Eye Exam Impacts on Re-engagement for Chronic Conditions

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Executive summary

The objective of this study was to determine whether previously “unengaged” patients (those not actively following up with a primary care provider) sought care for a chronic condition following a comprehensive eye exam. This white paper presents findings that expand upon the previously published “Impact of Eye Exams In Identifying Chronic Conditions” study¹ (2014).

Study results indicated that 33% of previously unengaged members were re-engaged into care within 60 days, with an additional 24% re-engaged after 60 days. This impressive result demonstrates for the first time the effectiveness of the comprehensive eye exam in re-engaging patients into care for chronic conditions. This added benefit is especially impactful when considering that individuals may visit their eye doctor more frequently than their primary care provider.²
Introduction

It has been demonstrated in other studies that a comprehensive eye exam, through its role in the identification and monitoring of chronic medical conditions, is part of an integrated health care model. Given that many persons seek eye care more often than general medical care, an excellent opportunity also exists for eye care providers (ECPs) to re-engage patients with chronic illness that have not had their follow-up visit with their primary care provider (PCP). Lack of care for those with chronic conditions can lead to eventual increased medications and treatment, excess costs due to decreased productivity, and poor quality of life. This study shows the importance of eye care in contributing to the re-connection of individuals into health and wellness.

Many chronic conditions have complications that are more devastating and costly than the underlying disease. In diabetes, for example, most of the medical costs are due to complications and comorbidities. High cholesterol is one of the major risk factors for heart disease, which is the leading cause of death in the United States. Heart disease is also a complication of diabetes, hypertension, Graves’ disease, and rheumatoid arthritis. In addition, the risk of stroke is increased in those with high cholesterol, hypertension, rheumatoid arthritis, and diabetes. If a patient has been non-compliant with follow-up care for their chronic condition, management of their disease may include complications that could have been avoided if they had been encouraged to seek care earlier.

During a comprehensive eye examination, the ECP takes a detailed history from the patient. Current and past systemic medical conditions, medications, and family medical history are documented by the clinician since many conditions and their associated treatments (prescribed and over-the-counter) can affect the eyes. Information obtained during this history enables the ECP to determine the level of the patient’s engagement in their medical care. If the patient has not seen their PCP in an acceptable amount of time, or has discontinued medications without consulting with the PCP, the ECP spends time educating the patient about the condition, emphasizes the need for continued care, and often assists the patient in scheduling follow-up care with the PCP.

The data from the previous white paper, “The Impact of Eye Exams In Identifying Chronic Conditions,” (2014) revealed a significant number of patients who were first reported with a chronic condition on the same day as their eye examinations. Since, in most instances, it is beyond the scope of practice for the ECP to diagnose a systemic condition such as diabetes or hypertension, it was assumed that there were records obtained by the ECP that provided the diagnosis or that the patient had self-reported the condition during the patient history. In either case, the patients included in our study had not received care for their chronic condition in over eighteen months, and the ECP had the opportunity to re-engage the patient into care. With this in mind, we re-examined this data from the previous white paper to determine how many of these patients sought care for their chronic condition following their comprehensive eye exam.

33% of members were re-engaged to care within 60 days.
Re-engagement Defined

For the purpose of this study, re-engagement was defined by a member having no medical care for any chronic conditions for 18 months prior to the eye exam. If a claim coded with a chronic condition diagnosis was submitted by an ECP on the same day as the eye exam, the assumption was made that either there was documentation supporting the diagnosis or that the patient self-reported a chronic condition. Data was reviewed to determine whether the member obtained follow-up care for that condition and how soon the re-engagement took place. Successful re-engagement was assumed when a claim coded with the same chronic condition diagnosis code was submitted by another medical provider within 60 days of the member’s eye exam.

Study methodology for re-engagement of patients with chronic conditions

1. No claims for 18 months
   - Member did not have medical care for any chronic conditions for 18 months prior to eye exam.

