

# Helping you see the savings possible with vision benefits

The Story Behind the Sight on Savings Calculator

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# Introduction

This means today's consumers are looking hard at their medical benefits, as well as wellness programs offered through their employers. They are making educated choices about which benefits to enroll in, and – once enrolled – which to really take advantage of throughout the year. While most consumers see a vision benefit as a way to get discounts on eye care and eyewear, they often miss the full picture of what the benefit can do for them.

They don't always understand the preventive nature of an eye exam. Many eye health issues and certain

overall health conditions can be better treated – or even prevented – when detected early through an eye exam. Preserving vision is critical to overall wellness and healthy living – and doing so through a comprehensive vision benefit is inexpensive to both employers and employees.

But while there are many reasons why enrolling in a comprehensive vision benefit is of value – and consumers even agree that quality vision is important – one in five does not enroll in his or her company's vision benefit. Of those who do enroll, one in four doesn't use it for a comprehensive eye exam.<sup>1</sup> This reinforces a great need for education.

There is low awareness all-around of just how common many eye diseases and vision problems are, especially among at-risk groups such as ethnic minorities, women and the older population.

This paper overviews the Sight on Savings Calculator – an online, interactive tool to help consumers understand their eye health risks and how much they could save with the right eye care and eyewear through their vision benefit.



Vision is important to today's employees – yet 1 in 5 does not enroll in their company's vision plan.

# About the Sight on Savings Calculator

The Sight on Savings Calculator ([DavisVision.com/WhatsMyRisk](http://DavisVision.com/WhatsMyRisk))

Learn the risk of various eye-related conditions such as:



### Vision problems

- Trouble Seeing Up-Close
- Trouble Seeing Far Away
- Eyestrain & Fatigue
- Debilitating Headaches from Light & Glare



### Eye diseases

- Cataracts
- Diabetic Retinopathy
- Elevated Intraocular Pressure
- Glaucoma



### Overall health

- Prediabetes
- Undiagnosed Diabetes
- Undiagnosed High Blood Pressure

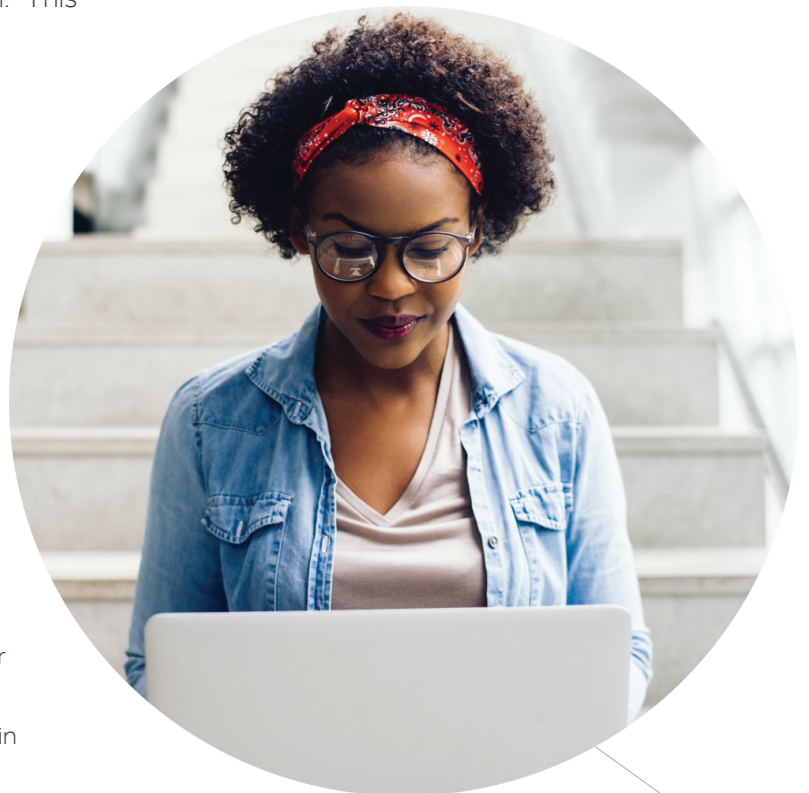
## And calculate costs a vision plan could help you avoid, like:

- Money lost in medical costs without early intervention
- Time lost through decreased productivity
- Sight lost without taking steps necessary to care for your eyes

