

# 2013 Diabetes and Eye Disease Fact Sheet

**Diabetes is the leading cause of new cases of blindness among United States adults.**<sup>1-3</sup> As Georgia's population ages and diabetes prevalence increases, eye disease will continue to be a major public health problem leading to blindness and reduced quality of life.

Compared to adults without diabetes, adults with diabetes have a greater prevalence of many visual impairment-related diseases, including diabetic retinopathy, macular degeneration, cataracts, and glaucoma.<sup>4</sup> Diabetic retinopathy, characterized by the degradation of retinal blood vessels, has no warning and can interfere with living well.<sup>5,6</sup>

Successfully managing glucose control and receiving a routine comprehensive dilated eye exam at least once a year can reduce the risk of eye disease by 54% to 76% and lead to the early detection of eye disease.<sup>7,8</sup>

## VISUAL IMPAIRMENT AMONG ADULT DIABETICS IN GEORGIA

In 2010, among adult diabetics in Georgia, an estimated\*:

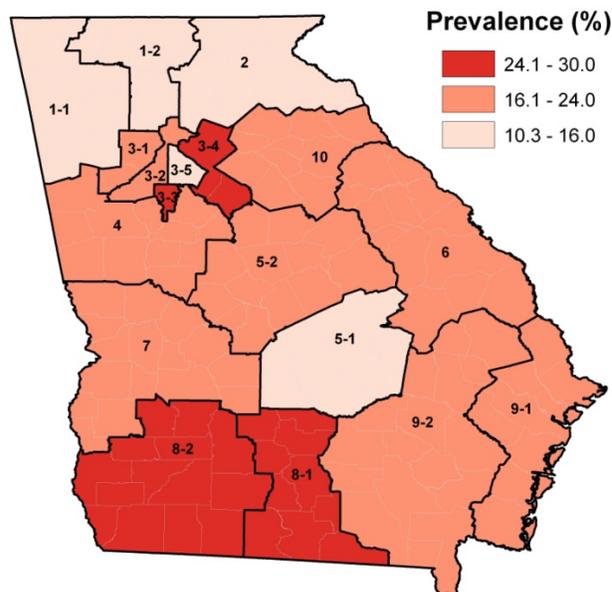
- **9.1%** (55,200 adults) were informed by an eye doctor or other healthcare professional that they had glaucoma
- **17.6%** (107,700 adults) were informed by an eye doctor or other healthcare professional that they had cataracts
- **4.9%** (30,000 adults) were informed by an eye doctor or other healthcare professional that they had age-related macular degeneration\*\*

In 2011, an estimated **20.6%** of Georgia adult diabetics, or **154,500** persons, were told by a doctor that diabetes had affected their eyes or that they had retinopathy.

The following Public Health Districts had the **greatest** prevalence of retinopathy during 2008-2010 (Map 1):

- 3-3 (Clayton) at 24.7%, or 3,400 persons
- 3-4 (Lawrenceville) at 30.0%, or 14,500 persons
- 8-1 (Valdosta) at 28.2%, or 7,000 persons
- 8-2 (Albany) at 26.3%, or 9,300 persons

**Map 1. Prevalence of Retinopathy among Adult Georgia Diabetics by Health District, 2008-2010**



Data Source: Behavioral Risk Factor Surveillance System (2008-2010)

\*Data Source: Behavioral Risk Factor Surveillance System (2010)

\*\*Only adults 40 years of age or older



# 2013 Diabetes and Eye Disease Fact Sheet

## ANNUAL DILATED EYE EXAMS

Many causes of visual impairment are readily diagnosed and at least 40% of blindness and visual impairment is treatable or preventable.<sup>6,9</sup>

Due to the impact of eye disease on diabetics, Healthy People 2020 has the following objective: *Increase the proportion of adults with diabetes who obtain an annual dilated eye examination.*<sup>10</sup>

Time since Last Dilated Eye Exam among Adult Diabetics in Georgia, 2011		
	Percent % (95% CI)	Estimated Number of Diabetics
Less than 1 year	66.5 (59.2, 73.2)	472,600
Between 1 and 2 years	17.1 (12.3, 23.3)	121,600
More than 2 years	16.3 (10.9, 23.7)	116,000

Data Source: Behavioral Risk Factor Surveillance System (2011)

In 2011, the percentage of adult diabetics in Georgia who had a dilated eye examination (66.5%) within the previous 12 months was **greater than** the Healthy People 2020 target percentage of 58.7%.

