

The Diabetic Retinopathy Barometer Report

Colombia



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For detailed information regarding methodology and limitations of the study please refer to the DR Barometer Global Results Report which can be found at [DRBarometer.com](https://www.drbarometer.com)

Introduction

Global Study

The International Federation on Ageing, the International Diabetes Federation, and the International Agency for the Prevention of Blindness undertook a comprehensive, two-phase, multi-country study to investigate the global and specific country issues surrounding diabetic eye disease (DED) primarily, diabetic retinopathy (DR) and diabetic macular edema (DME).

This report describes the specific findings from information gathered from adults with diabetes and health care professionals in Colombia.

All people with type 1 and type 2 diabetes are at risk of developing DR, which can lead to loss of vision and eventually to blindness. DME is a type of DR that is particularly associated with vision loss. DR is preventable by prompt diagnosis and appropriate management of diabetes.

Vision loss is preventable if DR is identified in its early stages by screening, as effective treatments are now available to prevent progression. Despite the serious risks of DR, little has been published regarding the global awareness of the risks, prevention, and effective management of diabetes associated vision impairment.

This research was made possible with support from Bayer AG. Bayer has funded and facilitated this research, acted as an advisor and will assist in the dissemination of the research findings.

Goal

The DR Barometer Study sought, in broad terms, to assess the awareness of DED, and access and barriers to diabetes management, including screening for DED and timely treatment.

This new information from forty-one countries is vital to understanding the barriers to improved outcomes and the actions required to overcome such barriers.

Initiatives that address the gaps in the care pathway are essential to preventing unnecessary blindness and visual impairment so as to enable people with diabetes to maintain their health and ensure that the contributions that they can make to family and community are not compromised.

Background

The DR Barometer study used a mixed methods approach. Phase I was a qualitative study comprising 120 semi-structured interviews with a small sample of people with diabetes (n = 9 per country) and health care professionals (n = 6 per country) in each of the eight countries: Germany, Saudi Arabia, Japan, Romania, Mexico, Argentina, Uganda, and Bangladesh. The countries were purposively selected for variation across income level and region, as delineated by the World Health Organization (WHO) and the World Bank Income Groups (WBIGs).

Phase II was a multi-country quantitative study conducted in 41 countries to investigate the current level of awareness of the risk of DR and of the need for prevention, screening and management to prevent vision loss. The study also sought to better understand the nature of health services and supports available, and the social and economic burden of the disease through a systematic literature review.

In the quantitative component of the study, both adults with diabetes (patients) and health care professionals (providers) were surveyed. The patient survey consisted of 46 questions divided into four sections covering awareness and knowledge, current care for diabetes and eye complications, screening and treatment of DR and DME, and quality of life.

The provider survey comprised 43 questions covering provider and practice characteristics, and specific information from ophthalmologists. Globally, the patient survey had a total of 4,340 respondents and the provider survey had 2,329 respondents.

In the global analysis, respondents from each country were grouped into regions as defined by the WHO and into the WBIGs.

Study Populations

The people with diabetes who participated in the patient survey were self-selected, predominantly from patient organisations. Therefore, this population group comprises people who are more likely to be engaged and motivated in the management of their diabetes. Likewise, the provider respondents were self-selected and the same principles should be applied when interpreting the results.

Even though the sample is not representative of the broader population of adults with diabetes and health care professionals, the findings illustrate important trends, and highlight areas of concern.

The results from this survey provide new evidence reflecting concerns from the voices of thousands of adults with diabetes and health care professionals around the world. This study provides a rich resource for generating unique insights into real-life experiences, and as such is a powerful tool to help improve the lives of current and future generations of people with diabetes.

For the purpose of understanding the impact of the progression of DED, responses to the patient survey, beyond “all respondents”, are reported by three subgroups:

- Without DED: people with diabetes without any reported form of DED
- With DED: people with diabetes with reported DED but not DME
- With DME: people with diabetes with reported DED and DME

As reported by 4,340 adults with diabetes who responded to the survey, 20% have been diagnosed with DED and a further 7.6% with DME.