This means today's consumers are looking hard at their medical benefits, as well as wellness programs offered through their employers. They are making educated choices about which benefits to enroll in, and – once enrolled – which to really take advantage of throughout the year. While most consumers see a vision benefit as a way to get discounts on eye care and eyewear, they often miss the full picture of what the benefit can do for them. They don't always understand the preventive nature of an eye exam. Many eye health issues and certain overall health conditions can be better treated – or even prevented – when detected early through an eye exam. Preserving vision is critical to overall wellness and healthy living – and doing so through a comprehensive vision benefit is inexpensive to both employers and employees. But while there are many reasons why enrolling in a comprehensive vision benefit is of value – and consumers even agree that quality vision is important – one in five does not enroll in his or her company's vision benefit. Of those who do enroll, one in four doesn't use it for a comprehensive eye exam.<sup>1</sup> This reinforces a great need for education.

## Risk rates

Certain factors, such as your age, gender and ethnic background may increase your risk for eye-related diseases and vision problems, and impact how much they could cost you. Of course, there are many factors beyond these that contribute to your risk – family history, for example. Lifestyle choices, such as regular exercise, diet and smoking, play a role as well. The best way to understand your individual risk and what you can do to promote your eye health is to speak to your eye care professional – but the Sight on Savings Calculator can help kick-start that discussion. For this tool, your age, gender and ethnicity are all considered in calculating your individual risk.



## Calculating Risk Rates

Risk rates for most of the conditions featured in the calculator were determined through an analysis of the raw data age of all ethnicities by age and gender was applied.

The prevalence of trouble seeing up-close, trouble seeing far away, cataract, diabetic retinopathy and glaucoma were pulled directly from the BRFSS data.<sup>2,3</sup> Finding the prevalence of elevated intraocular pressure – a precursor of glaucoma – took an extra step. Since a study published in WebMD found that 1.36 times as many people have elevated intraocular pressure as glaucoma, the calculator multiplies the prevalence of glaucoma by this number.<sup>4</sup>

Prevalence of prediabetes and diabetes were also pulled from available BRFSS data.<sup>2</sup> Data was sorted to find the rate of each condition by age, gender and ethnicity. Determining the prevalence of undiagnosed diabetes took an extra step, similar to elevated intraocular pressure. According to the CDC, 27.8 percent of people with diabetes don't know they have it. To calculate the rate of undiagnosed diabetes, the calculator therefore multiplies the prevalence of diabetes times this number.

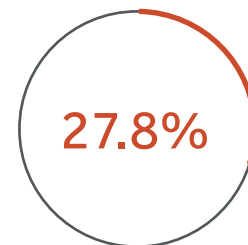
Similarly, prevalence of diagnosed high blood pressure was used as a baseline to identify the prevalence of undiagnosed high blood pressure.<sup>5</sup> Since only 77.7 percent of men with high blood pressure and 84.6 percent of women are aware they have the disease, prevalence of undiagnosed high blood pressure was calculated by multiplying the prevalence of high blood pressure by 22.3 percent for men, and by 15.4 percent for women.<sup>6</sup>

Prevalence rates for eyestrain and fatigue and debilitating headaches were not available through BRFSS data and were pulled from analysis of raw data from the 2012 Transitions Employee *Perceptions of Vision Benefits* survey – an annual survey that

measures the steps consumers are or are not taking to protect their vision.<sup>7</sup> Data was sorted to find the prevalence rate of each problem at the national level by gender. To find the prevalence of debilitating headaches specifically, the calculator multiplies the number of employees with headaches by 5.4 percent, since research shows this percentage of headaches is severe enough to cause productivity loss at work, according to a study published in the *Journal of the American Medical Association*.<sup>8</sup>

## Age

Age can impact your risk for vision problems. Younger adults may have trouble seeing up-close or far away for a number of reasons, such as putting off visiting the eye doctor or having out-of-date prescriptions.



Nearly 3 in 10 people with diabetes don't know they have it.

Around age 40, most people begin showing signs of presbyopia. This is a hardening of the lens inside the eye that makes it more difficult to see objects up-close. Despite trouble seeing, many people delay wearing eyewear or may use over-the-counter readers not prescribed by their eye doctor, so their vision may not be corrected as well as it could be.



Many serious, sight-stealing diseases become more common as you age. People over the age of 60 are at increased risk for eye conditions like cataract and glaucoma.

They are also more likely to develop overall health issues like diabetes and hypertension that can affect eye health.

A vision benefit makes regular eye exams easy and affordable, and an exam can catch problems early. Early detection means better management and increased savings.

