



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 care provider 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 model². Given that many persons seek eye care more often than general medical care², 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 life³. 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 comorbidities⁴. High cholesterol is one of the major risk factors for heart disease, which is the leading cause of death in the United States⁵. 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.

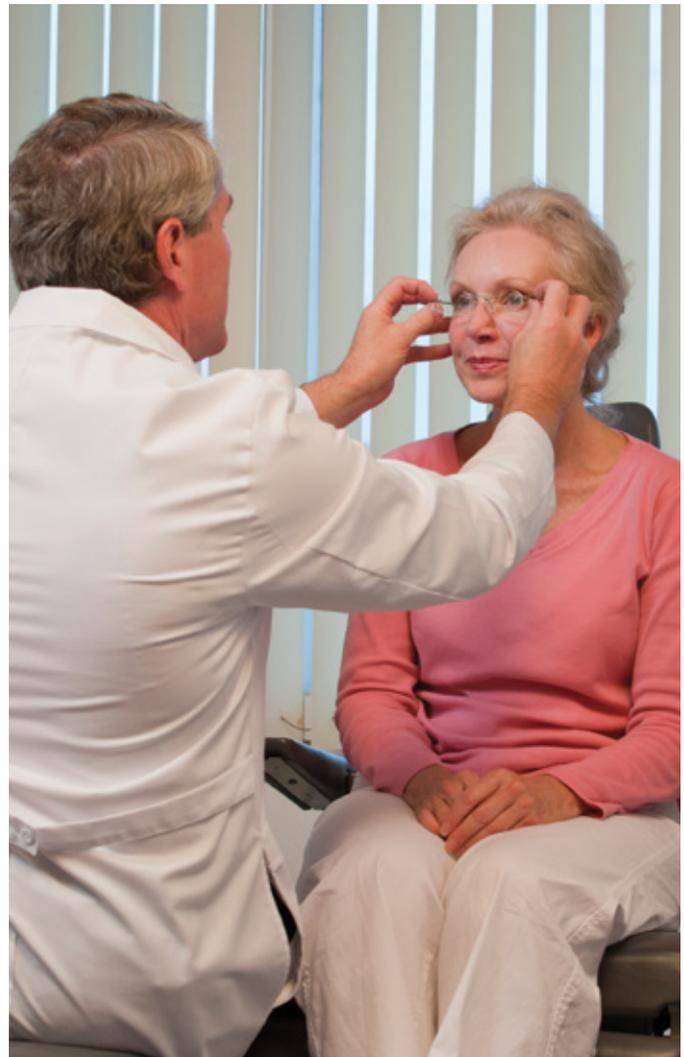
During a comprehensive eye examination, the ECP takes a detailed history from the patient. Current and past systemic medical conditions, medications, and family medical history are documented by the clinician since many conditions and their associated treatments (prescribed and over-the-counter) can 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 primary care provider in an acceptable amount of time, or has discontinued medications without consulting with the primary care provider (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



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

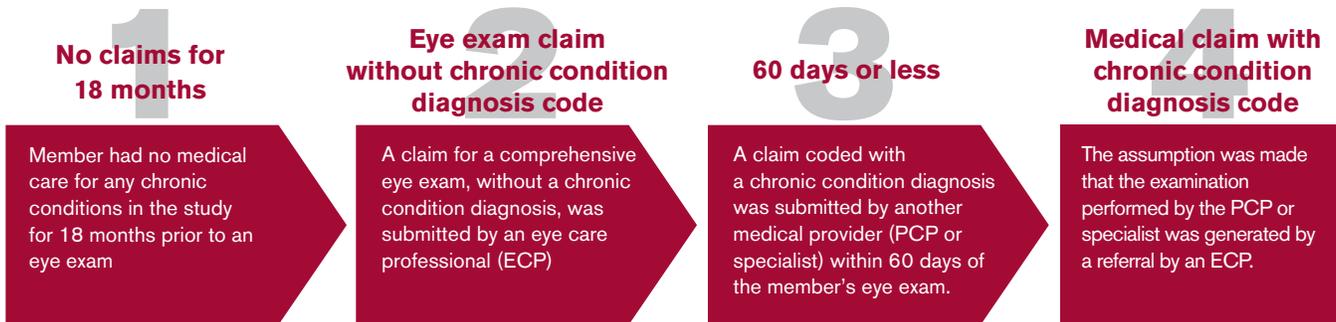
the diagnosis or that the patient had self-reported the condition during the patient history. In either case, the patients included in our study had not received care for their chronic condition in over eighteen months, and the ECP had the opportunity to re-engage the patient into care. With this in 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.