Of the health care professionals who responded to the survey (n = 2,329), 37% were ophthalmologists, 17% were diabetes specialist providers and 16% were primary care providers. The remaining respondents were optometrists, nurses, health educators or other types of professionals.

Introduction

Colombia Study

Demographic Characteristics

Colombia is the second most populous country in South America with an estimated population of 48.8 million inhabitants^{1,2}.

In 2015, the UN Department of Economic and Social Affairs (2015) found that 25% of the population was under the age of 15 and 12% was over the age of 60³. Although Colombia's population is expected to increase to 55 million by 2050, this population distribution is expected to drastically change³.

By 2050, it is estimated that only 16% of the Colombian population will be 15 and under while 34% of the population will be 60 years old or older. This means that in 2050 approximately every third person will be over the age of 60³. This finding is not surprising as population growth rate is expected to decrease from 1.1% in 2015 to 0.1% in 2050 and life expectancy will increase from 74 in 2015 to 80 in 2050³.

Diabetes Profile

There are 415 million people with diabetes in the world and approximately 29.6 million people in the South and Central America Region. By 2040, this number is expected to rise to 48.8 million.

In the South and Central America Region, 9.4% (29.6 million) people were living with diabetes and out of the 29.6 million, 39% are undiagnosed. It is also important to note that over 82% of people with diabetes live in urban environments and 81% are living in middle-income countries.

Colombia has over 3 million (2,722.4-3,395.9‡) adults living with diabetes, which accounts to ~10% of people living with diabetes in this region. The diabetes national prevalence in Colombia (20 – 79 years) is 9.6% (8.6-10.7‡), which makes Colombia above the global average of 8.8% and the diabetes age-adjusted comparative prevalence is 10% (8.9-11.1‡).

Deaths attributed to diabetes in Colombia in 2015 were 19,802, which accounts to ~8% of the diabetes related deaths experienced in this region. The estimated number of undiagnosed cases was ~1.2 million (1,410.8-1,759.8‡).

Study Populations: Colombia

As reported by 134 adults with diabetes in Colombia, 28% of respondents have been diagnosed with DED and a further 12% with DME.

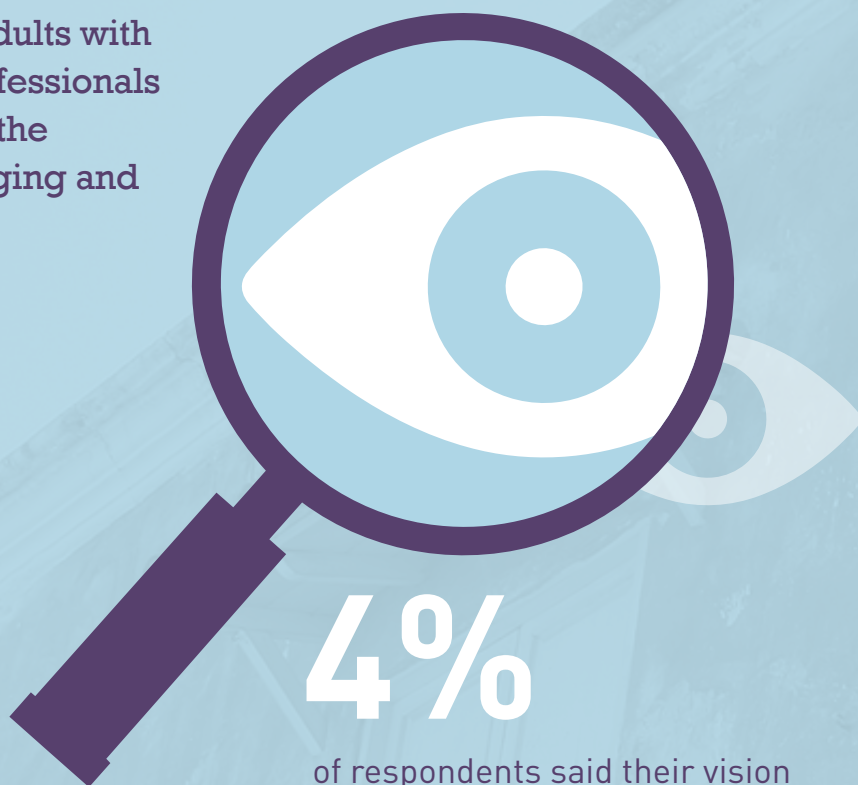
One hundred and fifty-eight health care professionals completed the survey in Colombia. Of these, 79 were primary care providers (50%), 30 were ophthalmologists (19%), and 21 were diabetes specialist providers (13%). The remaining respondents were optometrists, nurses, or other types of professionals.

