in 2009.

Loss of wellbeing

The estimated cost of loss wellbeing from vision loss for people aged over 40 was estimated at \$2.4 billion in 2009.

Costs of disability, loss of wellbeing and premature death from vision loss are more difficult to measure than direct financial costs. **Clear Focus** used Disability Adjusted Life Years (DALYs), an internationally-accepted approach to measuring loss of wellbeing and premature mortality. The burden of disease as measured in DALYs was converted into a dollar figure using an estimate of the value of a statistical life year. This means that loss of wellbeing can be quantified in financial terms.

Vision loss prevents healthy and independent ageing and is associated with:

- Risk of **falls** increased two times,
- Risk of **depression** increased three times,
- Risk of **hip fractures** increased four to eight times,
- Admission to **rest homes** three years early, and
- Twice as likely to use **health services**.

Employment and life satisfaction studies of New Zealanders with vision loss have found that those with vision loss are financially disadvantaged, in worse physical and mental health, and have less social support than individuals with no vision problems^{iv}.

Vision loss is also associated with a higher than average risk of mortality because it is correlated with a higher risk of falls, motor vehicle accidents and depression^v.

There were an estimated 115 deaths attributable to vision loss in 2009 in New Zealand.

56% of working age RNZFB members are unemployed and many are under-employed^{vi}.

Loss of wellbeing for those with vision loss was valued at an average \$19,000 per person with vision loss over 40.



The policy context

Vision loss and blindness have broad ranging impacts on New Zealand society.

Each year, thousands of people in New Zealand needlessly experience vision loss and many go blind.

In 2009, almost 125,000 New Zealanders aged 40 years or over had vision loss and 12,000 of these people were blind. This will increase as the population continues to age. Assuming a policy-neutral environment, it is projected that almost 174,000 New Zealanders will experience vision loss in 2020 and 18,300 will be blind.

Given that most vision loss is avoidable or treatable, it is staggering that in economic terms, the total cost to the New Zealand community was \$2.8 billion in 2009.

Direct health costs alone are projected to more than double to \$523 million by 2020, compared with \$198 million in 2009.

In 2009, New Zealand was part of the Sixty-Second World Health Assembly that endorsed the **Action Plan for the Elimination of Avoidable Blindness and Visual Impairment**. The plan set five key objectives to reach the goal of eliminating avoidable blindness by 2020. These are:

- Strengthen advocacy to increase Member States' political, financial and technical commitment in order to eliminate avoidable blindness and visual impairment.
- Develop and strengthen national policies, plans and programmes for eye health and prevention of blindness and visual impairment.
- Increase and expand research for the prevention of blindness and visual impairment.
- Improve coordination between partnerships and stakeholders at national and international levels for the prevention of blindness and visual impairment.
- Monitor progress in elimination of avoidable blindness at national, regional and global levels.

What needs to be done?

To support the policy context and the goal of eliminating avoidable blindness and vision loss by 2020, **Clear focus: the economic impact of vision loss in New Zealand in 2009** outlines a number of recommendations. These include:

- **Political commitment** to eliminate avoidable blindness in line with World Health Assembly and VISION 2020 commitments to eye health. New Zealand's commitment to eliminating avoidable blindness needs to be supported by Government, all political parties, the Ministry of Health, all 20 District Health Boards and the private sector.
- **Development of a ten year comprehensive eye health strategy** with measurable targets for reduction and elimination of vision loss. This will enable New Zealand to meet the goals outlined in the World Health Assembly's Action Plan for the Prevention of Avoidable Blindness and Visual Impairment. The socio-economic consequences of blindness and vision loss outlined in this report justify active monitoring and refinement of interventions.
- **Inclusion of eye health factors in District Health Board targets.** Sight loss has significant effects on health and wellbeing. Eye health and public awareness should be included as new Targets, or included within related Targets (such as "better help for smokers to quit" and "better diabetes services"). This would raise awareness of vision as part of overall health.
- **Collecting epidemiological data on population eye health** to guide policy development. In particular, there are significant gaps in knowledge related to vision loss in the Māori and Pacific populations. More understanding is needed about the complexities that lie behind high prevalence rates of vision loss among Māori and barriers to early detection and treatment.
- **Better integration of eye health care with primary health care, chronic disease management and rehabilitation providers**, particularly for those with diabetes-related eye conditions. Education of general medical practitioners, nurses and allied healthcare professionals would aid detection of vision loss and speed appropriate referral.