2. Eye exam claim with chronic condition diagnosis code
   - A claim coded with a chronic condition diagnosis was submitted by an ECP on the same day as the eye exam. This provides an opportunity for the ECP to re-engage the patient into care.

3. A claim coded with the same chronic condition diagnosis was submitted by another medical provider (PCP or specialist) within 60 days of the member’s eye exam.

4. Medical claim with chronic condition diagnosis code. Successful re-engagement
   - Re-engagement success was assumed.
Successful Re-engagement

According to the re-engagement definition, seven chronic conditions were followed to determine whether or not patients received follow-up care from another medical professional within a 60-day time frame. It was found that of the 1,639 members, 542 (33%) were re-engaged into care within 60 days. An additional 392 members (24%) obtained follow-up care after 60 days. In total, 57% of the members reported by the ECP to have a condition received subsequent care with a PCP or specialist for the same condition. Re-engagement data was examined by condition (see Table 2).

Table 2: Study results of patients re-engaged in care

<table>
<thead>
<tr>
<th>Disease</th>
<th>Re-engagement Opportunities</th>
<th># re-engaged w/in 60 days</th>
<th>% re-engaged in 60 days</th>
<th>Re-engaged # after 60 days</th>
<th>% Re-engaged after 60 days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crohn’s Disease</td>
<td>2</td>
<td>1</td>
<td>50%</td>
<td>1</td>
<td>50%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>1,253</td>
<td>470</td>
<td>38%</td>
<td>304</td>
<td>24%</td>
</tr>
<tr>
<td>Graves’ Disease</td>
<td>23</td>
<td>4</td>
<td>17%</td>
<td>3</td>
<td>13%</td>
</tr>
<tr>
<td>High Cholesterol</td>
<td>166</td>
<td>13</td>
<td>8%</td>
<td>29</td>
<td>17%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>141</td>
<td>34</td>
<td>24%</td>
<td>43</td>
<td>30%</td>
</tr>
<tr>
<td>Multiple Sclerosis</td>
<td>26</td>
<td>11</td>
<td>42%</td>
<td>6</td>
<td>23%</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>28</td>
<td>9</td>
<td>32%</td>
<td>6</td>
<td>21%</td>
</tr>
<tr>
<td>TOTAL:</td>
<td>1,639</td>
<td>542</td>
<td>33%</td>
<td>392</td>
<td>24%</td>
</tr>
</tbody>
</table>

Re-engagement by age

Our data reflects age demographics associated with several chronic diseases. Reference the appendix for age-related data and observations. Many diseases have a greater prevalence and/or incidence according to age group. For example, the prevalence of rheumatoid arthritis increases by age 18. Crohn’s Disease more commonly manifests between the ages of 10-20 years.9

Conclusion

When patients are re-engaged into care, cost savings and the prevention of disease progression and complications can be realized. This study demonstrates the role that ECPs play in this re-engagement. Regular monitoring of a chronic condition and its treatment is necessary for adequate control of the disease, and is critical to achieving positive long term outcomes. When a chronic condition is managed effectively, the need for urgent and emergent care decreases, productivity increases and disability claims are reduced, which can lead to cost savings. If a person is not engaged in the care of their diagnosed condition and neglects follow-up care and treatment, increased costs may be incurred due to associated complications. It has been found that for persons with rheumatoid arthritis (RA), half of their health care costs (including those due to loss of productivity) are indirectly related to their disease6. By connecting the patient with their PCP, newer treatments can be prescribed that may slow the progression of a disease and prevent disability and associated costs7. ECPs have the opportunity to contribute to member health and wellness as well as cost savings through patient education and re-engagement with PCPs and specialists.
Appendix: Age-Related Data and Observations for Several Chronic Diseases