The DR Barometer Study: Colombia Overview

The DR Barometer study was conducted in 41 countries. In Colombia, 134 adults with diabetes and 158 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

53%

of patients said that **long wait times for an appointment** were a barrier to eye exams

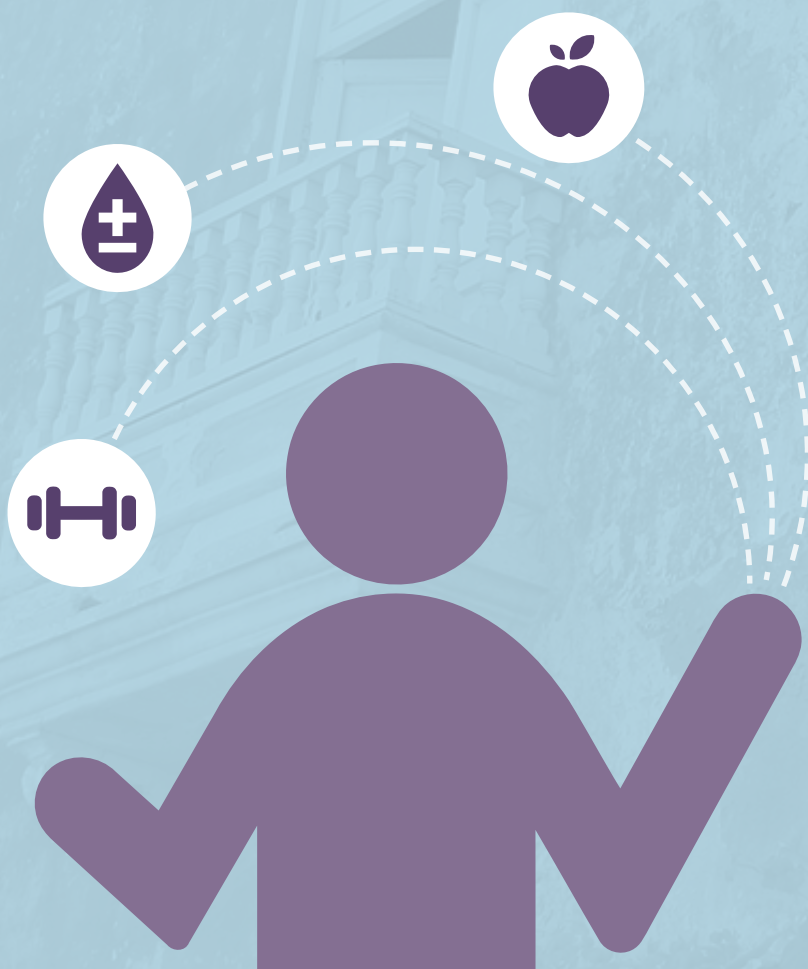


4%

of respondents said their vision impairment due to DR or DME made it **difficult to manage their diabetes**

32%

of all providers **did not have written protocols/guidelines** for detection and management of diabetes-related vision loss available



DR: Diabetic Retinopathy

DME: Diabetic Macular Edema

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80%

of patients with vision loss due to DR or DME said that their condition made everyday activities, **such as driving**, working and completing basic household tasks difficult and in some cases impossible



69%

of those with DME experienced days of **poor physical and mental health**



23%

of patients either **never discussed eye complications with their doctor** or did so only after the onset of symptoms



26%

of ophthalmologists **had not received specific training** in the treatment and diagnosis of DR and or DME



Colombia

DR Barometer Findings:

Adults with Diabetes

Key Demographic Characteristics

One hundred and thirty-four adults with diabetes (patients) completed the patients' survey in Colombia: 59% were female and 41% were male. Eighty-nine percent lived in an urban setting and 11% resided in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents was as follows: 17% did not complete primary school level, 32% were educated to a primary school level, and 37% to a secondary school level, 12% to a college or university level, and 2.5% to a graduate or post-graduate level (see Appendix Table 4.3).

