PRIMARY eyecare
Issue 61 2020

May Budget 2020: SuperGold cardholders to get free health and eye check-ups

Why is this our topic for Issue number 61 you might think? Well, because it is now September, it is Save our Sight month once again, and early detection of eye disease in older people remains an important health issue.

The NZ Association of Optometrists welcomed the Government's commitment to improved eye health for senior citizens with the announcement of a new funding allocation for free annual eye check-ups for the nearly 750,000 SuperGold card holders in New Zealand. But, as yet, no detail has yet been provided on what the checks will involve. The total allocated funding for the health checks and eye checks combined was reported to be nearly $13m in 2020/21, rising to an estimated $61.6m a year from 2021/22. From this we deduct that if every person over the age of 65 attends for both checks each year funding amounts to around $40 per check.

However, funding is only one aspect to think about and what defines an 'eye check' is the question that is exercising the minds of optometrists right now. In essence any eye check for a person 65 years and over must be capable of delivering improved health and well-being outcomes for our older citizens as they are those most vulnerable to sight-threatening eye disease. For the eye check scheme to deliver the required outcomes the check must be sufficiently comprehensive as to result in a proper diagnosis and a management pathway. A quick measure of visual acuity with a letter chart is not really going to do the job.

To avoid harm the scheme must anticipate three pathways and consequent endpoints:

- No vision anomaly or eye disease found – discharge as normal
- Correctable refractive error – discharge with a prescription for an optical appliance
- Diagnosis of specific eye disease - followed by treatment, referral, or ongoing monitoring as appropriate

Examples of diagnoses that would be expected most frequently in pathway 3 include cataract, age-related macular degeneration (AMD), glaucoma, and undetected diabetic retinopathy. Each of these conditions could require ongoing monitoring in the period between initial diagnosis and the point at which priority for treatment is reached.

Which part of the eye check can realistically be provided for $40? General practitioners will be well aware of the costs of providing health care within a rationed public health system. They will also be well aware of the expectations of the public and the limitations of screening for eye disease. How helpful is it to screen for diabetic eye disease and have the patient go blind from glaucoma? Should the 'eye check' simply screen for macular degeneration in general or should it be able to distinguish between those with wet and dry forms of the disease? Bearing in mind that currently we can only treat the wet form.

These are all factors to be considered before we rush in and spend the money.

What do we know about sight-threatening eye disease?

Firstly, it includes many more conditions than just the top four of AMD, glaucoma, diabetic retinopathy, and cataract such as naevi, venous occlusions, myelinated nerve fibres, and epi-retinal membrane. Secondly, blurry vision is something of an ubiquitous symptom with pain seldom occurring; and thirdly, irreversible damage can occur before the effects of eye disease are noticed.

Glaucoma

La Hood et al (2016) showed very clearly that the majority of people who are members of Glaucoma New Zealand did not have any idea they had glaucoma until it was discovered through incidental findings. The mean age was 76.4 years and 80% did not think they had glaucoma. Of those that thought they might have or get glaucoma 65% were aware of a family history of the condition and 33% had symptoms prompting investigation, and 9% did not specify why they were concerned about glaucoma (percentages rounded).

Optometrists were the most frequent practitioners to diagnose previously undetected glaucoma (75% of cases) followed by ophthalmologists (17%), then GPs (5%), and unspecified (3%).

Age-Related Macula Degeneration (AMD)

In 2014 Wong et al. published a systematic review and meta analysis of the global prevalence of age-related macular degeneration. The meta-analysis, which included only high quality studies using retinal photographs and standardised grading systems (total n = 129,664), estimated the global prevalence of any AMD in people aged 45 to 85 to be 8.7%. However, this is likely to be a significant underestimate because those aged over 85 years were excluded. All the studies consistently found an exponential increase in the rate of late AMD in those aged over 70 years.

The New Zealand National Health Committee – Age-related Macular Degeneration report of 2015 states that AMD is the leading cause of blindness in New Zealand in those aged over 50, accounting for half of all cases. It is estimated that 15,000 –30,000 people in New Zealand are affected by late (advanced) AMD, with 10,000–20,000 affected by the more severe and rapidly progressive wet form. The prevalence is expected to increase by 20–40% in the next 10 years as a result of population ageing.

About 75−80% of all AMD patients have early AMD, the most common and less severe form. In early AMD, abnormalities develop in the retinal pigment epithelium (RPE) and lipid deposits (drusen) form underneath the RPE. When eyes are affected only by drusen and early RPE irregularities, people do not usually suffer noticeable vision loss, although some may have subtle distortions in vision. About 4% of patients with early AMD progress to late AMD each year.

Ten to fifteen percent of cases are late-stage dry AMD, characterised by geographic atrophy, focal areas of atrophy of the RPE and degeneration of the light-sensitive photoreceptor cells. There is usually a slow but marked progressive decline in central vision over several years in this stage; and roughly a quarter of patients with atrophic AMD experience severe vision loss or blindness.