## Gender

Both men and women are often surprised to learn that gender can impact their risk for vision problems. Women are more likely than men to suffer from eye-related diseases and conditions<sup>9</sup>, such as:

### Cataract

### Glaucoma

Women are also more likely than men to experience eyestrain and fatigue, as well as headaches from light and glare.<sup>7</sup> Men have similar risks as women for a number of eye and overall health issues that can impact vision, and have an increased risk depending on their age, lifestyle and ethnicity.



## Ethnicity

Ethnic background is a factor that can impact your risk of vision problems.

### African Americans

African Americans are at high risk for vision problems such as:

#### **CATARACTS**

African Americans are more likely than Caucasians to develop cataracts. As a result, they are five times more likely to develop blindness.<sup>10</sup>

## GLAUCOMA

African Americans are also five times more likely than Caucasians to develop glaucoma, and four times more likely to suffer blindness from it as a result. Glaucoma is often characterized by the loss of periphery vision that can progress to complete vision loss without treatment.

Additionally, African Americans are at high risk for the following overall health conditions that can also impact vision:

## DIABETES

African Americans are about twice as likely to have diabetes than non-Hispanic whites, and are more likely to experience complications – which are sometimes fatal – from diabetes. Diabetes can lead to diabetic retinopathy and cataracts, and is the leading cause of blindness among African Americans aged 20 to 44. Yet, 90 percent of diabetes-related blindness can be prevented.<sup>10</sup> Hypertension (High Blood Pressure) African Americans are 40 percent more likely to have high blood pressure than non-Hispanic whites, and are 10 percent less likely to have it under control. It can lead to hypertensive retinopathy, which causes blurry vision and even blindness<sup>11</sup>

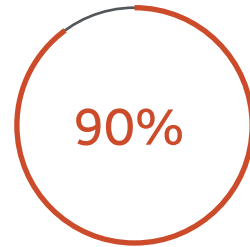
## Asian Americans

Asian Americans are at high risk for a number of eye-related issues, including:

## GLAUCOMA

Asian Americans are more likely than the national average to develop angle-closure glaucoma, caused by rapid or sudden increases in pressure inside the eye.

Glaucoma is often characterized by the loss of periphery vision that can progress to complete vision loss without treatment.



90 percent of diabetes-related blindness can be prevented.

People of Japanese descent are also more prone to a particular type of the disease, called low-tension glaucoma.<sup>12</sup>

## MYOPIA

Also known as nearsightedness, Myopia is also more common among Asian Americans.<sup>13</sup>



## Caucasians

While cataracts are more common among African Americans and Hispanics, Caucasians are also at risk. Extended exposure to UV rays from the sun is a risk factor.<sup>14</sup>

## Hispanics

Hispanics are at high risk for many eye health issues and chronic conditions like: Cataracts Among Hispanics, cataracts are three times more common vs. Caucasians and African Americans. The disease is the leading cause of visual impairment among Hispanic adults. Extended exposure to UV rays is a risk factor<sup>13</sup>



### GLAUCOMA

Among Hispanics, open-angle glaucoma – caused by rising pressure in the eye – is the most common cause of blindness.<sup>15</sup>

Hispanics are also affected by several overall health issues, which can impact their eye health: Diabetes As many as 95 percent of Hispanics with diabetes have preventable, type 2 diabetes, which can be detected through an eye exam.<sup>16</sup> Type 2 can lead to many problems throughout the body and eye. One in eight Hispanics has diabetes, which is 1.3 times the rate of the general population.<sup>17</sup>

### HYPERTENSION (HIGH BLOOD PRESSURE)

Roughly 26 percent of Hispanics are affected by high blood pressure. It can lead to hypertensive retinopathy, which causes blurry vision and even blindness. High blood pressure can be detected through an eye exam.<sup>18</sup>

Individuals who don't identify with one of the larger ethnic groups can still be at risk. It's important to discuss risk factors, including ethnic heritage, with an eye doctor.