### Geography

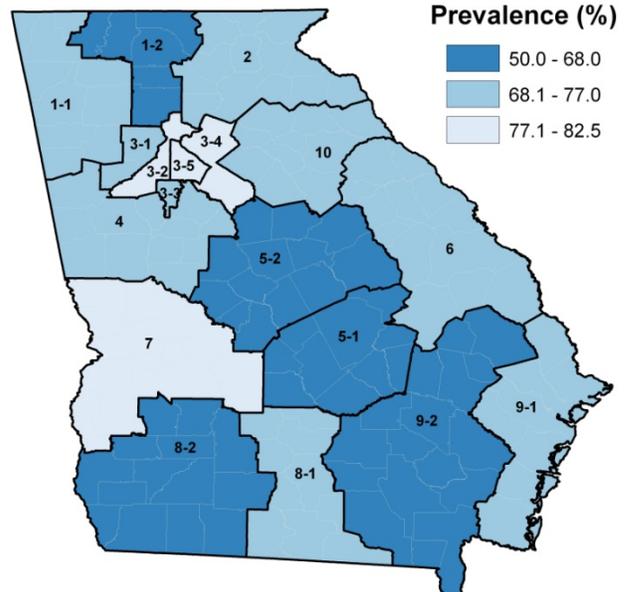
The following Public Health Districts had the **lowest prevalence** of adult diabetics who had received a dilated eye exam in the previous 12 months:

- 5-1 (Dublin) at 50.5%, or 4,300 persons
- 1-2 (Dalton) at 64.2%, or 16,300 persons
- 9-2 (Waycross) at 65.0%, or 15,600 persons
- 5-2 (Macon) at 65.6%, or 24,200 persons
- 8-2 (Albany) at 67.6%, or 22,200 persons

The following Public Health Districts had the **highest prevalence** of adult diabetics who had received a dilated eye exam in the previous 12 months:

- 3-2 (Fulton) at 77.5%, or 29,000 persons
- 3-4 (Lawrenceville) at 82.3%, or 38,500 persons
- 3-5 (DeKalb) at 80.0%, or 26,000 persons
- 7 (Columbus) at 82.0%, or 23,800 persons

Map 2. Prevalence of Annual Dilated Eye Exam among Adult Georgia Diabetics by Health District, 2008-2010

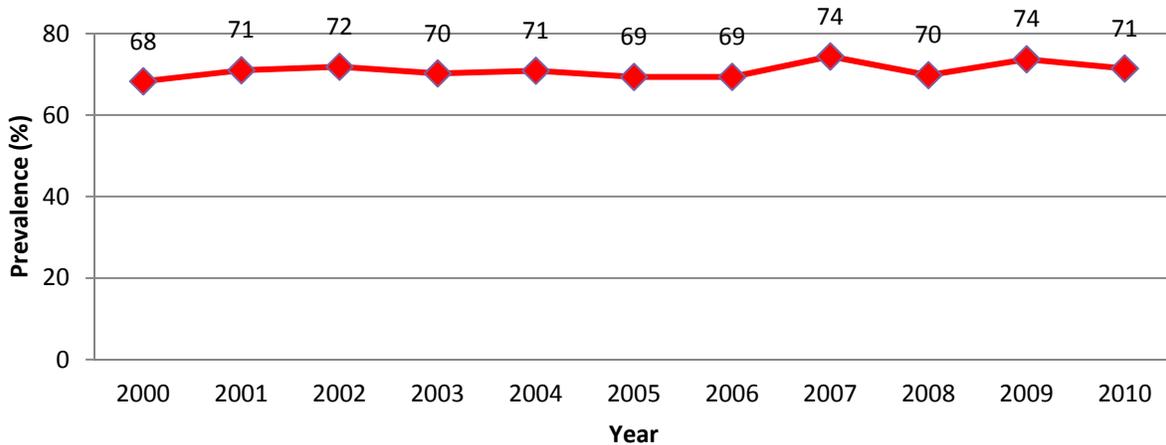


Data Source: Behavioral Risk Factor Surveillance System (2008-2010)