Identification Opportunities

Study methodology for identification of chronic conditions

For this study, we have defined identification as follows:



Based on this definition, study results showed more than 2,300 members with chronic conditions were identified by ECPs (See Table 1, light blue column, below). This was based on 72,459 conditions identified in the study. Some members have multiple conditions.

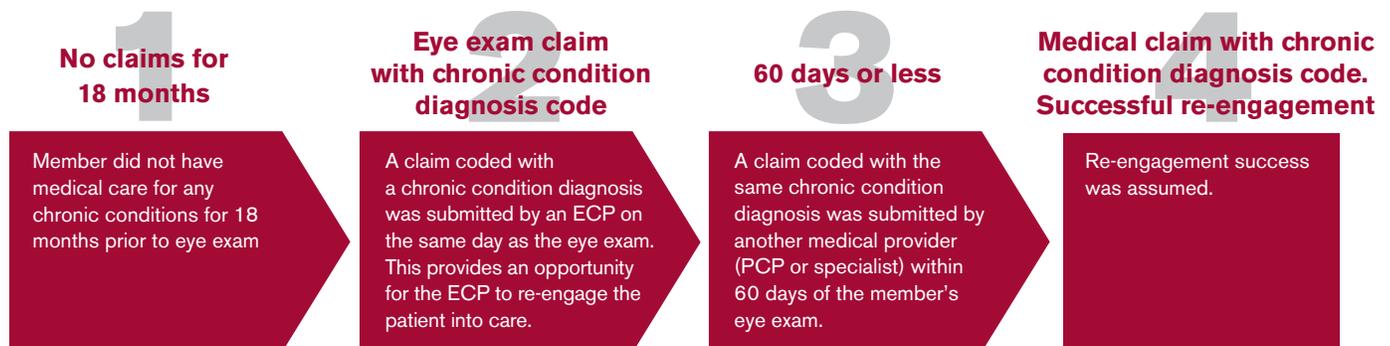
Table 1: Study results of patients identified with chronic conditions

Disease	Identified by ECPs	Re-engagement Opportunities	# of conditions identified in study
Crohn's Disease	25	2	545
Diabetes	200	1,253	9,700
Graves' Disease	58	23	1,691
High Cholesterol	1,177	166	34,025
Hypertension	860	141	24,562
Multiple Sclerosis	25	26	338
Rheumatoid Arthritis	41	28	1,598
TOTAL:	2,386	1,639	72,459

Successful Re-engagement

This study follows the member after the eye exam claim (coded with a chronic condition diagnosis) was submitted. Data was reviewed to determine whether the member obtained follow-up care for that condition and how soon the re-engagement took place. 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. This provides an opportunity for the ECP to re-engage the patient into care. 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



Re-engagement

According to the definitions on the previous page, 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

