“The Challenges for Eye Care in Australia”

Working towards the elimination of trachoma and reducing Indigenous disadvantage.

The Gerard W Crock Lecture
9th June 2011

Hugh R Taylor AC
Harold Mitchell Professor of Indigenous Eye Health
Melbourne School of Population Health
Schooling in Perth,
Medical School at
University of Melbourne
1948-53
Ophthalmology training
Moorfields
Wilmer Institute
1963
Foundation Ringland Anderson
Professor of Ophthalmology,
University of Melbourne

Major contributions-
Retinal imaging
Microsurgery
Innovation
Teaching
Beloved clinician
40th Anniversary
Melbourne University
Dept. Ophthalmology
1964-2004

Academia Ophthalmologica Internationalis
Chair XV 1976-1989
Emeritus

1985 Order of Australia

1990 Knight of St John
MUDO and CERA’s Achievements

- Publications for 2005-2010
  - 3rd in number of publications
  - 4th in H Factor
  - 5th in number of citations
- Ranked with Moorfields, Hopkins and Harvard
Outline

- The frequency of eye problems in Australia
- The impact of eye problems in Australia
- The frequency of eye problems in Aboriginal and Torres Strait Island peoples
- Programs to eliminate trachoma
- The provision of eye care services
Visual Impairment - <6/12 or driving vision prevents healthy and independent ageing

Falls increase two times
Hip fractures increase four to eight times
Depression increases three times
Nursing home admission three years earlier
Social dependence increases two times
Social isolation increases two times
Doctors visits increase two times
Mortality increases two times
### Table 2.7: Commonly reported long-term conditions, 2007–08

<table>
<thead>
<tr>
<th>Condition</th>
<th>Males</th>
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<td>Hayfever and allergic rhinitis</td>
<td>14.1</td>
<td>16.0</td>
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<tr>
<td>Back pain/problems, disc disorders(^{(a)})</td>
<td>14.1</td>
<td>13.5</td>
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<tr>
<td>Hearing loss</td>
<td>13.1</td>
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<tr>
<td>Asthma</td>
<td>8.9</td>
<td>11.0</td>
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<tr>
<td>Hypertensive disease</td>
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<td>Chronic sinusitis</td>
<td>6.7</td>
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<tr>
<td>Mood (affective) problems</td>
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<td>High cholesterol</td>
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<td>Osteoarthritis</td>
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<tr>
<td>Migraine</td>
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\(^{(a)}\) Includes back problems not elsewhere classified.

*Source: ABS 2009d.*
Table 2.8: Five most commonly reported long-term conditions, by age group, 2007–08

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>Condition</th>
<th>Per cent&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Age (years)</th>
<th>Condition</th>
<th>Per cent&lt;sup&gt;a&lt;/sup&gt;</th>
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<td></td>
<td>Allergy (undefined)</td>
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<td></td>
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<td>Chronic sinusitis</td>
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<td></td>
<td>Back pain &amp; disc problems&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Short-sightedness</td>
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<tr>
<td></td>
<td>Back pain &amp; disc problems&lt;sup&gt;b&lt;/sup&gt;</td>
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<td>Hypertensive diseases</td>
<td>32.0</td>
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<td></td>
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<td>9.8</td>
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<td>Hearing loss</td>
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<tr>
<td>35–44</td>
<td>Short-sightedness</td>
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<td>Short-sightedness</td>
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Figure 7.15: Separations for selected procedures, public and private acute hospitals combined, 2007–08

Source: National Hospital Morbidity Database.
Visual Impairment and Blindness

Australia - 2004

Age

40-49  50-59  60-69  70-79  80-89  90+

0%  10%  20%  30%  40%  50%

Visual Impairment
Blindness

Clear Insight 2004
Blindness - 66,500 Australians -2009

- Refractive Error: 48%
- Macular Degeneration: 14%
- Cataract: 12%
- Glaucoma: 10%
- Neuro-ophthalmic: 8%
- Retinitis Pigmentosa: 3%
- Diabetes and other Retinal: 1.5%
- Others: 4%
Vision Impairment – 575,000 Australians -2009

- Refractive Error (62%)
- AMD (10%)
- Diabetic Retinopathy (3%)
- Other Retinal (3%)
- Neuro-ophthalmic (2%)
- Glaucoma (2%)
- Cataract (4%)
- Other (2%)