Twelve percent of all respondents were in paid employment, 15% were retired and 61% stated they were not working (see Appendix Table 4.4).

Most respondents (87%) were aged between 40 and 79 years (4.5% were 18-39 years and 9% were 80 years of age or older). Twenty-five percent were of traditional working age (18-59 years) (see Table 1).

Of the respondents in Colombia, 6.7% had been diagnosed with type 1 diabetes and 85% with type 2 diabetes. A further 8.2% of respondents were either unsure or did not know their type of diabetes (see Appendix Table 2.1).

Nineteen percent of the adults with diabetes were diagnosed with diabetes 21 years ago or more. Less than five (4.6%) percent of respondents were diagnosed with diabetes within the last year, 1 - 5 years ago (15%), 6 - 10 years ago (19%), 11 - 15 years ago (21%), and 16 - 20 years (21%) (see Appendix table 2.2).

A younger population was more likely to be associated with type 1 diabetes, which was the opposite of that observed for those with type 2 diabetes, which tended to be an older population. Amongst 18 to 39-year-olds, 83% had type 1 and 17% had type 2 diabetes. In the 40-59 year age group, 7.1% had type 1 and 82% had type 2 diabetes, 1.1% of 60-79-year-olds had type 1 diabetes and 92% had type 2 diabetes.

Twenty-eight percent of respondents reported they have been diagnosed with DED (n=38) and a further 12% (n=16) with DME.

None of the respondents in the 18-39 years age group had DED or DME. In the 40-59 year age group, 39% had DED and 11% had DME. Thirty-one percent of those between 60-79 years had DED and 13% had DME. Within those who were diagnosed 1-5 years ago; 40% of respondents were diagnosed with DED and 5.0% were diagnosed with DME. The proportion of those with DED decreased to 26% in those diagnosed 11-15 years ago however the proportion of respondents diagnosed with DME had increased to 19%.

While most (75%) respondents reported that their diabetes was well controlled, 22% felt that their diabetes was not well controlled. For those whose diabetes was controlled, 31% had DED and 14% had DME. In those whose diabetes was not controlled 25% had DED and 11% had DME.

Table 1: Summary of key characteristics of adults with diabetes

Group	Subgroup	All Respondents	Type 1 diabetes	Type 2 diabetes	With DED	With DME
All respondents		134 (100%)	9 (6.7%)	114 (85.1%)	38 (28.4%)	16 (11.9%)
Gender	Male	50 (41.0%)	0 (0.0%)	46 (92.0%)	18 (36.0%)	4 (8.0%)
	Female	72 (59.0%)	8 (11.1%)	58 (80.6%)	19 (26.4%)	12 (16.7%)
	Total Missing	12	1	10	1	0
Age	18-39 yrs.	6 (4.5%)	5 (83.3%)	1 (16.7%)	0 (0.0%)	0 (0.0%)
	40-59 yrs.	28 (20.9%)	2 (7.1%)	23 (82.1%)	11 (39.3%)	3 (10.7%)
	60-79 yrs.	88 (65.7%)	1 (1.1%)	81 (92.0%)	27 (30.7%)	11 (12.5%)
	80 yrs. plus	12 (9.0%)	1 (8.3%)	9 (75.0%)	0 (0.0%)	2 (16.7%)
Time since diagnosis	Within the last year	6 (4.6%)	0 (0.0%)	2 (33.3%)	1 (16.7%)	0 (0.0%)
	1 - 5 yrs.	20 (15.3%)	2 (10.0%)	17 (85.0%)	8 (40.0%)	1 (5.0%)
	6 - 10 yrs.	25 (19.1%)	3 (12.0%)	20 (80.0%)	6 (24.0%)	3 (12.0%)
	11 - 15 yrs.	27 (20.6%)	1 (3.7%)	25 (92.6%)	7 (25.9%)	5 (18.5%)
	16 - 20 yrs.	27 (20.6%)	1 (3.7%)	24 (88.9%)	6 (22.2%)	5 (18.5%)
	21 yrs. plus	25 (19.1%)	2 (8.0%)	22 (88.0%)	8 (32.0%)	2 (8.0%)
	Don't know/ Not sure	1 (0.8%)	0 (0.0%)	1 (100.0%)	1 (100.0%)	0 (0.0%)
	Total Missing	3	0	3	1	0
Control of Diabetes	Controlled	95 (75.4%)	7 (7.4%)	84 (88.4%)	29 (30.5%)	13 (13.7%)
	Not controlled	28 (22.2%)	1 (3.6%)	21 (75.0%)	7 (25.0%)	3 (10.7%)
	Don't know/ Not sure	3 (2.4%)	1 (33.3%)	1 (33.3%)	0 (0.0%)	0 (0.0%)
	Total Missing	8	0	8	2	0