# 2013 Diabetes and Eye Disease Fact Sheet

## Time Trend

**Figure 1. Prevalence (%) of Annual Dilated Eye Exams among Georgia Adult Diabetics by Year, 2000-2010**

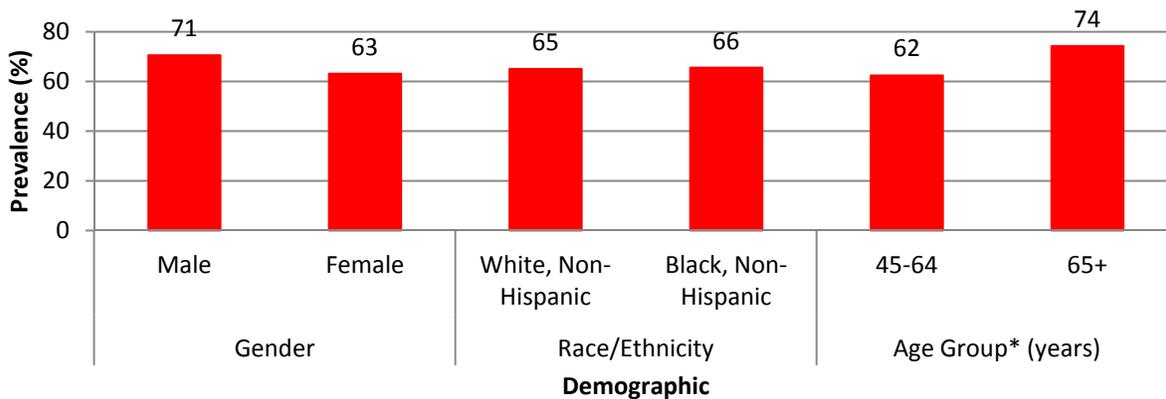


Data Source: Behavioral Risk Factor Surveillance System (2000-2010)

- Between 2000 and 2010, the percentage of adult diabetics in Georgia who received an annual dilated eye exam did **not increase significantly**. (Figure 1)

## Demographics

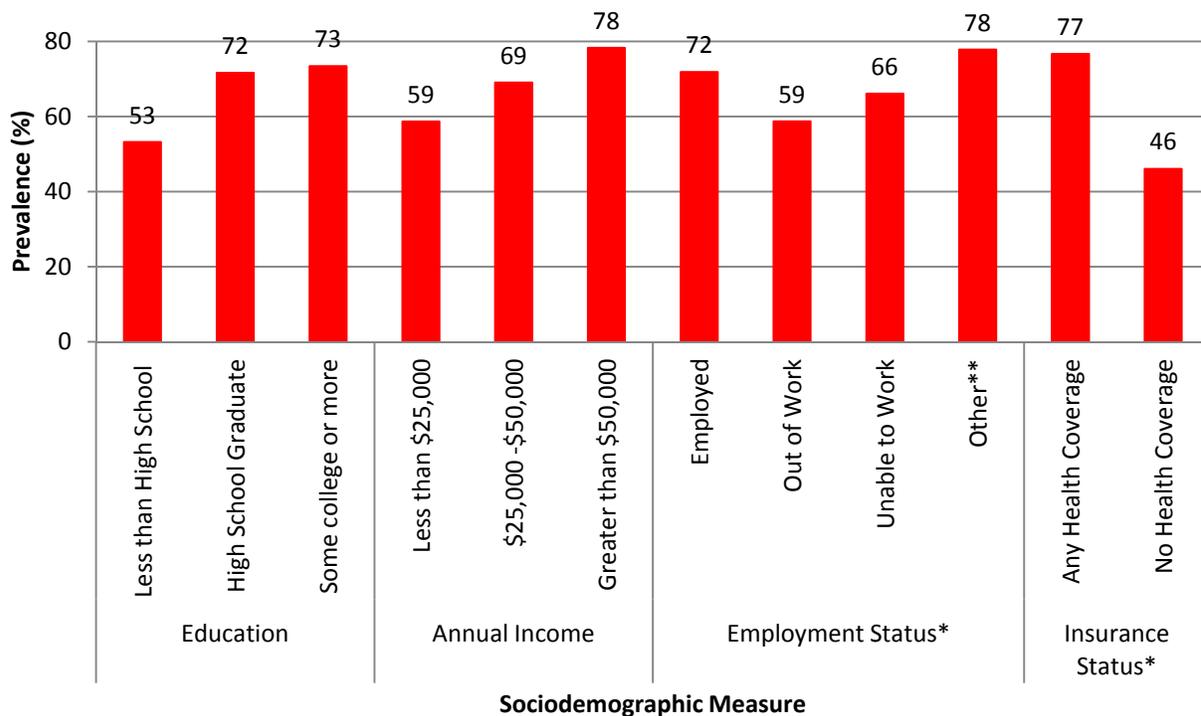
**Figure 2. Prevalence (%) of Annual Dilated Eye Exams among Georgia Adult Diabetics by Demographics, 2011**



