

Eye care for older people

EDITORIAL



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An ageing population: the global trend

Worldwide, people are now living longer and birth rates are declining; older people are therefore making up an ever greater proportion of the world's population. This means that the number of older people is increasing very rapidly compared to the overall growth of the global population.

By 2025, there will be twice as many older people worldwide as there were in 2000 (an increase from 606 million to 1.2 billion). Twenty-five years later, by 2050, the population of older people will be three times greater than in 2000: around two billion.¹

This trend will be experienced, to varying degrees, in countries all over the world. In Africa, the number of people aged 60 and above is expected to increase at double the worldwide rate; it is estimated that this population will grow from 38 million in 2000 to at least 203 million in 2050. In fact, it is estimated that 75 per cent of older people will be living in low- and middle-income countries by 2025.

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Daisy Wilson

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Impact of ageing on eye care systems

For many low-income countries, such an increase in the number of older people will be particularly challenging as this change in the population may take place before there has been sufficient economic development to deal with its effects. In particular, an ageing population will place an extra burden on the health care system in general.

The prevalence of visual impairment increases with age. Although people aged 50 years and above only represent 19 per cent of the world's population, more than 82 per cent of people living with blindness are in this age group.² A rise in the number of older people in a population will therefore be accompanied by an increase in the number of people with age-related eye diseases, such as cataract and age-related macular degeneration.

The costs associated with treatment and rehabilitation can be expected to increase dramatically over the next few decades.

In lower-income countries, different generations tend to live under one roof and the role of caring for older people falls mainly to the family. Relatives also have to meet the costs associated with treatment and rehabilitation.

In many middle- and high-income countries, however, older people are becoming increasingly isolated. This is due to the breakdown of the family unit and the need for working-age relatives to move in order to find employment. As people age alone, without family members to look after them, governments might face increased pressure to provide care; this could include meeting the costs of treatment and rehabilitation.

Impact on society

Not all the costs associated with an increase in age-related diseases are financial. Visual impairment has a negative impact on the lives of older people, their families, and society as a whole.

Older people with good vision can, and do, remain economically and socially active as they age, and they contribute significantly to the wellbeing of their families and to society in general (see article on page 24). This contribution is particularly important in populations affected by HIV and AIDS, where children may have lost both their parents and are looked after by grandparents. Unfortunately, visual impairment dramatically reduces the ability of older people to contribute to their full capacity, which has a negative impact on society as a whole.

What can be done about the impact of ageing on eye health?

Considerable resources are needed to help older people overcome the limitations imposed by poor vision.

When is someone an older person?

Most high-income countries use the chronological age of 65 years to define older people. For Africa, the current recommended cutoff is 50 years. Although the United Nations currently have no standard numerical criterion, the generally accepted cutoff is 60 years and above. (www.who.int)

Improving access to treatment

Despite the fact that much visual impairment in older people is due to correctable conditions such as refractive error and cataract, older people in many countries still suffer from these conditions. Even in high-income countries such as the UK, where good quality eye care is free at the point of delivery, there are high levels of visual impairment in older people.³ This problem is particularly acute among older people who do not live in the community, for example, people living in residential homes or nursing homes.

Older people face particular challenges when accessing health care, including eye care. One of the reasons is that, as people age, many health problems can occur at the same time. In the presence of multiple health problems, vision problems probably assume a lesser importance; in addition, these other health problems can make it physically more difficult for an older person to access eye care. Expectations and activities also decrease with age, which affects older people's desire to seek help with their health problems, including eye problems.

The article on page 26 discusses these and other challenges older people face when trying to access eye care and offers some suggestions for overcoming them.

Prevention

Although safe and effective treatment for cataract is available, the costs to society of dealing with this problem on such a wide scale may become very high. In addition, the new treatments emerging for age-related macular degeneration are currently too costly to benefit more than a small portion of those suffering from this condition.

Prevention of cataract and age-related macular degeneration may therefore become particularly important in the future. Although we hope to uncover more evidence about the prevention of these conditions, there already exists very clear evidence that tobacco smoking is a risk factor for both conditions.

Almost one billion men in the world smoke, but levels of smoking in men appear to be declining.⁴ Although the rates of smoking in women are declining in high-income countries, this is by no means the case worldwide. Overall, healthier, better educated people are heeding public health warnings

on the dangers of smoking. However, smoking is now becoming much more concentrated in poorer, less educated populations; this is precisely the group which has been shown to be in worse health and to have more limited access to health care.

Therefore, there should be a focus on public health interventions in poorer, less educated populations to reduce levels of smoking.

The relationship between nutrition during life and age-related eye diseases is currently being investigated. Firm public health recommendations on this issue cannot be made at present. It is more than likely, however, that a healthy and active old age requires adequate levels of nutrition at all stages in life.

Maintaining good vision is an important part of 'active ageing', a concept promoted by the World Health Organization. Active ageing means: continued health, security, and participation in society as people age, in order to ensure a good quality of life in later years.⁵ As eye care practitioners, therefore, we should work together with other health and social services to help those in our care remain as active as possible in their later years.

Changing attitudes to ageing

Changes in attitudes towards ageing and older people, which differ in different parts of the world, will no doubt influence the consequences of ageing in different regions.

On the one hand, societies traditionally respectful towards older people are finding that the gradual globalisation of culture can lead to a 'culture of youth'. This can mean that youth is idealised and that there is less respect towards older people.

On the other hand, because the number of older people is increasing as a proportion of the total population, their voices may have a better chance of being heard. This is particularly true in high-income countries, where this new phenomenon has been called 'grey power' or 'grey dollar' to

indicate that the commerce and industry sector is beginning to appreciate the economic power of these older consumers. This societal change is reinforced by the fact that, in these countries, the new generations of older people are used to being vocal and politically active.

This may result in increased respect for, and responsiveness to, the needs of older people.

With increasing health awareness in all countries, we may also hope for a 'generational effect': it is possible that current generations, more used to being 'consumers' of health care, will engage actively with health care services in their later years. Rapid changes in access to information, thanks to the internet and other digital media, will undoubtedly have an effect as users of health care services will become more informed about what is available to them.

Conclusion

For any country, an ageing population is something to be proud of; it is a success story reflecting the fact that people are living longer and healthier lives. However, it is important to plan for the effects of an ageing population, both in terms of health care provision and public health campaigns. Appropriate public health messages should be provided at all ages to encourage healthy lifestyles that promote eye health in the long term. We must also ensure that older people have good access to eye care services.

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'An ageing population is something to be proud of'

World Sight Day 2008: Eyes on the Future



Photo courtesy of Brendan Esposito/Fairfaxphotos and The Fred Hollows Foundation

Photo: Zuri Mukhida/Sightsavers



Did you know that 80 per cent of the world's 45 million blind people are over 50 years of age?

The theme of World Sight Day 2008 is the ageing eye and visual impairment in older people. The headline "Eyes on the Future" recognises that, in a world where populations are ageing and individuals are living longer, blindness from chronic conditions is also on the increase.

World Sight Day is the annual day of awareness for blindness and visual impairment and is held on the second Thursday of October (this year it is on 9 October 2008). Included on the official calendar of the World Health Organization, it is coordinated by IAPB under the VISION 2020 Global Initiative. The global theme and certain promotional materials are generated by IAPB.