NB [1]: Percentages for All Respondents category are calculated based on their respective group. All categories are calculated as row percentages.

NB [2]: Diabetes control is based on the respondents' perception of their own control. Diabetes control terms were grouped as follows; Controlled includes patients who selected 'Very Well' and 'Well'. Not Controlled includes patients who selected 'Not very well' and 'Not well at all'.

NB [3]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [4]: DME = respondents with DME = "Yes".

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Knowledge and Management of Diabetes

Ninety-four percent of those surveyed saw a health care professional for their diabetes, with 72% seeing a diabetes specialist (average number of visits was 10.5 times per year) and 24% seeing a general/family doctor (average number of visits was 6.4 times per year) (see Appendix Table 2.3.1 and 2.3.2).

Adults with diabetes were informed about their condition through a variety of channels. Ninety-seven percent received information from a doctor or nurse, 48% from a nutritionist or dietician, and 37% from a health educator (see Table 2 and Appendix Table 2.4).

Table 2: Source of information regarding diabetes

Information Source	All Respondents (n=125)
Doctor or nurse	121 (96.8%)
Nutritionist or dietician	60 (48.0%)
Health educator	46 (36.8%)
Pharmacist	38 (30.4%)
Family/Friends/Neighbours	20 (16.0%)
Internet	14 (11.2%)
Diabetes organisation or other health organisation	12 (9.6%)
TV/Radio/Newspaper/Magazines	12 (9.6%)
Social media (e.g. Facebook, Twitter, blogs)	5 (4.0%)
None of the above	1 (0.8%)
None of the above	5 (1.8%)

A range of strategies was used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 78% managed their diabetes with diet, and 44% with exercise. Of the respondents with type 2 diabetes, 88% managed their condition with diet, 83% with insulin, 72% with oral medicine, and 39% with exercise.

Fifty-five percent of respondents were enrolled in diabetes management programmes. Eighty-seven percent of those said the programme included education on the importance of screening for diabetic eye complications (see Appendix Table 2.6).

The nature and frequency of tests that people with diabetes experienced included blood glucose checks and undilated eye checks. Of the respondents that had eye checks (96%), these occurred at the following intervals: less than 6 months (70%), 6 - 12 months (20%), and greater than 12 months (5.5%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: travel to their regular doctor or specialist was difficult (55%), it was too hard to eat the right things (35%), there were long wait times for an appointment to see the doctor or specialist (21%), and there were too many other things to do (13%) (see Appendix Table 2.9).

Free or low cost medicines or monitoring materials (46%), support from family or friends (35%), coordination of healthcare and services by a professional (29%), and health education and information (20%) were identified as important to improving the management of a person's diabetes. (see Appendix Table 2.10).

Nature and Information about Complications

Eighty-four percent of respondents were aware of vision loss and other complications such as: amputation (90%), kidney disease (87%), foot ulcers (78%), neuropathy (71%), and cardiovascular disease/stroke (66%) were also associated with diabetes (see Appendix Table 2.11).

