



## Linking health and social care for people with age-related sight loss

### Introduction

Within the UK, the eye condition age-related macular degeneration (AMD) is the most common cause of sight loss in people aged over 60. In recent years, treatment has been developed which can prevent further deterioration of sight, and in some cases improve sight. However, this has resulted in increased pressure on hospital eye units to meet demand. As well as having an impact on healthcare, AMD also has implications for social care.

This briefing paper summarizes research under way within the Care Life Cycle project, in collaboration with the Eye Unit at University Hospital Southampton, concerning different aspects of care for people with AMD. Computer models have been developed which capture the progression of AMD in each eye, the organisation of the Eye Unit outpatient department and also the wider environment where patients live. This allows us to explore the links between health and social care for people suffering from AMD, and to understand what impact potential changes in one area can have on another.

### What is AMD ?

There are two forms of AMD, known as 'dry' and 'wet', both resulting in a loss of central vision. This can affect a person's ability to read, write, drive, watch television, recognise faces and perform other daily tasks.

AMD generally develops in people aged over 65, and worsens with age, but the exact cause of AMD is unknown. While there is currently no treatment available for dry AMD, regular injections into the eye can delay sight loss in wet AMD and, for some people, can actually reverse sight loss. Injections are normally given at monthly intervals at the hospital eye unit. For treatment to be effective, it is critical that no injections are missed.



Viewpoint of a person suffering from AMD

### Key Points

- Increased demand on hospital eye units following recent introduction of regular treatment for the eye condition AMD.
- Studies AMD care at many levels, from the individual eye to the social care needs of people suffering from AMD.
- Able to explore trade-offs between expenditure and savings across health and social care.
- Innovative area of research achieved by bringing together social scientists and computer scientists, working closely with key stakeholders in health and social care.

## Development of models

Three linked computer models have been developed in collaboration with the Ophthalmology Department (Eye Unit) at University Hospital Southampton. This unit is responsible for treating people with AMD living in Hampshire and the Isle of Wight. Each model represents a different area associated with AMD. One model represents the eye and deterioration due to age and AMD, the second represents the setup of the Eye Unit at the hospital, and the third represents the provision of social care, both formal from the state and informal from friends and family.

Linking the models is key, providing a “whole system” view of people suffering from AMD. As well as incorporating the relationships between health and social care for people with AMD, related cross-service planning and budgeting issues for all the stakeholders have also been included. It is then possible to apply changes in one or more areas, such as policy changes or the introduction of new technology, and examine the impact of those changes across the whole system.

## Missed appointments and social care

One area being explored is missed appointments at the Eye Unit. The need for monthly injections can be a strain for older people, who may have to travel some distance to attend the Eye Unit. They may be dependent on support from family and friends, or on hospital transport, to get to the hospital. Therefore some patients may not show up at all for their appointment, and others may have to leave the clinic early before receiving treatment, if they would otherwise miss their transport home. The level of social care received helps determine whether a patient makes their appointment and receives treatment. Failure to receive treatment leads to avoidable sight loss, which may in turn lead to an increased need for care.

## Assessing the impact of change

By modelling the impact that social care has on the ability to attend an appointment at the Eye Unit, and the effect that missing an injection has on a person’s sight, and their subsequent care need, it is possible to see the results of various changes. Changes that have been tested in the models are additional social care and improvements to the transport system. One consequence is a reduction in the number of missed appointments, which in turn improves efficiency at the Eye Unit. Demand for social care associated with sight loss is also reduced.

## Working with the Eye Unit

The setup of the Eye Unit, in terms of the various procedures carried out when a patient arrives for treatment, is another area being explored. This helps identify any bottlenecks during treatment. Again we have been able to simulate changes in one area, such as introducing a mobile eye unit which enables treatment to be carried out locally within the community, and show the effect this has on other parts of the system. It is then possible to compare the short-term cost of the mobile eye unit with the associated long-term savings within social care, by looking at the overall system.

## Future research

This initial work, which begins to demonstrate links across the system, highlights some of the challenges and opportunities the health and social care systems face in relation to a specific condition (AMD). The same techniques could be applied to a number of health conditions. Please contact us if you would like further information on the Care Life Cycle project, via email to [clcproj@soton.ac.uk](mailto:clcproj@soton.ac.uk) or telephone 02380 598981.

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