**Crohn’s Disease**

- 1 member was reengaged to care within 60 days.
- Persons who have been diagnosed with Crohn’s disease are at greater risk of intestinal ulcers, malnutrition, and colon cancer.\(^8\)
- Iritis (inflammation within the eye) is associated with Crohn’s disease.\(^8\)
- Corticosteroids, often used for flare-ups of Crohn’s disease, can cause cataracts and glaucoma.
- Our data reflects the most common age of incidence (between 10 and 20 years of age).\(^9\)

**Diabetes**

- 470 patients were reengaged to care by a PCP or specialist within 60 days.
- Persons with diabetes are at increased risk of kidney disease, stroke, nerve damage (neuropathy, numbness in feet) and lower limb amputation.\(^2\)
- Eye diseases associated with diabetes are cataracts, glaucoma, retinopathy and blindness.\(^2\)
- For every 100 people with diabetes, costs related to diabetic care and productivity loss range from $106,688 to $191,072 depending on severity and complications.\(^10\).
Graves' Disease

- 4 patients were reengaged to care within 60 days of their eye exam.
- When left untreated, Graves' Disease is associated with heart disease and a life-threatening sudden increase in thyroid hormone (Thyroid Storm)\textsuperscript{11}
- The ocular involvement associated with Graves' Disease is the most frequent extrathyroidal expression of the condition\textsuperscript{11}
- Most commonly manifested in the third or fourth decade of life\textsuperscript{11}

High Cholesterol

- 13 patients were reengaged to care within 60 days of their eye exam
- Persons with elevated cholesterol levels are at increased risk of cardiovascular disease, stroke, peripheral arterial disease, and heart failure\textsuperscript{13}
- Associated eye diseases are retinal stroke and blindness\textsuperscript{13}
Hypertension

- 34 patients were reengaged to care within 60 days of their eye exam
- Complications of hypertension include cardiovascular disease, kidney disease, stroke, and heart failure\(^\text{14}\)
- The eye diseases associated with hypertension are retinopathy and blindness\(^\text{14}\)
- For every 100 people with hypertension, costs related to care range from $37,323 to $53,064\(^\text{10}\)

Multiple Sclerosis

- 11 patients were reengaged to care within 60 days of their eye exam
- Multiple Sclerosis leads to an increased risk of paralysis and disability\(^\text{15}\)
- Hallmark signs associated with MS are inflammation of the optic nerve (optic neuritis) and double vision\(^\text{15}\)
Rheumatoid Arthritis

Observations:

- 9 patients were reengaged to care within 60 days of their eye exam
- RA is associated with lung disease, heart disease and stroke
- Ocular findings include inflammation, cataracts, glaucoma and dry eyes (Sjogren's syndrome)
About the Authors

Linda M. Chous, O.D. – As Chief Eye Care Officer, Dr. Chous brings her provider perspective and clinical expertise to the development of new vision solutions and services for UnitedHealthcare. In addition to her duties at UnitedHealthcare, Dr. Chous maintains her pediatric optometric private practice in Minneapolis, Minnesota. She is the past president of the Minnesota Optometric Association (MOA), serves on the American Optometric Association (AOA) Evidence-Based Optometry Committee and is a member of the Optical Women’s Association and Women of Vision. Dr. Chous has served as the MOA chair of the Public Education and Children’s Vision committees, and was a member of the AOA InfantSEE Committee. She has provided pediatric vision rehabilitation services to the Minnesota Department of Education and served as a consultant to the Minnesota Vision Coalition. Dr. Chous is a graduate of the Southern California College of Optometry and is a Diplomate of the American Board of Optometry.

Kim K. Christopher, M.B.A. – Ms. Christopher is Vice President of Vision Clinical and Quality Programs, UnitedHealthcare, where she is responsible for developing innovative, clinically integrated vision solutions to help employers, doctors and individuals make better health care decisions. In her previous role as vice president of quality for OptumHealth Care solutions, she championed and led company-wide health care quality programs including six-sigma-based process improvements, national clinical accreditations and member, client and provider satisfaction programs. Ms. Christopher holds an Executive Black Belt from UnitedHealth Group.
References