Respondents were most concerned about: amputation (47%), vision loss (27%), kidney disease (6.7%), and cardiovascular disease/stroke (5.0%) (see Appendix Table 2.12).

Twenty-two percent of respondents reported that they have no complications of diabetes. However, of those who did report complications: 42% had vision loss, kidney disease (26%), cardiovascular disease/stroke (14%), neuropathy (13%), foot ulcers (9.9%), and amputation (8.3%) (see Figure 1 and Appendix Table 2.13).

Aside from vision loss, there was an increase in the frequency of people with DED and DME experiencing foot ulcers, which increased from 7.1% in those without DED to 14% in DED and 13% in DME. Of those without DED no respondent reported amputation as a complication however, 25% of those with DED and 6.7% of those with DME reported an amputation (see Table 3 and Appendix EXP 1).

Figure 1: Presence of complications

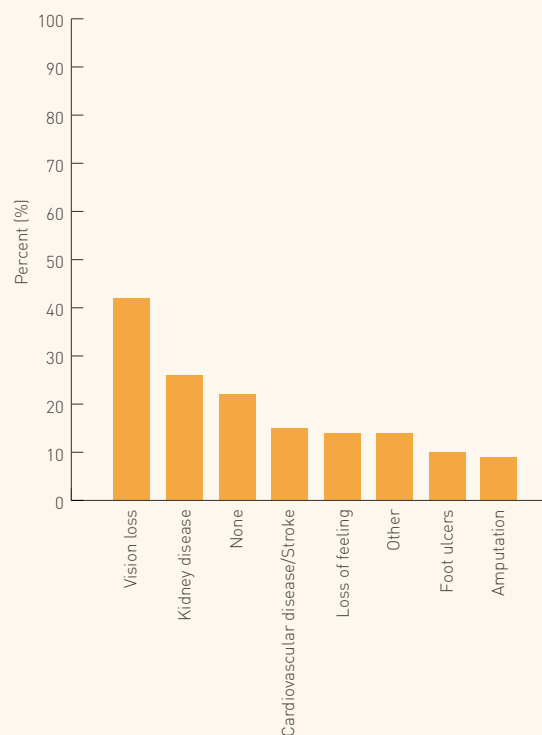


Table 3: Presence of complications without DED, with DED or DME

Complication	Without DED (n=70)	With DED (n=36)	With DME (n=15)
Any	50 (71.4%)	32 (88.9%)	12 (80.0%)
Vision loss	17 (24.3%)	23 (63.9%)	11 (73.3%)
Amputation	0 (0.0%)	9 (25.0%)	1 (6.7%)
Kidney disease	20 (28.6%)	9 (25.0%)	2 (13.3%)
Loss of feeling in hands or toes (neuropathy)	7 (10.0%)	8 (22.2%)	1 (6.7%)
Cardiovascular disease/Stroke	10 (14.3%)	6 (16.7%)	1 (6.7%)
Foot ulcers	5 (7.1%)	5 (13.9%)	2 (13.3%)
Other	12 (17.1%)	3 (8.3%)	1 (6.7%)
None	20 (28.6%)	4 (11.1%)	3 (20.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

NB [5]: Not all responses have been presented in this table, but have been included under 'Any'. Please see Appendix Table EXP012 for the full list of responses.

Information about Diabetic Eye Disease and Diabetic Macular Edema

While eighty-nine percent of respondents stated that eye complications were discussed with their health care professional, almost a quarter (23%) either never discussed eye complications with their doctor (10%) or did so only after the onset of symptoms (13%). The frequency of regular discussions varied from every visit (25%), multiple times a year (34%), and once a year (18%) (see Appendix Table 2.14).

Eighty-five percent of respondents said that they do what they can to prevent vision problems (e.g. get routine screenings, visit specialists), yet myths and perceptions around vision changes and preventions were evident with 7.2% who did not make any special effort to prevent vision problems, and 13% thought vision problems were a normal part of ageing (see Appendix Table 2.15).