Total 575,000
Years of Life Lost to Disability (YLD) - 2004

- Depression: 8%
- Dementia: 6%
- Asthma: 4%
- Osteoarthritis: 4%
- CHD: 4%
- Type 2 Diabetes: 3%
- Vision disorders: 3%
- Oral health: 2%
- Breast cancer: 2%
- Prostate cancer: 1%
- Melanoma: 1%
- HIV/AIDS: 0%

www.cera.org.au
Total Costs of Vision Disorders Australia, 2004

- Direct Costs: $1,824m
- Indirect Costs: $3,224m

Loss of Well-being: $4,818m

- Hospital: $692m (7%)
- Out-of-hospital medical: $406m (4%)
- Other health costs: $726m (7%)
- Aids, other indirect: $371m (4%)
- Carers: $845m (9%)
- Transfer DWLs: $208m (2%)
- Lost income: $1,781m (18%)
Vision Impairment and Blindness
2004 - 2024
Projected Direct Health Costs

1993-2020

$Million

High
Low/Mid


Clear Insight 2004
What can we do about it?

3 “Simple” Things

1. Prevent the things we can prevent
2. Treat the things we can treat
3. Solve the remaining problems
# Eye Care Intervention Package 3 “Simple” Things

## 2005-6
- **Cost**: $188.8m
- **Net benefit**: $-25.7m
- **Total Savings**: $911m \( \times 4.8 \)

## Lifetime
- **Cost**: $1,620m
- **Net benefit**: $662m
- **Total Savings**: $10,016m \( \times 6.2 \)

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www.cera.org.au 2005
Indigenous Eye Health Unit

Ultimate Aim
To Close the Gap for Vision

Goals
1. Define to scope of the problem
2. Characterise current service models
3. Develop recommendations for sustainable, cost-effective eye care services

...but also Fast Track Trachoma
National Trachoma and Eye Health Program, 1976-1978

DISTRIBUTION OF BLINDNESS AMONGST ABORIGINES MORE THAN 60 YEARS OF AGE.

National Indigenous Eye Health Survey, 2008

30 randomly selected sites
5-15yr old and 40yr and older
2883 people examined (79%)
Report Launched by the Governor General September 2009
Vision Loss in Children
One fifth as common as in mainstream children

Vision Loss in Adults
Blindness is 6 times more common
Low Vision is nearly 3 times more common

Causes of Blindness in Adults
32% Cataract
14% Refractive Error, and Optic Atrophy
9% Trachoma and Diabetic Eye Disease

Overall 94% of Vision Impairment is avoidable
…and 35% have never had an eye exam
Presbyopia is common and important
There is a clear need for proper refraction services
Refractive Error

- Half of vision loss in both adults and children is due to Refractive Error
- 39% of adults cannot see normal print
- Services to provide distance and reading glasses are needed in every Indigenous community
Cataract

- Overall, 3.1% of Indigenous adults suffer vision loss from cataract
- Blinding cataract is 12 times more common in Indigenous adults
- Only 65% of those needing cataract surgery have been operated on
- Regular cataract surgery services with adequate capacity are required
Diabetes

- Diabetic eye disease is the equal third cause of blindness

- Indigenous people with diabetes:
  - 36% have diabetic eye disease
  - Only 20% have had a recent eye examination
  - Only 37% have received the laser surgery they need

- Regular screening and accessible laser facilities are required
Still endemic in 60% of remote communities

Older people with trichiasis found across the country

TF Prevalence in Indigenous Children (% in children 5 to 15 years)
Trachoma in Australia, NTSRU 2009

Communities At Risk
120/234
82 of these >5%
54 of these >20%
17 of these >50%
Further action:

- Trachoma can be prevented with the SAFE Strategy: Surgery for trichiasis, Antibiotic therapy, Facial cleanliness and Environmental improvements
- The extent of trachoma needs to be clearly mapped
- All children at risk need to be checked regularly with follow up treatment
- Elderly people across the country need to be checked for inturned lashes (TT) as part of the Healthy Adult check and if needed, referred for surgery
The Two Key Areas

Antibiotic Distribution
Azithromycin

Facial Cleanliness
Katherine West Health Service

- AMS Established 1998
- Area: 162,000 sq km
- Population: 3,5000 – 90% Indigenous
- Seven major communities of 40-1,500 people
- Traditional land of 9 language groups
- Trachoma prevalence 23%
Katherine West Health Service
Trachoma Control Program