All World Sight Day events are organised independently by members and supporters of VISION 2020. IAPB encourages all organisations concerned with eye health to arrange events and displays to mark this special day. Ideas for events include competitions, eye screening camps, sponsored walks, and gala dinners. Promotional posters, bookmarks, and official literature can be requested from IAPB. See www.v2020.org/wsd08 for more details.

Summary

- Populations are ageing because of increased life expectancy and decreased birth rates.
- Most high-income countries already have large populations of older people. Low- and middle-income countries will experience a rapid increase in the number of older people in their populations.
- With increasing age, the prevalence of visual impairment and age-related diseases, such as cataract and age-related macular degeneration, increases rapidly. This has implications for eye health and social care costs.
- Public health interventions should focus on reducing the levels of smoking in the population to reduce the incidence of age-related cataract and age-related macular degeneration.
- Older people have different needs, which should be taken into consideration by eye care providers. They also face more barriers to health care, older women in particular.
- Good vision can help older people remain active for longer.



Restoring sight: how cataract surgery improves the lives of older adults

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The fundamental aim of most ophthalmic interventions in later life is to improve the quality of patients' lives, whether through sight-restoring cataract surgery or the provision of visual aids. Amidst the pressures of targets, outputs, and backlogs, this may be all too easily forgotten. It is therefore important to step back and remember just how important good vision is in the lives of older adults.

Vision loss has a major negative impact on the quality of older people's lives. Sight remains as valued and important in later life as at any other age and its loss is one of the things older people fear most. Improving access to eye care services for this age group, as well as older people's uptake of such services, is therefore very important.

This article takes a closer look at some of the ways in which vision loss and blindness can affect the lives of older adults; it also highlights the positive impact sight-restoring cataract surgery has on older people's lives.

The impact of vision loss

It is usual to describe vision loss in clinical terms (such as visual acuity, for example) or in epidemiological terms (such as the prevalence of severe visual impairment or blindness in a population). But what does low vision or blindness really mean for an older person?

In order to find out, in-depth interviews were conducted in Kenya and Bangladesh with adults over the age of 50 who had recently undergone cataract surgery. This formed part of a wider study by the International Centre for Eye Health on the impact of cataract surgery on quality of life and poverty. Some of the findings are presented in this article.

These findings support previous research using patient-reported outcome measures (PROMs) in both high- and low-income settings.^{1,2} PROMs are questionnaires which aim to discover the impact of health conditions or treatment as perceived by the patient, rather than from clinical measures alone.

Difficulties with daily activities

Our research showed, unsurprisingly, that older adults with visual impairment had greater difficulties with their daily activities than those without impairment. These difficulties varied considerably according to older adults' lifestyle, environment, and social support, as well as the severity of their vision loss.

"Before the operation I felt as if I was put into a jail that I couldn't escape. Many times I would take tea and burn myself as I couldn't see the handle. It was horrible." (Kenya)

"[Before surgery] I never used to go to meetings, bazaars, and weddings. I could not light fire for myself and I never used to know the difference between crops and weeds. I couldn't even bathe myself. I could not differentiate money given to me and used to be given less change often because I couldn't see." (Kenya)

Reduced earning capacity

Older people with visual impairment are less able to earn a living or contribute to the household. These restrictions have obvious economic implications. Amongst the people we interviewed in Bangladesh, a 70-year-old man told us that because of his poor eyesight (from cataract) he was rejected as a day labourer and lost his job as an imam. A 58-year-old woman from the same district reported that she used to make handicrafts to sell, but because of her eyesight "they were no longer of good quality."

Limited participation and social isolation

Older people with visual impairment are less likely to engage in social and family life. Participation in activities, relating to both work and leisure, is well established as an important factor in the wellbeing and happiness of older adults.³ Restrictions on participation not only have economic implications, but they can also impact on many social and psychological aspects of a person's life. Reduced opportunities for interaction and involvement with social networks, for example, could lead to feelings of isolation and lack of social support.

"Before [surgery] my friends didn't often come to visit; they were not interested because they knew I couldn't see." (Kenya)

"I was gradually transforming into a neglected person by my family members." (Bangladesh)

"...when I used to ask for help they used to get annoyed and tell me to do it on my own. I used to sit helpless in the corner because I could not see." (Bangladesh)

To further compound this impact, there tends to be a disproportionately large number of older people among the more

neglected and marginalised members of society. It is likely that visual impairment exaggerates this situation.

Anxiety and depression

There is some indication of a relationship between age-related vision loss and depression in later life.⁴ For example, older adults in Kenya with visual impairment due to cataract were three times more likely to report anxiety and depression compared to people of the same age with normal vision.⁵

"I couldn't do anything. Even if I wanted to go to the road, someone had to hold my hand and take me. I didn't appreciate anything and felt really sad." (Kenya)

In addition, research shows that restricted capacity to contribute to the household or community can lead to feelings of loss of independence, feelings of being a burden on others, and reduced social status and self-esteem.⁶

"I was finished without my sight as I was the breadwinner and I was not able to give my family anything. I felt embarrassed about my eyes." (Kenya)

The impact on others

The significant contribution of older people to the wellbeing of others and to wider society is well documented, but it is undervalued and all too often forgotten.

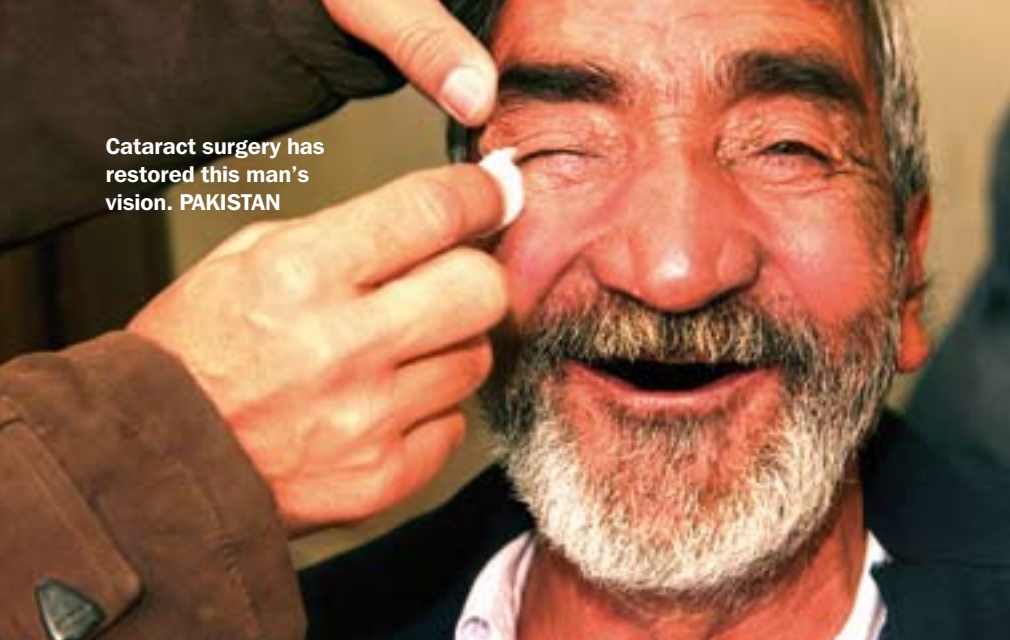
In low-income countries there is evidence that, in poor households, all members – regardless of age – contribute to the basic needs of the household.⁸ Taking care of children is just one example of how older people contribute: the benefits of this are likely to be multiple and include enabling a parent to continue in paid employment. In countries heavily affected by HIV and AIDS, older people often have to care both for their sick children and for their grandchildren.