\*Sample size too small to provide reliable estimates for adults less than 45 years of age

- There were **no significant differences** in the prevalence of annual dilated eye exams among adult Georgia diabetics by gender, race/ethnicity, or age group. (Figure 2)

**Figure 3. Prevalence (%) of Annual Dilated Eye Exams among Georgia Adult Diabetics by Sociodemographic Measures, 2011**



\*Data from 2009 and 2010 Behavioral Risk Factor Surveillance System

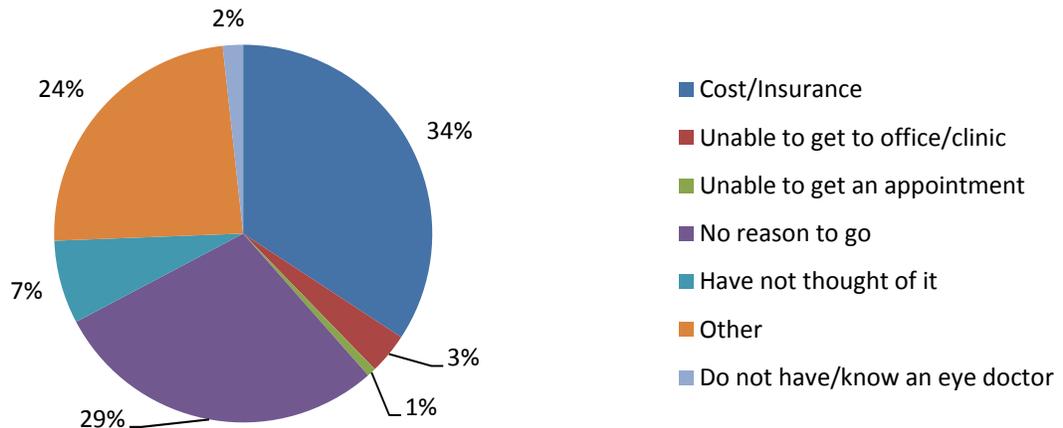
\*\*Other Employment Status includes homemakers, students, and retired individuals

Data Source: Behavioral Risk Factor Surveillance System (2009, 2010, 2011)

- Adult diabetics that were high school graduates (71.7%; 151,700 persons) or had completed some college or more (73.4%; 202,000 persons) had a **35%** and **38% greater** prevalence, respectively, of having had an annual dilated eye exam than diabetics that had not graduated from high school.
- Compared to diabetics in households with annual incomes less than \$25,000 (58.7%; 194,000 persons), diabetics in households with annual incomes greater than \$50,000 (78.3%; 96,340 persons) had **33% greater** prevalence of having had an annual dilated eye exam.
- Compared to diabetics out of work (58.7%; 22,500), employed diabetics (71.9%; 180,000) had **22% greater** prevalence of having had an annual dilated eye exam.
- Adult diabetics in Georgia without health coverage (46%; 40,900 persons) had a **40% lower** prevalence of having had an annual dilated eye exam than those with any health coverage (76.7%; 435,700 persons). (Figure 3)

## BARRIERS TO RECEIVING EYE CARE

**Figure 4. Primary Reason for Not Visiting an Eye Care Professional in the Past 12 Months, Georgia Adult\* Diabetics, 2010**



\*Only adults 40 years of age or older

Data Source: Behavioral Risk Factor Surveillance System (2010)

- Among adult diabetics in Georgia, cost or insurance (34%; 58,000 persons) is the **most** cited reason for not visiting an eye care professional in the previous 12 months.
- 29% (48,000 persons) of Georgia adult diabetics stated that they had no reason to go to an eye care professional or did not have a problem.