## PERCENT OF AMERICANS WITH CONDITIONS POTENTIALLY IMPACTED BY A PREMIUM VISION PLAN<sup>2,3,5,7</sup>

### VISION PROBLEMS

Trouble Seeing Up-Close	38.17%
Trouble Seeing Far Away	16.17%
Eyestrain & Fatigue	20.5%
Debilitating Headaches from Light & Glare	0.54%

### EYE DISEASE

Cataract	13.71%
Diabetic Retinopathy	2.09%
Elevated Intraocular Pressure	6.58%
Glaucoma	4.84%

### OVERALL HEALTH

Prediabetes	8.47%
Undiagnosed Diabetes	2.93%
Undiagnosed High Blood Pressure	6.13%

## Health Insurance

Health insurance has a big impact on how much you'll pay in medical expenses if you develop a disease or chronic condition. The calculator considers this when computing how much money you could save through early detection and proper follow-up care afforded by a vision benefit.

If you do not have health insurance, the calculator assumes you will pay full medical costs directly.

Obviously, if you have health insurance, you will pay less out-of-pocket on medical expenses. But, even with health insurance, people usually still pay close to 20 percent of their medical bills themselves. The calculator assumes that users with health insurance will pay 20 percent of any medical costs they'd be likely to incur due to vision-related health issues and diseases. Early detection and treatment of health problems that can be identified through an eye exam will help you save more time, money and possibly your sight.

## Putting your risk in perspective

To help consumers understand how their risk compares to that of others, the "Your Results" section of the Sight on Savings Calculator lists all the vision conditions explored in the calculator and highlights conditions in red if that individual's percent chance of having the condition is higher than the national average.

The calculator then provides a detailed explanation for each condition, showing the user's risk based on the age, gender and ethnicity entered, and the national average for comparison.



## The all-too common costs

The toll on Americans not getting the eye care and eyewear they need is much higher than most people would expect. And much of it can be avoided with preventive eye care and eyewear through a vision benefit. The calculator considers costs in three areas: time, money and sight.

Consider that:

- Seeing less than your best could hurt your productivity, costing you precious time and keeping you from doing the things you enjoy.
- An eye exam can detect many vision and overall health problems early enough to better treat or even stop them – and keep more money in your wallet.
- 50 percent of vision loss can be prevented with an eye exam, preserving your sight, and helping protect your most valued sense.<sup>19</sup>

For each vision-related condition shared in the calculator, documented time and money savings are assigned where research is available. Each section can be expanded for additional information.

### Vision Problems and Productivity

If you can't see well, it's hard to work well. There are a number of studies that show how poor vision leads to poor performance, draining productivity and robbing you of much-needed time in your day. Whether your eyeglass lens prescription is slightly off, or you are suffering from eyestrain and fatigue, or even headaches, these vision-related issues can cost you big time.

The calculator reviews the ability of an eye exam and proper vision wear to impact four common vision problems:

- Trouble Seeing Up-Close
- Eyestrain & Fatigue
- Trouble Seeing Far Away
- Debilitating Headaches from Light & Glare





## Research Spotlight: Poor Vision & Productivity

A study conducted at the University of Alabama measured how lens prescription impacts the productivity of people who work on computers.

It found that miscorrected vision – even so slight that a worker may not have noticed – can reduce productivity by up to 20 percent.<sup>21</sup> Because an employee's productivity is impacted by a range of factors, the study suggests 2.5 percent as a more conservative estimate for productivity increase with the most accurate prescription.

To determine how much time you could save if you avoided problems seeing up-close or far away, the calculator multiplies this conservative percentage by 480 – the number of minutes most Americans are likely to work per day. This is based on an eight-hour work day. The potential productivity loss of 2.5 percent multiplied by 480 minutes equates to 12

## Trouble seeing up-close & far away

A surprising 38 percent of Americans report some difficulty seeing up-close and 16 percent have trouble seeing far away.<sup>3</sup> This is according to how people responded to the following questions posed by the CDC in its 2012 health survey: "How much difficulty, if any, do you have reading print in newspaper, magazine, recipe, menu, or numbers on the telephone?" and "How much difficulty, if any, do you have in recognizing a friend across the street?" In both cases, respondents were instructed, "If you wear glasses or contact lenses, answer questions as if you were wearing them."

More than four out of five adults need some kind of vision correction in their lifetime.<sup>20</sup> Earlier in life, vision correction can help with trouble seeing up-close (due to hyperopia or farsightedness), trouble seeing far away (due to myopia or nearsightedness), general blurriness (due to astigmatism) or a combination of any of these. And, just about everyone will have trouble seeing up-close after age 40, when a condition known as presbyopia causes the lens of the eye to lose its ability to focus as well as in the past.

Proper eyeglasses or contacts can fix these problems, but many people have prescriptions that are out-of-date, so they still have trouble seeing up-close or far away even while wearing eyewear. Other people may not even realize they are seeing poorly, because they've never worn eyeglasses and haven't had their vision checked.