When older adults become visually impaired or blind, their ability to contribute economically, and to social and family life, is greatly reduced (as some of the above quotes show); this loss can be felt quite keenly by other members of the household.

The positive impact of eye surgery

There is a misconception (seemingly also present among older people themselves) that sight is less important in older age. Some also believe that vision loss and its restrictive impact should be expected – and accepted – as part of the ageing process. This is clearly not the case. Research has shown that cataract surgery has a far-reaching impact on the quality of older people's lives.

Cataract surgery has restored this man's vision. PAKISTAN



Jamshyd Masud/Sightsavers

Studies in various countries using PROMs have shown a marked improvement in the physical functioning and psychological well-being of older people.⁹ It has also been shown that cataract surgery continues to be beneficial even amongst the very old.¹⁰ In our study in Kenya and Bangladesh, the very old or those suffering from other health problems or diseases expressed that their improved vision was of huge value.

"I had not seen two of my children, who were born when I was blind. I couldn't read reports of my children from teachers at school. I could not raise money to educate my children. After surgery I felt like a small child born again. I really celebrated; so did my family. The first thing I wanted to see was my two grandchildren. It was amazing! They were young and very beautiful." (Kenya)

The following are some of the other benefits that older people in our study experienced after receiving sight-restoring cataract surgery.

Greater social inclusion and participation

Patients reported an increase in their participation in social activities.

"After surgery I was very happy because I could visit my friends and attend village meetings, bazaars, and functions like weddings." (Bangladesh)

"I feel happy because even though I'm old, at least I can see people." (Kenya)

This renewed capacity to participate in social events was considered a major benefit; it was also linked to feelings of happiness and confidence.

"Now I have a very good relationship with my family members and others. Before the operation I used to feel shy to socialise. Now I do not feel that." (Bangladesh)

Engagement in productive activities

Following cataract surgery, many interviewees were able to once again engage in productive activities, be that driving a taxi, working on their farmland, or contributing to the upkeep of the household.

"After surgery I completely got back my eyesight, but because of my old age I cannot do heavy work. But I can help with the household chores so my family can concentrate on earning money." (Bangladesh)

"I was able to do my business again making locks and knives to sell. This helped me to get money for my family." (Kenya)

Increased self-esteem

In addition to, and perhaps as a result of, increased participation in social and work activities, a new level of independence was commonly reported by older people after surgery. Associated with this was a feeling of increased self-esteem and respect from others.

"Earlier [before surgery] I used to feel helpless, but I am not feeling like that anymore. I am confident now. I can earn my living by housekeeping." (Bangladesh)

"I do not need to depend on anyone. I can do my own work. Besides, people used to neglect me earlier, but now they respect me very much." (Bangladesh)

Improved communication and relationships

Other, perhaps less obvious, benefits from cataract surgery included improved communication with others, stronger social relationships, and being more trusting of others:

"Now when I meet someone in the community, I can say hello and genuinely feel I have communicated and I can tell whether people are truly saying hello with a good heart. Before [surgery] I didn't want to talk to people because I didn't know whether to trust if they were being true. It's easier to talk to people now." (Kenya)

"My family is more harmonised and able to work together better. We can discuss issues better now as I can see them [his family] clearly." (Kenya)

Wider impact of surgery on other members of the community

It should also be remembered that the benefits of sight-restoring cataract surgery

extend beyond the individual to the wider household; surgery has positive social and financial consequences. Restoring one person's sight may free up time and alleviate the anxiety of others, for example those who previously needed to remain at home to look after or assist an older blind relative.

"We used to worry when we used to leave him alone at home. Now it is not happening. We can go to the workplace without worrying. Besides, he needed help with eating, travelling, sleeping, bathing ... now it is not necessary. So we are very happy." (Bangladesh)

"The family is happy because we are able to attend other duties now that she is independent. We are able to go about our duties without worry or hurrying back to the house to attend to her." (Kenya)

Conclusion

In the absence of appropriate intervention (whether spectacles, surgery, low vision care, or rehabilitation), visual impairment has a substantial negative impact on many factors that contribute to the quality of life of older adults. These range from perhaps the more obvious effects of a reduced capacity to undertake day-to-day activities, through to a more subtle influence over psychological wellbeing.

The significant physical and psychological benefits of cataract surgery, in terms of the quality of a person's life, should serve as a powerful reminder of the value of ophthalmic interventions for the older adult.

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Helping older people get the eye care they need



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Despite being more affected by visual impairment and blindness than any other population group, older people are the group least likely to seek help when faced with eye problems or a deterioration of their vision. Even in the Kilimanjaro region in Tanzania, one of the few regions in Africa to have an excellent community eye care programme, it is estimated that only one in three older people with cataract actually receives an operation.

This article looks at some of the most important reasons that older people don't get the eye care they need.

Cost of eye care

Worldwide, particularly in low- and middle-income countries, older people tend to be the poorest members of society.¹ As a result, the cost of eye care services is a major issue, especially when people have to pay for their own health care.²

There are direct and indirect costs to eye care. In one region in Madagascar, for example, we recently discovered that indirect costs such as transportation and meals for older people and their caretaker(s) can amount to more than three times the price of a cataract operation or ten times the price of presbyopic spectacles. Such indirect, or hidden, costs (which can even include bribes) tend to discourage many older people from seeking treatment.

Barriers related to direct cost can be reduced by introducing a tiered pricing system which allows patients to pay according to their ability. One hospital the author worked in had such a system for their consultation fees: US \$0 for patients who were too poor to pay, US \$1 for regular patients, and US \$20 for 'fast-track' patients (who paid extra for special waiting areas and shorter waiting times). Such a system should be clearly formulated and transparent to users and should make provision for people who cannot afford to pay for the services.

To help with indirect costs, a fee system could be set up where the fee for treatment includes transportation, meals for the patient and his or her caretaker, medicines, and so on. This eliminates any hidden costs and allows patients and their families to budget sensibly and in advance.³

Occasionally, patients give 'lack of money' as a reason for refusing an operation when there are deeper, more complex reasons that they may not wish to divulge. Proper counselling and repeat visits by field workers,



Organised transport to an eye clinic. These older persons were diagnosed with cataract in a remote district. MADAGASCAR

'Eye care workers should not only talk to older people – they should also listen to them'

outreach workers, or community workers can explore these reasons and often help the patient make an informed decision about surgery.

Fear of eye surgery

Fear of eye surgery is universal, even among eye care workers – which should help eye care workers be more sympathetic to the fears of others.

The attitude and skill of an eye care team will determine how successful it is at alleviating fear in potential patients. However, a well-trained social worker, counsellor, or patient advisor may be more successful than an eye surgeon at calming an older person's fear and winning their confidence. Older people who have successfully received treatment may also be trained to promote a service to their peers.

Difficulty getting to eye care facilities

Most eye care facilities are located in urban areas, whereas older people usually live in rural areas.

Eye care programmes need to include comprehensive outreach services as one of their strategies. Such services should locate older people in need of eye care in the community; they should not be limited to screening for cataract and should look for other problems which may lead to visual impairment. These services could also provide refractive services, including the sale of ready-made spectacles.