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

Re-engagement by age

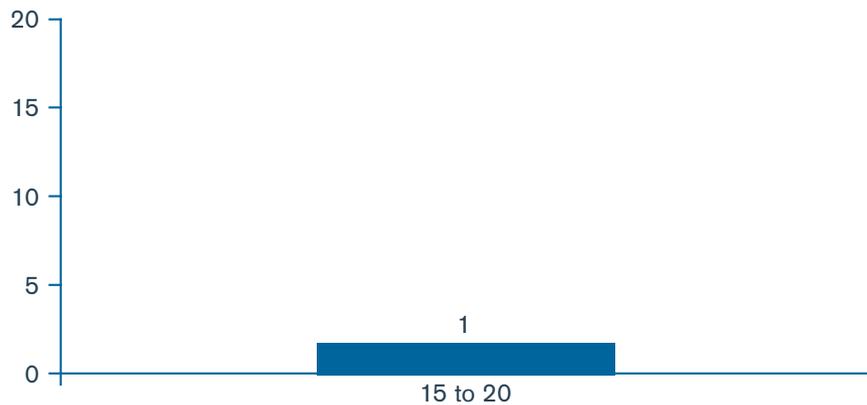
Our data reflects age demographics associated with several chronic diseases. Reference the appendix for age-related data and observations. Many diseases have a greater prevalence and/or incidence according to age group. For example, the prevalence of rheumatoid arthritis increases by age 18. Crohn's 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

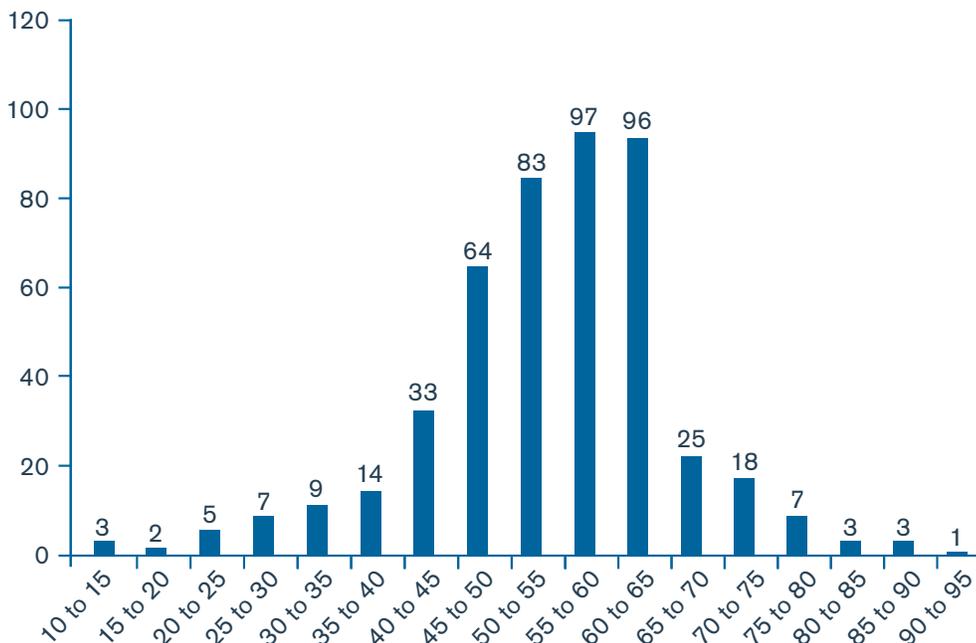
Crohn's Disease



Observations:

- 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 cancer⁸.
- 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

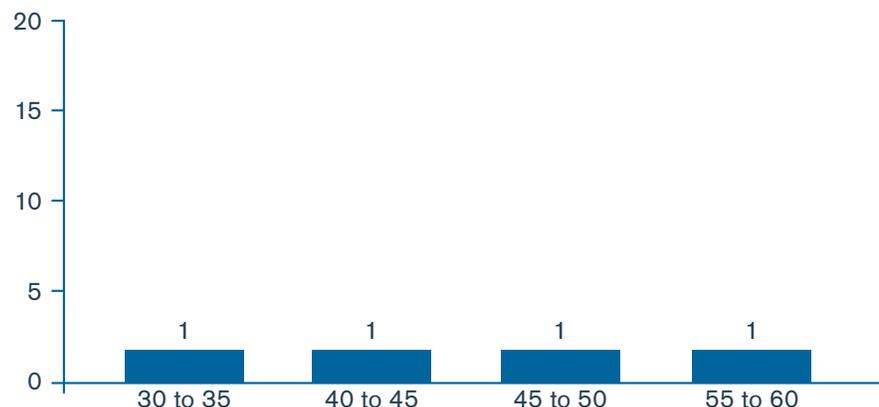
Diabetes



Observations:

- 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 amputation¹²
- Eye diseases associated with diabetes are cataracts, glaucoma, retinopathy and blindness¹²
- 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 complications¹⁰.