Most cases start as dry AMD, and about 10−15% progress to wet AMD. Wet AMD is caused by abnormal growth of new choroidal blood vessels (choroidal neovascularisation; CNV) under the retina, which leak blood and proteins into the macular region. This leakage causes thickening of the retina and fibrosis, resulting in scarring and permanent damage to the photoreceptor retinal cells. Wet AMD progresses rapidly with acute central visual disturbance followed by unremitting vision loss.

Without treatment, 40–50% of patients with wet AMD experience severe vision loss in at least one eye within 1 to 3 years, and as many as three-quarters will eventually experience severe vision loss or blindness.

Prevalence of AMD tends to be higher among populations of European ancestry than other ethnicities. Particularly relevant to NZ, prevalence of AMD among Māori and Pacific peoples is thought to be very low.

As there are no recent comprehensive prevalence studies of AMD in New Zealand, estimates are based on extrapolation from international data.

Age-specific prevalence estimates for Europeans from the Wong et al meta-analysis applied to New Zealand population projections by age group and extrapolated to include those aged over 85, suggests an increase of more than 40% in the number of people in New Zealand with late AMD by 2026; and that the number may double in the next 25 years.

According to the National Health Committee report, diagnosis of early AMD and its monitoring is within the scope of optometry provided it remains asymptomatic and stable. There needs to be a fundus assessment with a slit lamp biomicroscope (DFE) on a 2 yearly basis. The numbers estimated requiring this service are estimated between 115,000 and 165,000 (page 16, figure 5), at an estimated cost of $4.3M to $6.2M.

Cataract

Cataract surgery is the most common surgical procedure in New Zealand. It typically presents to optometrists and general practitioners. It is not usually a condition that is considered suitable for screening and as Prof. Charles McGhee, Director, New Zealand National Eye Centre,

While cataract is responsible for 51% of world blindness, here in New Zealand blindness from cataract is rare. However, it is the most common cause of visual impairment.

Diabetic Retinopathy

New Zealand already has a variety of local diabetic retinopathy (DR) screening services, some of which are very effective according to the Ministry of Health in 2016. The standards for grading, referral and monitoring are complex and involve technology that is quickly evolving. The process of screening includes an assessment of visual acuity, visualisation of the retina and a review of clinical factors that may affect the recommended screening interval or referral urgency.

Retinal visualisation can be undertaken using colour digital retinal photography to the standard detailed in the Diabetic Retinal Screening, Grading, Monitoring and Referral Guidance document or by dilated pupil fundus examination, using binocular ophthalmoscopy (eg, slit-lamp bio microscopy) by an optometrist or ophthalmologist.

For fundus photographs the minimum field size is two 45 -degree fields each providing approximately 75 degrees horizontal and 45 degrees vertical coverage. Standards also exist for positioning of the optic disc for macular and nasal, fields, and the superior and inferior retinal images.

If pupil dilation is used there is an extremely small risk of precipitating acute angle closure glaucoma, which can occur three to six hours after pupil dilation. If a patient develops symptoms of acute closure glaucoma (including sudden severe eye pain, a red eye, blurred or reduced vision and a headache), they should be told to seek ophthalmic advice urgently.

The diabetic retinopathy grading classification has two components; grading for retinopathy and grading for maculopathy. Retinopathy grades are: R0 - no retioptahy; R1 - minimal; R2 - mild; R3 - moderate; R4 – severe; and R5 – proliferative. R4's should be reviewed by ophthalmologist within 6 weeks and R5's require urgent referral to ophthalmologist. Maculopathy grades are: M0 - no macular disease; M1 - minimal (microaneurysms (MAs), haemorrhages or exudate within 2 DD of the fovea); M2 – mild (MAs or haemorrhages within 1 DD but no exudates or retinal thickening and no reduction in vision); M3 – mild (exudates and/or retinal thickening within 2 DD of the fovea but outside 1 DD) M4 - (exudates or retinal thickening within 1 DD of the fovea, foveola not involved); M5 - exudates or retinal thickening involving the foveola); and MT - Stable, treated macular disease. Both M4's (with some exceptions) and M5's require ophthalmologist review within 6 weeks. (N.B DD = disc diameters).

In conclusion, more questions than answers.
It seems that adopting a simple 'eye check' for sight-threatening eye disease, though appealing, is not a simple matter. There are many questions from an optometry point of view. How helpful is it to screen for AMD only to have a person go blind from glaucoma? By what criteria could a single condition be chosen? What kind of 'eye check' could realistically be provided for $40? What about the expectations of the seniors having the 'eye-check' – will they think they have had a free eye exam? If nothing is detected will they think they are clear of all eye disease? If something is detected but not diagnosed will a referral for diagnosis follow? Who pays for that? What if there are even more people referred to DHB eye departments – how will they be prioritised? Will waiting lists get even longer or will some people not get seen?

There are many factors to be considered before we can be sure the free eye check program will deliver on its promise and right now we have no answers.