Where they exist, community-based services can provide a link with a more distant eye care facility. Community-based

rehabilitation workers can usually help with the following:

- identification and referral of older people with visual problems
- follow-up in the community
- low vision and rehabilitation services for those who may not benefit from surgery.

Poor communication

Another major barrier is lack of awareness about treatable eye conditions, about where help can be sought, and about the real cost involved in eye treatment.^{2,3} This lack of awareness is compounded by a lower level of literacy among older people in Africa.

In order to overcome this barrier, it is important to work closely with the community and ensure that two-way communication takes place; eye care workers should not only talk to older people, but also listen to them. This builds trust and helps health workers understand what the real issues are.

It is also important to remember that the decision to seek medical help can be quite complex. In many low- and middle-income countries, the final decision is not made by the patient, but by the family (children, grandchildren, husband or wife, etc.) and peers (see article on page 31). Eye care workers, where possible, should help these decision makers to understand the socio-economic benefits of good eyesight for older adults (see article on page 24).⁵

Spend some time finding the most efficient channel for the dissemination of information; this may depend on the specific situation. For example, a recent study in Tanzania suggested that churches

were the most effective channel in a predominantly Christian community.⁶ Our preliminary observations in Madagascar suggest that working with local community leaders and pension pay points may also be very effective.

Help the Aged, a UK charity which works in partnership with HelpAge International, suggests the following for improving awareness of eye care among older people:

- Ensure eye clinics are well promoted within a local area, bearing in mind language and communication channels: a leaflet may not always be appropriate if there are low literacy levels. Some alternatives are radio announcements or advertisements, and using community health workers to spread the message.
- Pay special attention to explaining any costs; also explain what assistance is available to help older people meet those costs.
- Where treatment is free, ensure this is well understood and that any indirect costs are explained.
- Forge long-term links between non-governmental organisations and other representative groups working with older people.

Gender inequalities

Many studies have shown that, although women account for more than 60 per cent of people living with visual impairment, they are less likely to seek help than men. In some areas, this barrier is even more significant for older women, especially those who are widowed or childless, as they have less social support.

Proper counselling and organised transportation seem to be extremely important in improving access to eye care for women. In addition, special education programmes with women's groups could help increase awareness about eye health. It is also important that men, who often have the final say, understand that the rights of women to good vision are as valid as those of men.⁷

Insufficient collaboration among professionals who care for older people

In addition to eye problems, older people usually have other age-related health problems, such as hearing impairment, arthritis, cardiovascular disorders, and diabetes (see article on page 31).

The disability caused by such disorders could make some older people reluctant to visit health facilities. When they do visit, the health team very often doesn't check their eyes, even though there might be an eye department in the health facility and these older people may have visual impairment or a sight-threatening condition.

The general health of older people is not a topic often included in the training curricula of eye personnel. This, coupled

How to ensure a clinic is age-friendly

Like all other service users, older people must be treated with dignity and respect; they should not feel embarrassed to ask for any extra help they may need.

Physical considerations

It is important to ensure that older people are able to use the building independently, where possible.

- When designing a building, use ramps in addition to steps where possible and remove any obstacles which could make people trip over.
- Toilets should be spacious, with handrails.
- Rooms should be well lit and glare should be avoided.
- The wording on all signs in a building should be in mixed-case large print; the background should be in a contrasting colour.
- There should be plenty of seating available at reasonable height; this should not obstruct the areas where people are likely to walk. Seating should be in a contrasting colour to that of the floor.
- Treatment areas should maintain the privacy of a patient: ensure treatment take place in separate areas, screened off from other patients

Other considerations

- Staff should be patient and take time to explain processes to older people without being patronising. They should listen carefully to any concerns. Where possible, staff should be given basic awareness training and be sensitive to the needs of older people with visual impairment.
- Older people often like to be informed in advance so that they can be ready and prepared. For example, ask them to bring lists of their current health conditions and drugs with them. As there is often a limit to the amount of time older patients can concentrate for, asking them to prepare in advance both speeds up the consultation (and improves its accuracy) and allows patients to be fresh for the important part of the consultation (what disease they have and what treatment they will need, etc.).
- It may be very helpful to use volunteers. They can let older people know where they are in the queue; this allows an older person to visit the toilet without being anxious about losing his or her place, for example. Volunteers can also get older patients ready and deliver them to the consultation room. This has the double advantage of not taking up the professional time of the nurse/ophthalmologist and of letting patients take their own time so that they do not arrive flustered, out of breath, or anxious.

With thanks to Help the Aged, www.helptheaged.org.uk

with overspecialisation, results in many eye care workers feeling overwhelmed by the health problems of older people when these are not related to the eye.

It is necessary to develop a team approach. In large hospitals, the eye department should work closely with other relevant specialties. In stand-alone eye units, experienced physicians, geriatricians, paramedics, and community nurses need to be identified who can help with the management of health problems faced by older people.



Henry Nkumbe

A Community eye health field assistant uses a flyer to counsel an older person about glaucoma. MADAGASCAR

Living in a nursing home

The prevalence of visual impairment among older people in care institutions is much higher than in similar groups in the general population. The author recently found nursing home residents blind from cataract in Madagascar, although the home was a ten-minute drive from a reputable eye unit offering cataract surgery.

This problem can be solved by working closely with nursing homes and other care institutions, where they exist, and arranging regular eye examinations that include low vision services (which should be offered at these institutions, where possible).

Not perceiving the need for eye care

Many older people consider poor vision to be normal in later years. In some places, it even earns them respect and certain privileges. In some Muslim communities, for instance, blind older people are responsible for making the call to prayer at the mosque or for reciting the Qur'an during public events. Faced with other pressing needs,

Article continues overleaf ➤

family members may also give less priority to the health of their older relatives.

Proper information and counselling, as well as public information programmes, may be needed to overcome this barrier.

HIV and AIDS

HIV and AIDS have resulted in a 'missing' generation in many communities in sub-Saharan Africa. In severely affected areas, it is estimated that nearly half of older people have either lost their children or have to take care of their children who are sick; they often have to foster their grandchildren as well. Not only is the financial support they might have expected from their children gone, but the little money they might have left is also used for the welfare of their children and grandchildren. Their own health becomes less of a priority and they become physically and emotionally drained.

Eye care programmes need to partner with programmes for people living with HIV and AIDS, especially home-based care programmes. They need to advocate for the health of older people who act as caretakers. Caretakers need recognition, information, and financial support, not just for the sake of their children and grandchildren, but also for the sake of their own health.

Going forward

The global elimination of avoidable blindness by 2020 will depend largely on how well we address the needs of older people and the barriers to eye care they face worldwide.

Understanding and overcoming these barriers is an ongoing process. It may be helpful to put a tracking system in place to monitor people who don't come for treatment after they have been identified in the community. If possible, return visits should be made to find out what the problems are and to work with older people and their families to solve them.

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Low vision and rehabilitation integrating services into

CASE STUDY : MARY K

Mary K, a 71-year-old widow, had been gradually losing her sight over the past five years. Looking after her five grandchildren had become increasingly difficult. Recently, her neighbour told her about the eye hospital 80 km away; the neighbour had heard of older people who came back from the hospital able to see again.