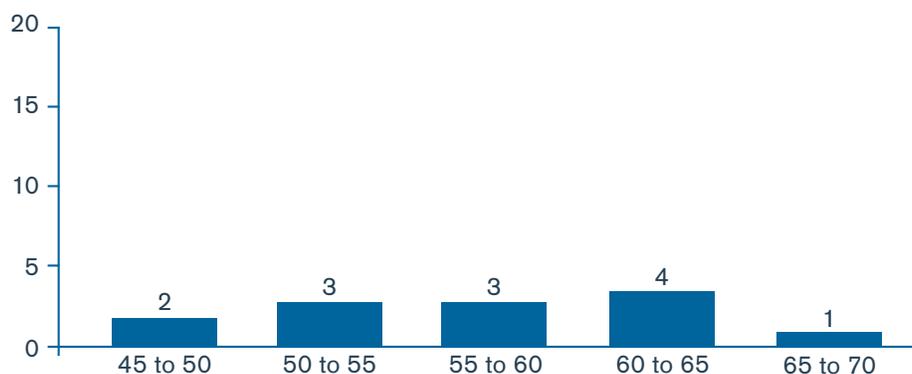
Graves' Disease



Observations:

- 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)¹¹
- The ocular involvement associated with Graves' Disease is the most frequent extrathyroidal expression of the condition¹¹
- Most commonly manifested in the third or fourth decade of life⁹

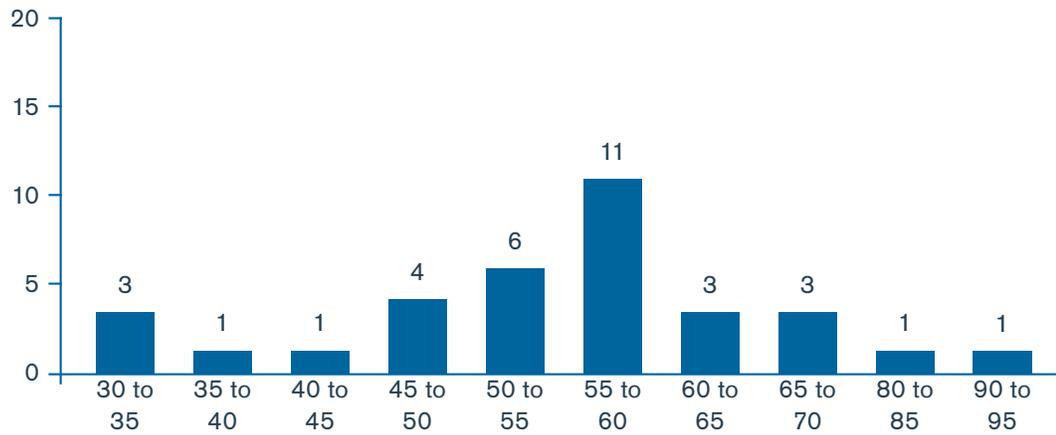
High Cholesterol



Observations:

- 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 failure¹⁴
- Associated eye diseases are retinal stroke and blindness¹⁴