Team with Project Officer/Nurse and AHW
Responsible for implementation of trachoma activities
Develop and document material
Provide demonstration and training
Looking at linkages such as “Healthy Eye and Healthy Skin Program”
Community Toolkit to Eliminate Trachoma

• Consultation and development of resources:
  Staff KWHB,
  Staff CDC,
  Ngumpin Reference Group,
  KWHB communities (4),
  NT education, housing and environmental health

• Reviewed 60 resources and drafts
  12 months,
  87 people consulted,
  7 field trips

• Launched Aug 2010
  36 Kits in KWHB,
  400 in NT, 88 in WA
Trachoma Story Kit

Resource Book
Background Material
Flip Charts
Posters
School Curricula
Colouring sheets
Stickers and Stamps
DVDs
Mirrors
27th February 2009
Prime Minister Rudd announces $16m over 4 years to eliminate trachoma as part of $58m Indigenous Eye and Ear Package
April 2010  Melbourne Football Club
Trachoma Ambassadors
January 2011 – 2 Trachoma Posters

CLEAN FACES, STRONG EYES!

TRACHOMA

CLEAN FACES = STRONG EYES

2010 – MARK OF THE YEAR

THAT WILL HELP YOU
GET THOSE GOALS AND MARKS

TRACHOMA
IS EASY TO PREVENT

WASH YOUR FACE

WHENEVER IT’S DIRTY
Social Marketing Campaign

- Indigenous TV Children’s Program
  - Yamba, the Honey Ant
- Football shows
- Radio announcements
- Trachoma Song
- Goanna Suits
- Developing
  - Scripts
  - Involve MFC players
Provision of Eye Care

• 94% of vision loss in unnecessary
• And one third of adults say they have never had an eye exam

• Why aren’t eye services being utilised?
There is a huge disparity in the distribution of eye care provided.
Population ('000s) per full-time health professional
Cataract operations per million population per year

- **NT Central Outreach**: 6,667*
- **Longreach Loop**: 6,429
- **Cape York**: 4,960
- **Great Sth WA Outreach**: 3,760
- **East Kimberley**: 2,165
- **SA (IES)**: 2,000
- **NSW (OES)**: 1,875**
- **Pilbara**: 1,132
- **West Kimberley**: 1,119
- **NT Top End Outreach**: 904

WHO recommendation to avoid preventable blindness (3,000)  
National average (9,500)
Co-ordination of Services

Good Co-ordination

- reduced costs by 15%
- improved clinic throughput by 40%
- reduced waiting times by 5 months
- increased cataract surgery by 80%
Eye Services in AMS Reduce Vision Loss
Good Coordination is required in at least 5 levels…

…and eye care must be coordinated with other services
Vision Loss is not less in Urban and Regional Areas...

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<th>State</th>
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<th>Adults</th>
<th>Regions</th>
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<td>WA</td>
<td>1.9%</td>
<td>0.2%</td>
<td>12%</td>
<td>1.8%</td>
<td>9.4%</td>
</tr>
</tbody>
</table>

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...even though services are readily available.
Provide targets for eye care delivery

The number of people who need to be seen or treated

The number of eye providers required

Data Used:

- ABS for regional population
- National Survey for prevalence
- National manpower coverage

27 May 2011
National Need for Eye Services

- Diabetes examinations 39,000 pa
- Diabetic laser surgery 5,000 pa
- Cataract surgery 4,400 pa
- Exams and glasses 26,000 pa
- Trichiasis surgery 1,500 operations

Need to increase providers
- Ophthalmologists 1 FTE : 28,000
- Optometrists 1 FTE : 4,90
Estimated number of Indigenous people with **Diabetes** who require an annual eye examination
Total: 39,247
Estimated Number with Diabetes Requiring Annual Eye Exam
Total: 2,694
Number of Cataract Operations to Reach National CSR(9500)
Total: 285
Number of Ophthalmologists Required to Meet National Average (1:28,000)
Total: 1.07

Less than 1 month FTE (<0.083)
1-3 month FTE (0.08 - 0.25)
3-6 month FTE (0.25 - 0.50)
Review covers 1976-2010
11 Health Ministers
9 Heads of Department
7 Department name changes
7 formal reviews of eye health
• Detailed review of reports and documents
• Interviews with 23 key “players”
Consistent Findings-
7 Reviews of Eye Health, 1980-2004