After much convincing, Mary made plans to go to the eye hospital. She sold three bags of maize and gave her radio to the taxi driver so that he would take her to the hospital. The grandchildren cried when they saw her leave, but her neighbour agreed to look after them for a few days. All this was worth it: after all, she would come back able to see again.

Mary was sick in the taxi and the road took its toll on her old, aching body, but she did not mind because the eye doctor would make her see again. After two hours of waiting in the queue at the eye clinic, Mary was seen by the eye doctor. She was very excited. Dr N examined her eyes and, after what seemed like forever, he told her that she should go back to the village. He was sorry, but there was nothing he could do for her eyes. Mary protested and told him what her neighbour had said, but he just repeated the same words: "I am sorry, there is nothing I can do for you." Mary walked out of the eye clinic, wondering what to do. No one could help her and no one seemed to care.

Unfortunately, in many parts of the world, the above scenario is all too common in eye clinics. Faced with patients like Mary, eye care practitioners often feel uncomfortable and do not know what to say. Too often, therefore, these patients are turned away when in fact much can be done to help them.

Patients like Mary, who are not completely blind, but whose sight cannot be improved either by treatment (such as cataract surgery) or by the provision of ordinary near or distance spectacles, are said to have 'low vision'.

What is low vision?

Low vision refers to a permanent loss of vision which makes it difficult for a person to perform many daily activities. A person with low vision presents all three of the following characteristics:

- impairment of visual functioning even after treatment and/or standard refractive correction
- visual acuity ranging from light perception to <math><6/18</math> (0.3 logMAR), or a visual field smaller than ten degrees from the point of fixation
- the person uses, or is potentially able to use, vision for the planning and/or execution of a task.¹

People with low vision are, in principle, capable of using their vision and wish to do so. If given the appropriate low vision devices and training, they do not typically need to use white canes or to learn Braille (although these may benefit some persons

with low vision as an additional or complementary support). Many of these patients are not technically considered blind, although they might be classified as such in their country.

For patients with low vision, there is still hope for a better life. This is possible through the use of low vision devices and rehabilitation. **Low vision devices** (such as magnifiers) help patients make the best use of whatever vision is available to them. **Rehabilitation** teaches patients how to adapt their environment appropriately in order to make the best use of their existing vision. Patients who are prescribed low vision devices are also taught how to use these devices in their daily life.

Low vision in older people

The causes of low vision in older people vary according to region. In general, low vision can be due to glaucoma, diabetes, macular degeneration (which is not present in some parts of Africa), hypertensive retinopathy, or retinal detachment. Cataract cannot be considered a cause of low vision, unless there is a good reason not to perform a cataract operation (by definition, low vision is a permanent loss of vision that cannot benefit from surgical or medical intervention).

Older people with low vision face specific challenges. They have more difficulty getting access to eye care and treatment in general as they are often dependent on their relatives (financially and physically) and tend to be more socially isolated (see articles on pages 24, 26, and 31).

ion for older people: the health care system

In older people, low vision is usually accompanied by other physical disabilities, as these become more common with increasing age. Disabilities such as hearing or cognitive impairment mean that older people will find it more difficult to understand instructions in a health care setting; they may not hear them properly or may need them to be repeated more often than a younger patient. The boxes on pages 27 and 32 provide some guidance on how to cater for the needs of older people in a health care setting.

Physical disabilities may also influence the suitability of certain low vision devices for older patients. For example, whereas children with low vision may find it easy to hold reading materials very close to their eyes, this might be much more uncomfortable or tiring for older people.

It is important to cater for the specific needs of older people when setting up or managing low vision services – not least because they represent the vast majority of low vision patients who will be seen by eye care workers. Indeed, it is estimated that 80 per cent (48 million) of all people who need low vision care are aged over 50.¹

Low vision services – an integrated approach

Low vision services are delivered by a very broad range of disciplines and social systems throughout the world, but all with one purpose in mind: improving patients' use of their available and functional vision.

Rather than create new systems to provide low vision care and rehabilitation to older persons, it is much better to focus instead on developing services that can be integrated into existing eye care systems. This is known as an **integrated service delivery approach** to low vision care.

One glove does not fit all, since different countries have different medical, social, and rehabilitation systems. However, it should be possible to integrate low vision services for older people into each level of care (Table 1, overleaf), and into the rehabilitation services of the country, where these are available.

It is estimated that 30 per cent of older people with low vision can be assisted at community and primary level, and that 50 per cent can be assisted at secondary level. The remaining 20 per cent will need

tertiary level services.²

Most patients will first be seen at the secondary level and be referred from there. It is important to have very clear, well-defined referral mechanisms between the different levels of the health system, no matter where patients first report. Referral routes should not be rigid or inflexible, as referral should depend on the needs of individuals.

The following paragraphs provide tips on how to integrate low vision services at different levels of the health care system.

Community level

Community-based rehabilitation (CBR) workers, community case finders, community leaders, and consumer advocates can do the following at the community level:

- **Raise awareness** in the community so that people know what low vision is, that there is hope, and that something can be done even for those who cannot benefit from surgery or the provision of spectacles.
- **Identify and refer/transfer:** identify older people in the community who can benefit from low vision services, refer them to these services, and make sure they get to these services (i.e. are successfully transferred). Older persons may need physical assistance when travelling.
- **Provide basic home-based rehabilitation:** spend time in the homes of older people with low vision; help family members or carers to make life easier and safer for the person with low vision. For example, safety can be improved by encouraging family members to keep the house tidy, to keep knives in a safe place, and to make the fire in a separate area. Life can also be made easier for the person with low vision by working with colour and contrast. For example, serve rice in a dark bowl or place a border of brightly painted stones along the path leading to the home.

Primary level

At primary level, primary health care workers and primary eye care workers will also raise awareness; they can identify older people with low vision and refer or transfer them.

Since they will see only patients who



An 81-year-old former magistrate, diagnosed with age-related macular degeneration, is able to read again after receiving 24-dioptre low vision spectacles. INDIA

come into the clinic, the rehabilitation they can offer will not be home-based. Instead, it will involve talking to the person with low vision and their family about what they can do.

Secondary level

Ophthalmic nurses, optometric technicians, and ophthalmic clinical officers will usually be the first to provide a thorough assessment of a person suspected of having low vision (see box below).

Low vision assessment

- 1 When conducting a low vision assessment for an older person, be patient and understanding, and take your time. Make sure the assessment takes place in an environment that facilitates communication (see article on page 31).
- 2 It is important to listen very carefully to what is said: your task is to try and find out what the person really wants out of the assessment (how they want to be able to use their vision) and to do your best to help them achieve that.
- 3 A good assessment should include:
 - distance and near visual acuity testing
 - contrast sensitivity testing
 - good refraction
 - assessment of magnification needs
 - prescription of low- and medium-power low vision devices, both optical and non-optical (such as an angled desk, an angled light, or writing guides), for distance and near vision
 - instruction in the use of low vision devices
 - counselling to explain the extent of, and reasons for, the person's low vision and to help the person accept their situation and make the best of it
 - a discussion of rehabilitation – what the person and their family can do to make life easier and safer.