Sixty-nine percent of all respondents received information about DR and DME with the doctor or nurse being the most common source (63%). A surprising finding was that almost one in three (31%) respondents did not receive such information from any of the sources listed (see Table 4 and Appendix Table 3.9).

Table 4: Source of information about DR and DME

Information Source	All Respondents (n=121)
Doctor/Nurse	76 (62.8%)
Health educator	9 (7.4%)
Internet	7 (5.8%)
Family/Friends/Neighbours	6 (5.0%)
TV/Radio/Newspaper/Magazines	6 (5.0%)
Diabetes organisation or other health organisation	5 (4.1%)
None of the above	37 (30.6%)

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

Screening for Diabetic Eye Disease

Seventy-nine percent of the respondents reported having an eye exam for DED, with 69% reporting to have had an eye exam within the last year and a further 25% more than one year ago but less than two years ago. Only 7.3% of respondents were aware of a government sponsored screening programme for DED (see Appendix Table 3.1 and 3.2).

Eighty-one percent of those surveyed thought they should have their eyes examined for DED once a year, 6.5% of respondents said that testing should only happen when symptoms occur, and 4.9% thought they should be tested every two years (see Appendix Table 3.4).

The biggest barriers to eye exams were: there were long wait times for an appointment (53%), eye exams were not available near place of residence (35%), and the referral process was complicated or took too long (21%) (see Table 5 and Appendix 3.5).

Table 5: Barriers to eye examinations

Identified Barriers	All Respondents (n=117)
Long wait time for appointment	62 (53.0%)
Eye exams are not available near my home	41 (35.0%)
Referral process is complicated or takes too long	24 (20.5%)
They are expensive	15 (12.8%)
Long wait time on the day of the visit	15 (12.8%)
Burden on my family/friends	10 (8.5%)
Too many other things to do or worry about	5 (4.3%)
Recommended treatments for eye problems are not available	4 (3.4%)
Don't know much about my condition	4 (3.4%)
Limited access to diabetes specialists	4 (3.4%)
Fear of treatment/results	2 (1.7%)
Clinics are too small or lack necessary equipment/staff	1 (0.9%)
Other	12 (10.3%)
Clinics are too small or lack necessary equipment/staff	4 (2.0%)
Other	33 (16.1%)

Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME. For those with DED 87% (n=33) had received treatment and the most common treatments were surgery (81%), laser treatment (65%), anti-VEGF therapy (36%). Of those who received treatment, 63% (n=20) completed their treatment and 34% (n=11) were currently still receiving treatment. Eighty-six percent felt that treatment had been successful and either their vision had improved (55%) or had stayed the same (31%) (see Table 6).

For the five respondents (13%) with DED who had not received treatment, the most common reason reported was that their doctor did not recommend any treatment (60%).

All respondents with DME (n=14) had received treatment and the most common treatments were laser (71%) and anti-VEGF therapy (64%), and surgery (50%). Of those who received treatment, 43% (n=6) completed their treatment and 57% (n=8) were currently still receiving treatment. Ninety-three percent felt that treatment had been successful and either their vision had improved (64%) or had stayed the same (29%). One patient with DME felt that treatment did not work (7.1%).

The majority (87%) of people with DME said they would prefer a proactive treatment to prevent further vision loss rather than reactive treatment once further vision loss occurred (see Appendix Table 3.8).

Table 6: Treatment characteristics of patients with DED and DME

Question	Response	With DED (n=38)	With DME (n=14)
Have you had any treatment for diabetic eye disease?	Yes	33 (86.8%)	14 (100.0%)
	No	5 (13.2%)	0 (0.0%)
What treatment did you receive?	Laser	20 (64.5%)	10 (71.4%)
	Anti-VEGF	11 (35.5%)	9 (64.3%)
	Surgery	25 (80.6%)	7 (50.0%)
	Other	2 (6.5%)	1 (7.1%)
Did you complete the treatment?	Yes	20 (62.5%)	6 (42.9%)
	No	1 (3.1%)	0 (0.0%)
	Still receiving treatment	11 (34.4%)	8 (57.1%)
Do you feel that the treatment worked?	Yes, and vision improved	16 (55.2%)	9 (64.3%)
	Yes, but vision stayed the same	9 (31.0%)	4 (28.6%)
	No	0 (0.0%)	1 (7.1%)
	Still waiting to know	2 (6.9%)	0 (0.0%)
	Don't know/ Not sure	2 (6.9%)	0 (0.0%)
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)	0 (0.0%)
	Still waiting for treatment	1 (20.0%)	0 (0.0%)
	No insurance	1 (20.0%)	0 (0.0%)