- Need for close community input and involvement
  - “Solutions” cannot be imposed
- Need for national oversight and monitoring
  - Peaks and troughs, often led by a “champion”
- Need to integrate basic eye care into primary care
  - Stand alone services are not appropriate, but PHC must do primary eye care
- Need mechanisms to overcome jurisdictional issues
  - Implementation often delayed
- Need commitment of appropriate priority and resources
  - Many recommendations not implemented
13 Eye Services Across Australia
Service Coordination - Pathway of Care

• Identify key components to enhance the pathway of care and provision of eye services through AMS
• Input from National and Victorian consultations:
  – patients/clients/community
  – remote and visiting service providers
  – urban and rural service providers
  – Government
  – other stakeholders
Utilisation Issues

- Many significant similarities but elements may differ
- Lack of knowledge and communication among service providers
- Insufficient coordination and management of the pathway
- The system is complex – for everyone
- Eye health messages and checks exist but implementation is poor
- Proper case management requires additional and functioning referral pathways
Community Primary clinic

AMS/GP assessment

patient with eye problem

Primary clinic

optometry waiting list

Secondary clinic/Visiting service

referred by optometry

referred by ophthalmology

optometry

hospital waiting list

referred by ophthalmology

ophthalmology

hospital

surgery

waiting list

The University of Melbourne
Some Findings and Barriers

- Awareness and knowledge around eye health
- Priority given to eye health
- Confidence/comfort accessing services
- Cost; visits, glasses, surgery
- Waiting times
- Patient travel costs
- Coordination
- Communication
- Referral pathways
Some Enablers

- Provision of services in AMS services
- Assistance with spectacle cost
- Priority for cataract surgery
- Support; coordination, transport, financial, advocacy
- Case management
- Trust/relationships with service personnel (AMS, optometry)
- Specific personnel (REHC’s, other AMS staff)
Why Eye Health is Important

• It is common;
  – most common self reported health complaint 30%
  – blindness rates are 6 times higher,
  – blindness from cataract is 12 times higher, surgery 7 times less

• It causes;
  – 11% of Years of Life Lost to Disability for Indigenous people
  – 3\textsuperscript{rd} leading cause of the Gap for Health!
  – increases mortality rates by at least 2 fold

• It is discrete and fixable;
  – Cataract surgery, New glasses, Diabetic blindness, Trachoma

• It provides a paradigm for all specialist health care;
  – it requires integration into primary health care
  – it needs coordination within a regional basis
  – it requires community engagement
The challenge now is to develop Policy Recommendations

- Facilitate visiting eye teams
- Improve and expand MSOAP and VOS
- Coordinate the pathway of care
  - Provide adequate case management and coordination
- Improve utilisation of available eye services
  - Including cultural safety and low cost spectacles
- Develop costed models of care for new interventions

Develop a roadmap for policy change to provide quality eye care...

...and Close the Gap for Vision
May 2010 – Yuendumu with MFC
Clean Faces, Strong Eyes

- Social Marketing for Health Promotion
- Radio commercials
- Television commercials
- Televisions appearances
- Musical score to accompany marketing
Material Developed;  www.iehu.unimelb.edu.au

- National Indigenous Eye Health Survey Report
- Outreach Eye Services in Australia
- Access to Eye Services Among Indigenous Australians: An Area Level Analysis
- Accuracy of Screening Methods for Diabetic Retinopathy: A Systematic Review
- Trachoma Resource Book
- Antibiotic Treatments of Trachoma: A Systematic Review
- (Projected Needs for Eye Care Services for Indigenous Australians)
Ongoing access of services

Initial access of services

AHS primary care

Visiting services

Primary Care
Person assessed/treated/monitored

Secondary Care
Person assessed/treated/monitored

Tertiary Care
Person assessed/treated

non AHS primary care

Hospital

Person identified with eye care need

Person assessed/treated/monitored

Primary Care
Person assessed/treated/monitored

Secondary Care
Person assessed/treated/monitored

Tertiary Care
Person assessed/treated

mda 25.01.2011

Person identified with eye care need
Ongoing access of services

Community

Family

Capacity to access services

Initial access of services

Visiting services

AHS primary care

Primary Care

Person assessed/treated/monitored

Secondary Care

Person assessed/treated/monitored

Tertiary Care

Person assessed/treated

Hospital

Secondary care clinic

non AHS primary care

Primary Care

Person assessed/treated/monitored

Person identified with eye care need

Seek services

Capacity to access services

Aware of eye health services

Eye health is a priority

Aware of eye health

me

community

family
Service Utilisation

Urban and Rural Services
Site Selection

• Site Selection rationale
  - Local Aboriginal Medical Service
  - Local (and or visiting) eye health care services
  - Regional hospital

• 10 sites in Victoria identified of interest
  - 4 Urban (Fitzroy, Croydon, Maribyrnong, Dandenong)
  - 6 rural (Mildura, Warrnambool, Bairnsdale, Shepparton, Bendigo*, Horsham#)
AMS Diabetic Retinopathy (DR) client and partner consulted.