- **Investigating equity of access to eye care** including services for early detection, treatment and correction. Access in rural communities and in Māori, Pacific, and other high needs populations is of particular concern.
- **Establishing an evidence base specific to New Zealand** against which progress in fighting blindness can be monitored. Appropriate forms of correcting refractive error can address up to 55% of impaired vision.
- **Stronger partnerships and collaboration among all stakeholders** including eye health professionals, low vision services, rehabilitation providers, employers, technology providers, the welfare system and the blind community.

Countdown to 2020

Projections suggest that the number of New Zealanders with vision loss will rise from 125,000 in 2009 to almost 174,000 by 2020. The number who are blind is projected to rise from 12,000 in 2009 to more than 18,000 in 2020. Vision loss comes with a substantial cost to the individual and society, both in direct economic terms and in quality of life.

Most vision loss is correctable, preventable or treatable.

Together with other countries, New Zealand has pledged to eliminate avoidable blindness by 2020 through the global initiative, VISION 2020: The Right to Sight. Since 2002, New Zealand has been committed to VISION 2020 ideals. In 2009 New Zealand was a member of the WHO Executive Board that voted to further advance VISION 2020 in member countries.

With less than 10 years to go for this collaborative effort, the Government and the sector need to make the elimination of avoidable blindness a priority, build on existing services and work in partnership. An action plan to minimise avoidable blindness and vision loss is needed, together with strategies to remove the barriers to full participation in the community for people with little or no sight.

VISION 2020 New Zealand recommends that Government takes strong and immediate action on the recommendations raised in this report. It is time to turn humane precept into practice.



Notes

The basis for epidemiological estimates in this report

In the absence of ophthalmological surveys for New Zealand, internationally regarded, large scale epidemiological surveys from Australia were used as the basis for the New Zealand estimates^{vii} – adjusted for higher rates of vision loss among the Māori population drawn from the 2006 New Zealand Disability Survey^{viii}. Identical disease detection and compliance rates have been assumed across the entire New Zealand population.

- i Access Economics (2010) **Clear Focus - The economic impact of vision loss in New Zealand in 2009**. Report by Access Economics Pty Limited for VISION 2020 Australia in support of the VISION 2020 New Zealand Trust.
- ii Health cost estimates are based on data from Ministry of Health, PHARMAC, RNZFB, Statistics New Zealand, Health Research Council, Organization for Economic Cooperation and Development and others. References are available in the full **Clear Focus** report.
- iii Cost estimates are based on data from Statistics New Zealand, Ministry of Health, RNZFB, Australian Bureau of Transport and Road Economics, Work and Income and others. References are available in the full **Clear Focus** report.
- iv La Grow S, Alpass F, Stephen C (2009) 'Economic Standing, Health Status and Social Isolation among Visually Impaired Persons Aged 55 to 70 in New Zealand', **J Optom**, 2: 155 - 158.
- v Centre for Eye Research Australia (CERA) and Access Economics (2004), '**Clear Insight: the economic impact and cost of vision loss in Australia**', http://www.cera.org.au/uploads/CERA_clearinsight.pdf, accessed 20 April 2010.
- vi Wilkinson-Meyers, L; McNeill, R; Inglis, C and Bryan, T (2008) **Royal New Zealand Foundation of the Blind 2007 Employment Survey**. Centre for Health Services Research and Policy, The University of Auckland Faculty of Medical and Health Sciences.
- vii Estimates were based on the **Melbourne Visual Impairment Project** and the **Blue Mountains Eye Study**, using age-specific prevalence rates from Centre for Eye Research Australia (CERA) and Access Economics (2004), **Clear Insight: the economic impact and cost of vision loss in Australia**, http://www.cera.org.au/uploads/CERA_clearinsight.pdf.
- viii Office for Disability Issues and Statistics New Zealand (2010) **Disability and Māori in New Zealand in 2006: Results from the New Zealand Disability Survey**, report for Statistics New Zealand, Wellington.

VISION 2020 New Zealand is a national body committed to the prevention of avoidable blindness and vision loss in New Zealand.

VISION 2020 New Zealand is committed to:

- Eliminating avoidable vision loss within existing health priorities;
- Developing an evidence base to support progressive eye health policy, service delivery and monitoring mechanisms; and
- Collaborating with public, private and NGO elements of the eye health and vision care sector to gain these ends.