Article continues overleaf ►

Table 1. Provision of low vision services at different levels of care as part of an integrated service delivery approach

Level of care	Who is involved	Services provided
Community level	Community-based rehabilitation workers, community case finders, community leaders, and consumer advocates	<ul style="list-style-type: none"> • Raising awareness • Identification and referral/transfer • Basic home-based rehabilitation
Primary level (e.g. clinics in the community)	Primary health care workers and primary eye care workers	<ul style="list-style-type: none"> • Raising awareness • Identification and referral/transfer • Basic rehabilitation (discussion of options only)
Secondary level (e.g. a district hospital)	Ophthalmic nurses, optometric technicians, and ophthalmic clinical officers	Low vision assessment: <ul style="list-style-type: none"> • Diagnosis • Prescription of optical and non-optical low vision devices (low and medium power) • Instruction in the use of low vision devices • Counselling • Basic rehabilitation (discussion of options only)
Tertiary level (e.g. a provincial or regional referral hospital or teaching hospital)	Ophthalmic nurses, optometric technicians, ophthalmic clinical officers, optometrists, ophthalmologists, low vision therapists, orientation and mobility instructors, occupational therapists, social workers, and researchers	Same as the secondary level, plus: <ul style="list-style-type: none"> • Prescription of high-power and complex low vision devices • Training and support for eye care practitioners at other levels • Rehabilitation training • Research

Tertiary level

Eye care practitioners at tertiary level (see list in Table 1) can prescribe high-power and complex low vision devices, but otherwise they provide much the same services as at secondary level, with the following additions:

- **Orientation and mobility:** training in Braille and the use of a cane for people who cannot be helped with low vision devices (or who have very low vision); training family members and carers in the ‘sighted guide’ technique (how to walk with a person who is blind or has low vision).
- **Training and support for eye care practitioners at other levels:** specialists are usually based at tertiary level, where they act as instructors and train other eye care practitioners.
- **Rehabilitation training:** some eye care practitioners at tertiary level have special expertise in environmental modifications (which involve working with colour and contrast in the environment of the person with low vision) and can teach ‘activities of daily living’ (ADL) skills, such as how people with low vision can wash their clothes.

- **Research:** any research in low vision and rehabilitation will usually be based primarily at a tertiary institution.

Providing appropriate services

The importance of providing appropriate low vision and rehabilitation services cannot be overemphasised. Every person with low vision – especially older people – must be considered on an individual basis.

The needs of older patients with low vision will depend on their circumstances: the region they come from, their economic status, their literacy levels, their family responsibilities, their attitude towards ageing and disability, their general health, their motivation, and so on. Whereas loss of reading ability is often considered to be the most devastating consequence of visual impairment in high-income countries, it may have little significance and impact on the quality of life of an older person in a rural village in a low- or middle-income country.

Low vision clinicians may be tempted to prescribe an array of magnifiers, telescopes, filters, or non-optical aids. However, if these devices are unsuitable, they may simply end up under the mattress when the patient returns home. The clinician must therefore ensure that the low vision devices they prescribe are acceptable in the home; the older patient must also be motivated or interested enough to use them.

The importance of training to meet low vision needs

As populations live longer, many countries must prepare for great increases in the number of people with age-related conditions resulting in low vision. In the future, integrated low vision and rehabilitation services for older people will assume more importance.

MARY K: A BETTER OUTCOME

Perhaps all that Mary actually needed to go home happy was to be told why her vision could not be restored and that a community-based rehabilitation worker would make a home visit. This person would have demonstrated to Mary what adaptations could be made to her home, allowing her to make the best use of her vision. Mary could also have been helped if someone had informed her of any social welfare grants she would be entitled to.

If Mary needed to see things near to her, she may have benefited from getting a simple magnifier to check the grandchildren’s feet for chiggers, take stones out of rice, or read (if she were literate).

However, being reassured that she would not go completely blind, and that help was available, is perhaps the greatest service Mary could have received.

There is currently a lack of skills relevant to the care and rehabilitation of older people with low vision. We have seen how different people in the health system can provide different components of low vision services.

We need to act now and train the relevant practitioners (eye care and other); develop and include low vision services in existing eye care systems; and create awareness amongst all medical, social, and rehabilitation services to ensure that patients like Mary are not sent home with no promise of help.

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Clare Gilbert/ICEH



A reading stand and angled lamp. Both are non-optical low vision devices.



A holistic approach to eye care for older people



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Many eye diseases, such as cataract and age-related macular degeneration, occur more frequently as we advance in years. As a consequence, eye care workers are likely to encounter older people more frequently than any other group.

The holistic approach to treating an older person involves considering the complete person, both physically and psychologically. You should consider every aspect of that person that has an impact on their health and wellbeing. This will greatly improve the outcome of the consultation and any subsequent treatment, both for the older patient and for the eye care worker.

It is equally important to treat every older person who seeks care with respect, in a way that preserves his or her dignity and autonomy.

The following factors should be considered when working with older people; they are discussed in detail below:

- communication
- dependence and decisions
- other health conditions (including drug interactions)
- compliance
- the need for rehabilitation

Communication

Many older people are affected by hearing and/or cognitive impairment (such as mild dementia), as well as by visual impairment. This affects their ability to communicate effectively. This is especially true in a health care setting: the environment can be perceived as strange or alien, the language used is often unfamiliar, and there is a lot of background noise and activity.

Language or dialect may also be a problem. For example, rural and migrant older people may not speak or understand the language of the health care provider.

The eye care worker should conduct any interaction with an older person in an environment that facilitates communication, i.e. in a location that allows **good face-to-face interaction** (such as a quiet room), where **background noise is minimal**, and there is **little risk of interruption**. When language or dialect is a



Daisy Wilson

A nurse assists an older patient in an eye clinic. SWAZILAND

problem, it is advisable to arrange ahead of time for someone to act as an **interpreter**. If a patient suffers from dementia, it is important to **remain tolerant** – do not get irritated when you have to repeat instructions or explanations.

You should always ensure that any important messages have been received and understood. Use **simple, clear words** instead of medical jargon and, where possible, use relevant leaflets, drawings, photographs, or literature to support your explanations. Giving the older person **written information** to take away will enable them to explain their condition to their family. When patients are illiterate, or functionally illiterate, try to ensure that a family member or friend can assist them with any reading material that is for their own use (such as guidelines for taking medication).

While it is important that you communicate effectively to overcome any difficulties, you must **avoid being patronising** or ‘talking down’ to an older patient. You should aim to communicate at a level that correctly appreciates the

person’s situation. To achieve this, there is a need for all staff, medical and support (including receptionists, in particular) to receive special training that will encourage the development of empathy towards older people and appropriate communication skills.

Dependence and decisions

Older people are often financially dependent on their relatives. Even those who are usually independent may have to ask family members to help them pay for treatment or to contribute to the cost of travelling to an eye care facility.

In addition, older persons may also be physically dependent on a friend or family member to accompany them; this may also cost money and time as it takes the carer or chaperone away from work or childcare responsibilities.

It therefore often happens that older people cannot make decisions about eye care treatment alone – their family will have to be part of the decision-making process.

Eye care practitioners should help patients and their families to make good decisions by:

- talking to them about the diagnosis and treatment options, including side effects of drugs, complications of surgery, and cost
- discussing any additional costs (such as transportation) and what support the patient may need from his or her family
- informing the patient and family members about any other help or support that may be available.