Research shows that having even a slight problem with your vision can reduce your productivity by at least 2.5 percent,<sup>21</sup> which can mean a loss of up to 12 minutes per day (based on an eight-hour work day).

That's up to six workdays per year! The calculator assumes people with a premium vision plan will see their eye doctor regularly and, as such, will wear an up-to-date prescription if needed – potentially saving them 12 minutes per day by avoiding trouble seeing up-close or far away. In other words, getting your vision checked and wearing the right eyewear can increase your productivity at work and provide you with more time to do the things you enjoy.



## Eyestrain and Fatigue

45% of employees take at least one break per day to rest their eyes because they hurt or feel tired.

Approximately 20 percent of Americans say they have problems with eyestrain and fatigue,<sup>7</sup> which is caused by intense focusing of the eyes. This can occur when reading up-close or working on a computer for an extended period of time. It can also happen when the eye tries to adjust to glare or bright light outdoors. If not fixed, muscle fatigue from straining the eyes can cause blurred vision, and squinting to overcome this can cause headaches.

Workers notice the impact of eyestrain and fatigue on the job. Eyestrain is the #1 complaint of computer workers,<sup>22</sup> and more than half of employees are bothered by light at work.<sup>1</sup>

Research shows that employees could save more than a minute per day if they didn't have to take breaks due to tired eyes. That adds up to more than half a day per year!<sup>7</sup> Research from *Transitions Optical* finds that 45 percent of employees take at least one break per day to rest their eyes because they hurt or feel tired. The average employee who takes breaks takes slightly more than three breaks per day. A break to rest tired eyes is likely to last approximately 20 seconds – since the average break recommended by the American Academy of Ophthalmology to reduce digital eyestrain is 20 seconds (every 20 minutes, looking at 20 feet away). The calculator therefore assumes that employees with eyestrain and fatigue are taking 20 second breaks three times a day to rest their tired eyes.

The calculator assumes you could save this time simply by wearing the right eyewear to reduce eyestrain and fatigue. Eyewear that reduces glare or bright sunlight can help prevent eyestrain and fatigue, so you can see better and save time on and off the job. Photochromic *Transitions* lenses reduce glare by automatically adapting from clear indoors to dark outdoors, while blocking 100 percent of UVA/UVB rays and filtering harmful blue light indoors and out. Anti-reflective coatings help you see more clearly and



45% of employees take at least one break per day to rest their eyes because they hurt or feel tired.

make it easier for others to see your eyes. Many vision plans are now covering options like these.

## Debilitating headaches from light & glare

Almost everyone experiences headaches, which can be distracting and outright debilitating – leading to missed work and difficulties concentrating on the job. Of those who report headaches, nearly one in four say they experience headaches caused by light or glare.<sup>7</sup>

Of all headaches, 5.4 percent are severe enough to cause productivity loss of 3.5 hours per week at work, according to a study published in the *Journal of the American Medical Association*.<sup>8</sup>

The calculator assumes that this lost time could be regained if debilitating headaches were avoided by wearing eyewear that reduces glare and minimizes the impact of bright light. That could mean a savings of 42 minutes a day (assuming 3.5 hours per week divided by 5 days a week times 60 minutes per hour)!

While 90 percent of employees say headaches affect their work performance, only 33 percent tell their employers,<sup>23</sup> so it is likely a much bigger issue than most employers realize. Each year, headaches cost the nation \$17 billion dollars in absenteeism, lost productivity and medical expenses, according to the National Headache Foundation.

## Eye disease and medical savings from early detection

Adult eye diseases can lead to serious vision loss, high medical costs and lost productivity. Comprehensive eye exams can help detect many diseases in very early stages. Since several eye diseases can progress before changes in vision are noticeable, it is important to see your eye doctor regularly – not just when experiencing a vision problem. By that time, it could be too late to reverse damage.



90% of employees say headaches affect their work performance – yet few tell their employers.