- DR patient had burst blood vessel. Had bilateral laser surgery over the course of several years and had lost vision.

- Partner exposed, through patient support, of the eye care pathway (primary health care, optometry appointments, surgery and post op follow-up)

- Partner was responsible for the partner in terms of driving, reading etc

- Partner had never had eyes checked and it had not occurred to get eyes checked (awareness, priority, ?)
Enablers/Barriers Vignette

DR patient

- AMS facilitated care
  - coordinated appointments
  - provision of transport
  - accompanying person
  - cost of treatment, glasses, procedures

(support, case management)

however

AMS

- Burden of facilitation/case management
  - financial, human resources, capacity.
  - Sustainability of approach?
Barriers/Solutions Vignette

- Generally reported cost of glasses is barrier
- Evidenced by:
  - Do not attend (DNA) optometry appointments
  - Do not pay/pick up glasses when prescribed
- ACO (further) reduced spectacle scheme
  - $10 (nominal) fee
  - Anecdotal evidence supports initial success
  - High attendance rates (‘100% at VAHS’)
  - Demand has lead to long wait list to see optometry service
  - Improved pick up and payment rates
  - Reported from AMS and ACO staff that change to scheme has been successful for outcomes
Direct Health Costs Comparison - 2004

Cardiovascular disease
Musculoskeletal Injuries
Mental disorders
Cancer
Dementia
Vision Disorders
Arthritis
Ischaemic heart disease
Skin diseases
Maternal conditions
Infectious and parasitic
Depression
Stroke
Diabetes
Asthma

$Million

Clear Insight 2004
## Total Costs of Vision Loss, 2009

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<th>2004</th>
<th>2009</th>
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<tr>
<td><strong>Direct Health System</strong></td>
<td>18%, 1,892m</td>
<td>18%, 2,980m</td>
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<td><strong>Indirect</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Aids etc</td>
<td>4%, 371m</td>
<td>5%, 839m</td>
</tr>
<tr>
<td>- Carer costs</td>
<td>9%, 843m</td>
<td>1%, 251m (819m)</td>
</tr>
<tr>
<td>- Productivity loss</td>
<td>18%, 1,781m</td>
<td>14%, 2,279m</td>
</tr>
<tr>
<td>- Dead weight loss</td>
<td>2%, 208m</td>
<td>5%, 869m</td>
</tr>
<tr>
<td><strong>Loss of Wellbeing</strong></td>
<td>49%, 4,818m</td>
<td>57%, 9,495m</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$9.85bn</td>
<td>$16.6bn (69% increase)</td>
</tr>
</tbody>
</table>

Access Economics 2010
Aboriginal people have better vision than Europeans

World Record Vision 6/1.2
Shortage of all Health Care in more Remote Areas

Source: AIHW health expenditure database.

Figure 1.2: Age-standardised per person expenditure\(^{(a)}\) by ASGC, percentage of Major cities expenditure, 2006–07
Potential Solutions

- Supported transport including an accompanying person
- Increase priority of eye care for clients and within AHS
- Multiple funding and business arrangements exist to support the clinical components of the pathway
- Consistent access to affordable spectacles and awareness of costs
- Fast track for those needing hospital care
- Case management through the complex eye health systems.
Barriers to the provision and utilization of eye health services for Indigenous Australians

Patient care pathway

Ongoing access of services

Initial access of services

AHS primary care

Primary Care

Non AHS primary care

Secondary care clinic

Tertiary Care

Hospital

Aware of eye health

Aware of eye health services

Eye health is a priority

Capacity to access services

Seek services

Identified with eye care need

Assessed/treated/monitored

Person assessed/treated/monitored

Person assessed/treated

Communication pathway facilitators (eg case support, transport)

Coordination

Collaboration

me

community

family

mda 25.01.2011