## NATIONAL EYE DISEASE PREVENTION RECOMMENDATIONS

**Every percentage point decrease in A1c values can reduce the risk of diabetes-related eye, kidney and nerve disease complications by 40%.<sup>7</sup>**

- The development of severe vision loss due to diabetic eye disease can be reduced by an estimated 50% to 60% through scatter laser therapy.<sup>1</sup>
  - *Laser therapy works best in the early stages of diabetic retinopathy*
  - *Annual dilated eye exams allow eye care professionals to detect diabetic retinopathy in the earlier stages<sup>11</sup>*
- Appropriate eyeglasses may be able to help approximately 65% of adults with diabetes and poor vision.<sup>1</sup>
- The **progression of diabetic retinopathy may be prevented** through control of blood glucose, blood pressure, and blood cholesterol.<sup>11</sup>

# 2013 Diabetes and Eye Disease Fact Sheet

## REFERENCES

- <sup>1</sup>Centers for Disease Control and Prevention, Division of Diabetes Translation, "National Diabetes Fact Sheet, 2011" (Available at: [http://www.cdc.gov/diabetes/pubs/pdf/ndfs\\_2011.pdf](http://www.cdc.gov/diabetes/pubs/pdf/ndfs_2011.pdf))
- <sup>2</sup>National Institutes of Health, National Eye Institute: (Available at: <http://www.nei.nih.gov/health/diabetic/retinopathy.asp>)
- <sup>3</sup>Kempner JH, O'Colmain BJ, Leske MC, Haffner SM, Klein R, Moss SE, et al. The prevalence of diabetic retinopathy among adults in the United States. *Archives of Ophthalmology*. 2004; 122(4): 552-563.
- <sup>4</sup>Centers for Disease Control and Prevention, Division of Diabetes Translation, Vision Health Initiative (Available at: <http://www.cdc.gov/visionhealth/data/national.htm>)
- <sup>5</sup>Institute of Medicine of the National Academies. "Living Well with Chronic Illness: A Call For Public Health Action." Committee on Living Well with Chronic Disease: Public Health Action to Reduce Disability and Improve Functioning and Quality of Life. (Available at: [http://www.nap.edu/catalog.php?record\\_id=13272](http://www.nap.edu/catalog.php?record_id=13272))
- <sup>6</sup>Prevent Blindness America and National Eye Institute, "Vision Problems in the U.S.: Prevalence of Adult Vision Impairment and Age-Related Eye Disease in America Report." 2012. (Available at: [www.visionproblemsus.org](http://www.visionproblemsus.org))
- <sup>7</sup>American Diabetes Association. "Standards of Medical Care in Diabetes." 2012. (Available at: [http://care.diabetesjournals.org/content/35/Supplement\\_1/S11.full.pdf+html](http://care.diabetesjournals.org/content/35/Supplement_1/S11.full.pdf+html))
- <sup>8</sup>Diabetes Control and Complications Trial (DCCT). The Effect of Intensive Treatment of Diabetes on the Development and Progression of Long-Term Complications in Insulin-Dependent Diabetes Mellitus. *New England Journal of Medicine*, 329(14), September 30, 1993. (Results available here: [http://diabetes.niddk.nih.gov/dm/pubs/control/DCCT-EDIC\\_508.pdf](http://diabetes.niddk.nih.gov/dm/pubs/control/DCCT-EDIC_508.pdf))
- <sup>9</sup>Congdon N, O'Colmain B, Klaver CCW, Klein R, Muñoz B, Friedman D, et al. "Causes and prevalence of visual impairment among adults in the United States." *Archives of Ophthalmology*. 2004; 122: 477-485.
- <sup>10</sup>U.S. Department of Health and Human Services, "Healthy People 2020." (Available at: <http://www.healthypeople.gov/2020/topicsobjectives2020/default.aspx>)
- <sup>11</sup>National Institutes of Health, National Eye Institute: (Available at: <http://www.nei.nih.gov/health/diabetic/diabeticretino.pdf>)