Eye diseases are on the rise – especially among aging populations – but regular eye exams and protective eyewear can help reduce the chance of severe vision loss and the steep costs that go with it. Ethnicity and gender also play a role in eye disease prevalence, as discussed earlier. The calculator reviews the ability of an eye exam and proper eyewear to impact three of the most common eye diseases (and a pre-condition to one of these):

- **Cataract**
- **Diabetic Retinopathy**
- **Elevated Intraocular Pressure (IOP)**
- **Glaucoma**

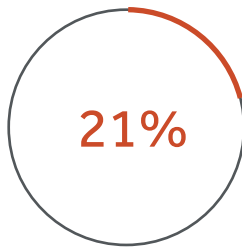
A cataract is a clouding of the eye's lens. It can develop in one or both eyes, slowly or rapidly, but will eventually interfere with vision to some degree. It usually develops with age – although there are other kinds of cataracts – and is most commonly treated with surgery.

Risk factors include family history of cataracts, medical problems like diabetes, other eye diseases, use of certain medications (like steroids), and smoking and alcohol use.

Fortunately, you and your eye doctor can take steps to avoid or delay cataract development, as well as to monitor and treat the disease if you do develop it. Research published in a Bulletin of the World Health Organization shows that proper treatment of cataracts (through the right surgery) can reduce medical costs by \$770 per year.<sup>24</sup> The calculator assumes that people with a premium vision benefit will visit their eye doctor regularly, ensuring they are advised on the best treatment options, so they can see this savings in medical costs.

Your eye doctor can also ensure that you are wearing the best eyewear to protect your vision and see your best. Exposure to the sun's harmful UV rays can contribute to the development of cataract, making UV-blocking eyewear especially important for those at risk. And people with cataract are often more sensitive to light and glare, so may benefit from photochromic *Transitions* lenses or anti-reflective coatings to reduce distracting glare and enhance vision.





21% of all eye disease-related health care costs are traced back to diabetes.

so your eye care professional may recommend UV and glare-blocking eyewear, like photochromic *Transitions* lenses.

Research shows that 21 percent of all eye disease-related health care costs are traced back to diabetes<sup>25</sup> – so significant savings are possible by avoiding diseases like diabetic retinopathy. The calculator assumes that people with premium vision benefits will be seeing their eye doctor regularly and will be advised on steps to take to avoid diabetic retinopathy, helping them avoid its steep medical costs.

Health-related costs of all ophthalmic disorders were pulled from the U.S. Agency for Healthcare Research and Quality Medical Expenditure Panel Survey (MEPS).<sup>26</sup> These costs were multiplied by 21 percent to represent potential costs for diabetic retinopathy.

## DIABETIC RETINOPATHY

Diabetic retinopathy, commonly known as diabetic eye disease, is the most common eye disease associated with diabetes – and a leading cause of new cases of blindness in American adults aged 20-74.

When you have diabetes, your body does not use and store sugar properly. High sugar levels can cause damage throughout the body, including in your eyes. Blood vessels in the back of the eye can swell or leak, interfering with vision, and damaging the light-sensitive tissue of the retina at the back of the eye.

Diabetic retinopathy can lead to serious vision loss without proper treatment. Fortunately, your eye doctor can recommend steps to avoid diabetic retinopathy, as well as to monitor and treat the disease if you do develop it.

Many people with early diabetic retinopathy have no symptoms before major bleeding occurs. This is why diabetics, and everyone at risk, should have regular, comprehensive eye exams.

Having diabetes can also make people more susceptible to UV damage and more sensitive to light and glare,



## ELEVATED INTRAOCULAR PRESSURE

Around seven percent of Americans likely have elevated intraocular pressure, which puts them at high risk for developing glaucoma, an eye disease that can slowly destroy peripheral vision due to intense pressure. Risk factors are the same as those for glaucoma, and include older age – although younger adults can get it, too – ethnicity (African Americans and Hispanics are at higher risk), medical steroid use and having a condition like diabetes or high blood pressure.



Elevated intraocular pressure, a precursor to glaucoma, can be detected through routine tests performed during an eye exam.

The condition can be detected through routine tests performed during an eye exam. With treatment as simple as eye drops, pressure can be managed and glaucoma avoided, saving associated medical costs.

Elevated intraocular pressure, a precursor to glaucoma, can be detected through routine tests performed during an eye exam.

Medications used to treat elevated intraocular pressure can make people more sensitive to light and glare. Plus, exposure to the sun's rays can contribute to other eye diseases, so your eye care professional may recommend UV and glare-blocking eyewear to protect your vision.

The calculator assumes that access to proper care through a premium vision benefit will allow you to avoid glaucoma-related health care costs, excluding prescription drugs.

Health care costs associated with glaucoma were pulled from the MEPS and were specific to age, gender and/or ethnicity.