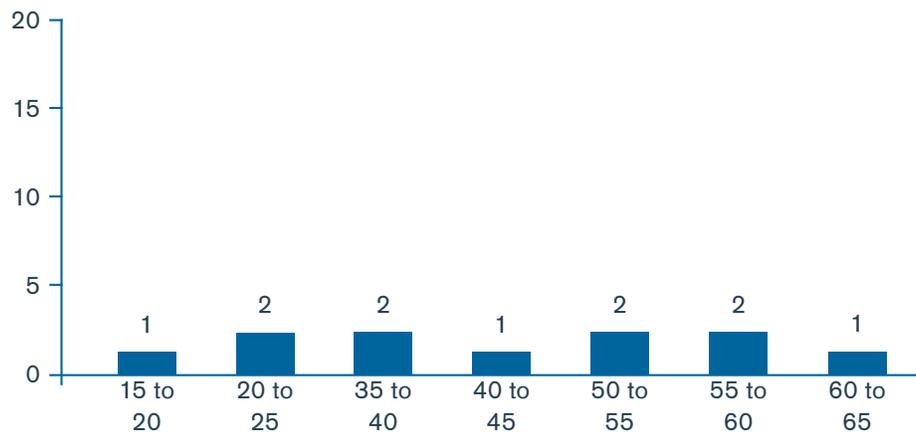
Hypertension



Observations:

- 34 patients were reengaged to care within 60 days of their eye exam
- Complications of hypertension include cardiovascular disease, kidney disease, stroke, and heart failure¹⁵
- The eye diseases associated with hypertension are retinopathy and blindness¹⁵
- For every 100 people with hypertension, costs related to care range from \$37,323 to \$53,064¹⁰

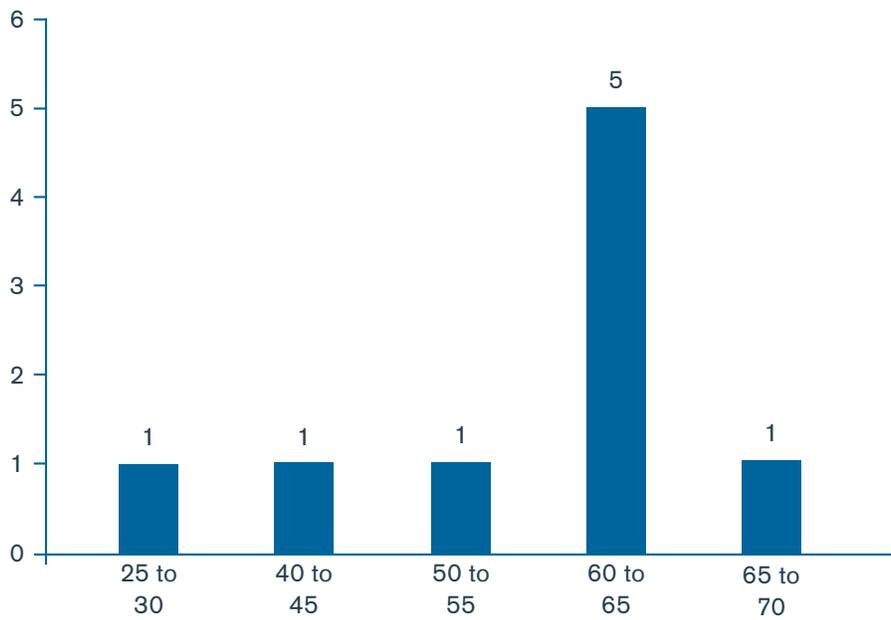
Multiple Sclerosis



Observations:

- 11 patients were reengaged to care within 60 days of their eye exam
- Multiple Sclerosis leads to an increased risk of paralysis and disability¹⁶
- Hallmark signs associated with MS are inflammation of the optic nerve (optic neuritis) and double vision¹⁶

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 stroke¹⁷
- Ocular findings include inflammation, cataracts, glaucoma and dry eyes (Sjogren's syndrome)¹⁷

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.

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UnitedHealthcare vision coverage provided by or through UnitedHealthcare Insurance Company, located in Hartford, Connecticut, UnitedHealthcare Insurance Company of New York, located in Islandia, New York, or their affiliates. Administrative services provided by Spectera, Inc., United HealthCare Services, Inc. or their affiliates. Plans sold in Texas use policy form number VPOL.06.TX or VPOL.13.TX and associated COC form number VCOC.INT.06.TX or VCOC.CER.13.TX. Plans sold in Virginia use policy form number VPOL.06.VA or VPOL.13.VA and associated COC form number VCOC.INT.06.VA or VCOC.CER.13.VA.