In the case of very complicated technological issues, it may not be possible to make things clear beyond a certain point. In our experience, the family often asks for the doctor’s opinion and may empower the doctor to take a surrogate decision. This should be discouraged at all costs because it can be thought to diminish a patient’s autonomy. However, in certain cultural settings, it may become unavoidable for the doctor to express an opinion; this is often the case in India, for example. When this happens, doctors can approach the

Article continues overleaf ▶

situation by saying: "If I were in your place, I would ..."

Difficult decisions

When difficult decisions need to be made, for example about whether a seriously ill older patient will benefit from cataract surgery, we would suggest the following course of action: **first discuss the situation with the patient on his/her own**, in confidence, in an informal and non-intimidating atmosphere. You can then discuss the same situation in the presence of the family members if the patient so wishes. This will ensure that patients' individual wishes are given preference.

Other health conditions

Older people are more likely to have multi-organ diseases requiring multiple medications. When planning eye treatment, it is important to be aware of and **understand the impact of these diseases on the individual**. The issues specific to older persons can range from considering drug interactions to finding a way to perform a cataract operation on someone who is unable to lie flat due to shortness of breath.

Physical disability may prevent the patient from putting in their own eye drops, from opening bottles and boxes (for example, due to arthritis in the hands), or from walking even a short distance (i.e. from home to the bus).

It is only when the other health needs of older persons have been considered on an individual basis that the person can receive the best care from the eye care provider. Effective two-way communication, both speaking and listening, is vital for this to occur.

Drug interactions

Adverse drug reactions or interactions are more common in older people. There are two main reasons for this: older people are more susceptible to drugs in general and they often need a greater number of drugs than younger people.

The following are examples of how ocular and systemic medication can adversely affect the older person:

- **Drugs that are administered topically can have local effects:** topical steroids can lead to the development of herpetic corneal ulcers, mydriatics can cause angle-closure glaucoma, and many drops can trigger allergic reactions in patients, often due to the preservatives they contain.
- **Drugs that are administered topically can have systemic effects:** topical beta-blockers can lead to asthma and make obstructive airways disease worse, mydriatics can provoke angle-closure and lead to urinary retention, and pilocarpine (a cholinergic agonist) can cause headaches.

- **Drugs that are administered systemically can affect the eye:** high-dose antimalarials (such as chloroquine) can cause retinopathy, antituberculous drugs (in particular ethambutol) can cause optic neuropathy, and chronic use of oral steroids can lead to cataract.
- **Certain drugs can adversely affect the outcome of ophthalmic surgical procedures:** these include warfarin (risk of bleeding), alpha-antagonists (risk of intra-operative floppy iris syndrome), and topical latanoprost (risk of cystoid macular oedema).

What should you do?

- Ensure that you have a complete and up-to-date list of the medications the patient is taking.
- Inform patients of possible side effects and their warning signs; advise them to report back early if any such effect is noticed.
- Advise patients to avoid self-medicating.
- Schedule eye check-ups at regular intervals to ensure early detection and treatment.
- Withdraw the offending drug as early as it is safe to do so.

Compliance

When deciding on a course of treatment, you should also consider the patient's ability to comply with treatment and follow-up.

In the authors' experience, older patients are usually compliant when it comes to matters related to eye disease and vision. However, the importance of regular follow-up and of compliance needs to be reinforced at each visit; written materials, in the form of pamphlets and hand-outs, usually help in this regard. These materials can also help when the support of family members or carers must be enlisted.

The need for rehabilitation

Despite all measures, a substantial number of older patients finally end up with severe visual disability. For the patient to maintain autonomy and independence in the course of his or her daily activities, it is necessary to organise low vision rehabilitation by a team of professionals, including ophthalmologists, occupational therapists, optometrists, and social workers (see article on page 28). A comprehensive programme of rehabilitation will improve not only quality of vision, but also quality of life for the disabled person.

Tips for working with older patients

Plan ahead

Older people require more time and patience from the eye care practitioner. The following two suggestions will help you make the best use of your time when caring for these patients:

- 1 Ask patients to bring with them a list of their medical conditions and drug treatments – this will make the consultation run more smoothly and save time.
- 2 Volunteers in the clinic can keep older people informed and help them find their way around. These volunteers can also help older people prepare for the consultation and make sure that they are calm when they arrive in the consultation room – this saves time for the nurse or ophthalmologist.

When you see the patient

- 1 Ensure that the environment in which the consultation occurs makes communication as easy as possible.
- 2 Focus on effective communication. **Remember:** what matters is what the patient understands, not what you say.

After a diagnosis has been made

- 1 Note the following:
 - a) all current active medical conditions
 - b) all medications being used (check for any interactions)
 - c) past adverse drug reactions
 - d) past medical conditions which may affect the person's eye disease and its treatment, as well as medical conditions which may be affected by it.
- 2 Describe the different treatment options to the patient. Consider and discuss:
 - a) the cost of the treatment, if this is likely to be a problem
 - b) what results the patient can expect
 - c) any possible side effects of treatment, including discomfort
 - d) the duration of treatment
 - e) the amount of help and support the patient may need from family or carers during treatment and what follow-up may be necessary.
- 3 Support decision-making by the patient and his/her family by making sure you do not hurry them through the consultation.
- 4 Provide the patient and the family with appropriate information in the form of hand-outs and leaflets. This will optimise compliance and follow-up.



Using basic technology to screen for diabetic retinopathy in Fiji

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The World Health Organization (WHO) estimates that almost 12 per cent of Fijians have diabetes. Although there are no official figures on the prevalence of diabetic retinopathy, a complication of diabetes, it is the second most common cause of vision loss after cataract in our hospital in Labasa, Fiji.

One of the main problems with treating diabetic retinopathy is that patients remain asymptomatic until their disease is very advanced. They then present for evaluation when it may be too late to preserve their vision.

Ideally, we would like to identify people with diabetic retinopathy as early as possible so treatment can begin when it is more effective. However, screening large numbers of diabetic patients in clinics is difficult both because of the distances patients have to travel and because of limited health care resources (including human resources). In addition, people with diabetes are reluctant to make use of the health care system until their disease is very advanced. This is true both in Fiji and in developing countries around the world.

In order to provide a solution to this problem, we devised a simple photographic system to screen for diabetic retinopathy using a portable camera. This system could be implemented in conditions where there were no personnel experienced in fundus photography and where there was no financial support or information technology infrastructure. We decided to test this screening system in the field.

We chose a Topcon NW100 non-mydratric camera (see picture above), because it was durable and easy to use (indeed, after



Maria Walker

The camera being used in an outlying medical clinic. FIJI

practising with this camera for about an hour, a motivated student will be able to take acceptable fundus photographs). Although the camera can be used without mydratics, it is much easier to photograph the retina if the pupils are dilated with 0.5 per cent (or 1 per cent) tropicamide, especially if there are no darkened rooms in which to take the photographs. One of the nurses at our hospital in Labasa was trained in the use of the camera; she had no previous experience with either ophthalmic photography or fundus examination.

This nurse travelled with the camera to small outlying medical clinics. There, she performed a preliminary examination with a torch to eliminate patients with obvious anterior segment problems, such as dense cataract, that would preclude photography. A total of 115 patients were photographed during this first screening mission. The images were stored on a laptop computer. An ophthalmologist at our hospital later analysed these images and provided a photographic diagnosis for each image.