They encompass hospital outpatient or office-based provider visits and "any service," but not prescription drugs, since these may still be necessary to keep pressure in check.<sup>26</sup>

## GLAUCOMA

Glaucoma occurs when pressure builds up inside the eye, keeping blood from reaching the optic nerve and damaging this part of the eye. Over time, glaucoma causes peripheral vision to disappear, creating a tunnel effect. Without treatment, this vision loss becomes worse, and can lead to blindness. Risk factors for developing glaucoma include older age – although younger adults can get it, too – ethnicity (African Americans and Hispanics are at higher risk), medical steroid use and having a condition like diabetes or high blood pressure. Because of the aging population, glaucoma is expected to increase sharply. By 2032, it is likely to affect 50 percent more Americans than it did in 2014<sup>27</sup>

People usually have no symptoms at first, which is why regular eye exams are so important. There is currently no cure for glaucoma, but if you do develop it, you and your doctor can take steps to slow or prevent vision loss with regular checkups and proper treatment, which can be as simple as eye drops. Plus, research shows that earlier treatment can lead to medical savings of \$857 a year.<sup>28</sup>

Glaucoma – and medication used to treat it – can also make people more sensitive to light and glare.

By 2032, glaucoma will affect 50% more Americans than it did in 2014.

Plus, exposure to the sun's UV rays can contribute to other eye diseases. Because of this, your eye care professional may recommend UV and glare-blocking lenses, such as *Transitions* lenses.

## Overall health savings possible through early detection

Some people say the eyes are the window to the soul. Eye care professionals would say they are a window to your overall health.

An eye doctor can tell a lot about the health of your body from looking in your eyes, and can even see signs of many serious health issues. Americans are more likely to see their eye care professional for an eye exam than their general health care provider for a physical, so eye doctors may be the first health professional to detect several serious conditions.

Early disease detection through an eye exam can lead to prevention or earlier treatment to help reduce medical costs and productivity loss down the road.

The calculator reviews the ability of an eye exam to impact three overall health issues:

- **Prediabetes**
- **Undiagnosed Diabetes**
- **Undiagnosed High Blood Pressure (Hypertension)**

### **PREDIABETES**

Before developing type 2 diabetes, people almost always have prediabetes. Prediabetes is when a person's blood glucose levels are higher than normal, but not high enough to for a diabetes diagnosis.

According to the American Diabetes Association, there are 86 million people in the United States who have prediabetes. The good news is that people with prediabetes can take steps to prevent type 2 diabetes.

Early detection is key, and since blurred vision is one of the first signs of diabetes, your eye doctor may be the first health professional to see you while you're still in the "prediabetic" state – and can take steps to keep the disease from progressing.

Without intervention, diabetes can have a serious impact on many areas of the body, and can result in staggering medical costs. Fortunately, early detection through an eye exam and taking steps to prevent progression of diabetes can impact your well-being, and also your wallet, through potential health care savings.

# 86 Million

86 million people in the U.S. have prediabetes – that's more than a quarter of the entire population! yet few tell their employers.



The calculator assumes that people with a premium vision plan are able to achieve early detection and prevent developing full-blown diabetes and the medical costs and productivity loss associated with it. Health care savings referenced in the calculator are pulled from the MEPS data and are specific to age, gender and/or ethnicity. They encompass hospital outpatient or office-based provider visits, hospital inpatient stays, emergency room visits, prescribed medications, home health and other medical services.<sup>26</sup>

# \$804

Better managing diabetes can lower health costs by a minimum of \$804 per person per year.

Productivity loss totals were based on absenteeism and presenteeism costs possible by diagnosing prediabetes and avoiding diabetes. These costs were pulled from an American Diabetes Association study and were specific to gender.<sup>29</sup>

## UNDIAGNOSED DIABETES

Of the 29.1 million people in the U.S. with diabetes, 27.8 percent are undiagnosed, according to the CDC.

Diabetes is a serious disease that occurs when your body cannot produce enough insulin – resulting in high levels of glucose in the blood.

Blurry vision is one of the first signs of diabetes, so eye doctors are often the first health professionals to diagnose the disease. However, diabetes can be diagnosed in an eye exam even if no symptoms are noticeable. People who are diagnosed can more easily get their diabetes under control, and save money on medical expenses.

People with diabetes should see their eye doctor regularly to keep tabs on eye health issues that can be caused or worsened by the disease, including diabetic retinopathy and cataract. Having diabetes can also make you more susceptible to damage from UV rays and more sensitive to glare. This makes UV- and glare-blocking lenses, like *Transitions* lenses, a common recommendation.

The calculator assumes that employees with undiagnosed diabetes who have a premium vision benefit will be seeing their eye doctor regularly, so will be diagnosed with the disease early and will take proper steps to keep their diabetes under control. Better managing diabetes can lower health care costs by a minimum of \$804 per person per year, according to a study published in the *Journal of Managed Care Pharmacy*.<sup>30</sup> Additionally, better managing the disease will help employees avoid extreme productivity issues that could lead to job loss, thereby avoiding the cost of unemployment associated with the disease, as reported in an American Diabetes Association study.<sup>29</sup>





## UNDIAGNOSED HIGH BLOOD PRESSURE

Approximately 1 in 5 people with high blood pressure doesn't know they have it.<sup>6</sup>

Without intervention, high blood pressure – also known as hypertension – can have a serious impact on many areas of the body and can lead to hefty medical costs.

For example, high blood pressure can contribute to the development of heart disease. Hypertension, with its complications of stroke and heart attack, accounts for Americans losing 52 million workdays each year, according to the National Hypertension Association.



Employers can gain a half day of productivity each month in an employee properly manages his or her high blood pressure.

Among its effects on the eye, hypertension can lead to bleeding, blurred vision, hypertensive retinopathy and even blindness.

Fortunately, eye doctors can see signs of hypertension in the eye by observing the thickening of blood vessels there and looking for other signs of damage.

Early detection through an eye exam and taking steps to prevent the worsening of high blood pressure can impact your well-being, and also your wallet, through potential health care savings.

However, even if diagnosed, not all employees with high blood pressure will be successful in controlling it. According to the American Heart Association, only 54 percent of adults with high blood pressure are able to get it under control.<sup>31</sup>

Given this, the calculator assumes that employees who have undiagnosed high blood pressure and a premium vision benefit will be seeing their eye doctor regularly and could be diagnosed sooner – leading to earlier treatment and management of the disease. Assuming that 54 percent will be successful, the calculator projects that the most serious health-related costs (emergency room visits) related to high blood pressure can be avoided and productivity can be improved. The calculator references data on high blood pressure-related emergency room costs from the MEPS specific to age.

To determine the impact of proper hypertension management on your time, the calculator uses information from an American Health and Drug Benefits study,<sup>32</sup> which reported that employers gained 0.5 days of productivity per four-week period (or six days per year) if an employee properly managed his or her high blood pressure.





## What Now?

The calculator concludes with a summary of individual risk and possible savings with proper eye care and eyewear through a vision benefit. A list of next steps is provided for easy reference based on each person's results. While some advice is specific to certain conditions, all people are encouraged to take advantage of their vision plan and explore the following:

A comprehensive, yearly eye exam, which will help ensure an up-to-date eyeglass prescription, and also serve as a way to detect potential eye and systemic diseases – before they become a health care burden. The exam should cover pupil dilation to give the eye doctor a clear view of the back of the eye, where signs of disease may be present.

Eyewear options for optimal vision and protection. Lens enhancements help alleviate problems such as eyestrain, fatigue and headaches that are addressed in the calculator and can lead to reduced productivity and lost time. For example, *Transitions* lenses and anti-reflective coatings can minimize glare and reflections, helping to reduce eyestrain and fatigue, and headaches. In an office, certain lenses can help eliminate reflections from office lighting, an important option considering that nearly 90 percent of those who spend two hours or more per day working at a computer suffer from vision problems associated with eyestrain.<sup>33</sup> Outdoors, *Transitions* lenses block 100 percent of UV rays, which can lead to serious eye problems such as cataract and macular degeneration. These lenses also help protect your eyes from harmful blue light, indoors and out.

A premium vision benefit that includes an annual eye exam and discounts on eyewear can give you access to the vision care and eyewear you need to reduce medical costs, increase your productivity and see your best throughout life.

If you haven't already taken advantage of your vision plan, talk to your human resources manager about options available to you at your workplace. If you're already enrolled in your plan, make sure you are familiar with the details of your coverage. Find out how often you can receive an eye exam and what types of eyewear and lens enhancements may be available to you at no cost or at discounted rates.

Remember, if you can't see well, you can't perform well. Take advantage of your vision benefit. You could save time, money and sight as a result!



Nearly 90% of those who spend two hours or more per day working at a computer suffer from vision problems associated with eyestrain.

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