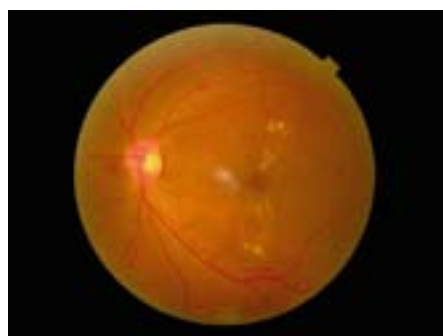
In total, 75 per cent of the images (86 patients) were readable, meaning they were of sufficient quality to determine whether further evaluation was warranted. Nine patients showed signs of diabetic retinopathy which would require laser treatment. These patients were then contacted by the outlying clinics and arrangements were made to bring them to our hospital for evaluation. All of these patients came in for treatment and in all cases the photographic diagnosis was correct. In the remaining 25 per cent of cases, the images weren't readable; these patients were also encouraged to come to our hospital for a further examination.

We have since organised six further screenings. Of the 370 patients examined, a total of 30 per cent were found to have some degree of diabetic retinopathy and 8–9 per cent had retinopathy that was severe enough to require laser treatment. So far, all patients requiring laser have attended our hospital for treatment. The quality of the photographs has also improved with experience; far fewer pictures are now unreadable.

With this photographic screening technique, it is also possible to identify patients with milder degrees of retinopathy, who do not yet require treatment. This pool of patients is perhaps the most important, because they (and their physicians) can be made aware of any changes in their diabetes and of the need for improved control and monitoring of the disease.

Perhaps the most precarious aspect of this project is that everything depends on the ruggedness of the camera; we are very careful with maintaining and transporting it (no patients can be seen if the camera breaks). For instance, on the first day, the camera had been stored in an air-conditioned room; when it was taken outside it became soaked with condensation inside and out. Fortunately, it worked perfectly once it had dried out.

This screening method allows physicians' time to be used more efficiently, as they don't have to examine diabetic patients without retinopathy and can focus their attention on those needing treatment. This approach also has the advantage of identifying disease at an earlier stage, when treatment is both more effective and less time consuming.



Sangita Sagar

Clinically significant macular oedema with hard exudates encroaching on the fovea, identified using photographic screening in an asymptomatic patient.

How to measure intraocular pressure: Schiötz tonometry



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If glaucoma is diagnosed early, treatment can then be given that may preserve vision. Although raised intraocular pressure (IOP) is not the only sign of glaucoma, the IOP should be checked routinely on all adults attending eye care facilities. Applanation tonometry (as described in Issue 64, December 2007) is the most accurate method to measure IOP, but Schiötz tonometry is also a useful screening test. If Schiötz tonometry reveals a high IOP, this result should be checked and confirmed by applanation tonometry and the patient referred to the senior clinician at the eye clinic.

- Clean the plunger and disc of the tonometer with a gauze swab (or cotton wool) and the methylated spirit (or a Mediswab). Wipe dry with a clean dry gauze swab (or cotton wool).
- Lie the patient flat with his or her head supported on a pillow.

Method

- Wash and dry your hands.
- Position yourself correctly: stand upright, behind the head of the patient, with your hands level with the patient's head. Note the health worker's good posture in Figure 3 and the awkward position of the health worker in Figure 4. Bad posture can affect the tonometry reading.
- Instil local anaesthetic eye drops and wait about 30 seconds.
- Ask the patient to look at a fixed object (the patient's own thumb or finger held directly in front of his or her eyes may work) and to keep absolutely still.
- With the thumb and index finger of one hand, gently hold open the patient's eyelids, taking care not to put any pressure on the eye (see Figure 5).
- With the other hand, hold the tonometer (with the 5.5 g weight) between the thumb and index finger and place the plunger on the central cornea (see Figure 5).
- Allow the disc to lower gently onto the corneal surface.
- Note the scale reading.
- If the scale reading is '2' or less, remove the tonometer, replace the 5 g weight with the 7.5 g weight, and repeat the procedure.
- Note the scale reading again and remove the tonometer.



You will need (Figure 1)

- Schiötz tonometer, weights, and scale card
- local anaesthetic drops
- clean cotton wool or gauze swabs
- isopropyl alcohol 70 per cent (methylated spirit) or impregnated 'Mediswabs'.

Preparation

- Test the tonometer using the spherical mould in the box and the 5.5 g weight. The pointer should immediately reach the '0' marking (see Figure 2).



Correction

Information was printed inaccurately in the 'How to' article on applanation tonometry in Issue 64, December 2007. The corrections are shown here in **bold**.

Preparation

- Ensure that the prism has been **disinfected** with isopropyl alcohol 70 per cent (methylated spirit) or sodium hypochlorite **1 per cent**. **The prism must be rinsed in sterile water** and wiped dry with a clean swab (as residue of the disinfectant may cause a caustic burn on the cornea).

Method

When the applanation tonometry procedure has been completed:

- Wipe the prism with a clean, dry swab and replace it in the receptacle containing the **disinfectant**.

Community Eye Health Journal back issue

Ageing: a global perspective. Volume 12, Issue 29, 1999.

Articles

Keeffe J. Vision assessment and prescription of low vision devices. *Comm Eye Health J* 2004;17(49): 3–4.

Minto H and Awan H. Establishing low vision services at secondary level. *Comm Eye Health J* 2004;17(49): 5.

Watkinson S. Visual impairment in older people: the nurse's role. *Nursing Standard* 2005;19(17): 45–52. (Available to download free of charge from www.nursing-standard.co.uk)

Books

McNaughton et al. Low Vision Assessment. Butterworth-Heinemann Ltd, 2000. UK £20 (plus postage and packing). Available from Waterstones: 71–74 North Street, Brighton, East Sussex BN1 1ZA, UK. Email: manager@brighton.waterstones.co.uk

Websites

HelpAge International: www.helpage.org

Low Vision Online: www.lowvisiononline.unimelb.edu.au

WHO: ageing and life course: www.who.int/ageing/en/

Other resources

Low Vision Kit. Includes information, E-charts and various materials to test vision and learn more about low vision. US \$30 (incl. delivery). Available from the Centre for Eye Research Australia, 32 Gisborne Street, East Melbourne 3002, Victoria, Australia. Email: lowvisiononline-info@unimelb.edu.au

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Rotary District 3310 3rd International Conference on Avoidable Blindness, 25 October 2008, Kota Kinabalu, Sabah, Malaysia. For information, email Dr John S Y Tan at cipremie@singnet.com.sg

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Diploma in community eye health, 18 February–23 May 2009. **Target audience:** Eye care professionals. **Information:** visit

www.Lshtm.ac.uk/prospectus/short/sdceh.html or email shortcourses@Lshtm.ac.uk

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- **Addressing the challenges of childhood cataract in Africa: strategies for implementing services for children through child eye health tertiary facilities**, 29 September–3 October 2008. **Target audience:** heads and key decision

makers of VISION 2020 planning areas.

- **Certificate course in community eye health**, 13 October–5 December 2008. **Target audience:** eye care programme managers, trainers, and key decision makers of national prevention of blindness programmes.
- **Bridging communities and eye care providers to achieve VISION 2020 in Africa**, 10–14 November 2008. **Target audience:** eye care programme managers, trainers, and key decision makers of national prevention of blindness programmes.
- **Organisational and financial management to achieve VISION 2020 in Africa**, 17–28 November 2008. **Target audience:** heads and key decision makers of VISION 2020 planning areas.