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

NB [4]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Impact of Diabetic Eye Disease and Diabetic Macular Edema

Ninety-two percent of those diagnosed with DED or DME reported that their vision was affected (33% significantly, 60% slightly) (see Appendix Table 3.6).

Eighty percent of these respondents reported vision issues impacted their daily lives. Ways in which their lives were affected included: driving a vehicle (29%), leisure activities or exercise (29%), travelling (24%), household responsibilities, such as cooking or cleaning (20%), working or keeping a job (20%), social interactions with family or friends (16%), and managing their underlying diabetes (4.4%) (see Table 7).

Table 7: Activities affected through vision impairment and loss

Have vision issues caused you to have difficulty with any of the following?	All Respondents (n=45)
Driving (a car/vehicle)	13 (28.9%)
Leisure activities/exercise	13 (28.9%)
Travelling	11 (24.4%)
Household responsibilities, such as cooking or cleaning	9 (20.0%)
Work or keeping a job	9 (20.0%)
Social interactions with family/friends	7 (15.6%)
Managing my diabetes	2 (4.4%)
Other	5 (11.1%)
None	9 (20.0%)

Less than ten percent (9.4%) respondents with DED were in paid employment while 13% with DME or without DED were in paid employment (see Table 8 and Appendix 5.1). One in five of those with vision complications, due to DED or DME, reported difficulties with working or keeping a job (20%).

Eighty-nine percent of those surveyed of all respondents did not receive assistance from the government, while small in numbers, respondents who had received such assistance increased in those with DME (15%) and DED (13%) compared to those without DED (9.2%) (see Appendix Table 4.5 and EXP 5.1).

Eighty-nine percent of respondents said they had no trouble paying for food at any time during the past year. The majority of respondents (85%) said that they did not feel their access to healthcare was affected by any factors, yet one in ten felt it was affected by their income (11%) (see Appendix Table 4.6 and 4.7).

Health (62%), family (16%), and money (6.8%) were the top three 'worries' on the mind of the respondents surveyed (see Appendix Table 4.8).

Table 8: Socio-economic profile of patients without DED, with DED or DME

Question	Response	Without DED (n=61)	With DED (n=32)	With DME (n=15)
Are you currently working?	Working for pay	8 (13.1%)	3 (9.4%)	2 (13.3%)
	Working without pay at home (e.g. housework, farming)	3 (4.9%)	3 (9.4%)	5 (33.3%)
	Retired	10 (16.4%)	5 (15.6%)	1 (6.7%)
	Student	1 (1.6%)	1 (3.1%)	0 (0.0%)
	Not working	39 (63.9%)	20 (62.5%)	7 (46.7%)
Question	Response	Without DED (n=64)	With DED (n=35)	With DME (n=16)
Did you have trouble paying for food at any time during the past year?	Yes	8 (12.5%)	3 (8.6%)	2 (12.5%)
	No	56 (87.5%)	32 (91.4%)	14 (87.5%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Self-reported Quality of Life

The CDC HRQOL-4 Core Modules of the “Healthy Days Measure” was used to capture information on self-reported quality of life, based on the number of unhealthy days within the last 30 days from when the survey was taken.

The reported health status varied slightly depending on whether respondents had been diagnosed with DED or DME (see Table 9).

One in three people with DED and DME reported their overall health as poor compared with one in five people without DED. Sixty-three percent of those with DME experienced more overall unhealthy days compared to 56% of those with DED and 53% without DED. Similarly, 35% of those with DED were limited in their daily activities due to an impairment or health problem compared to 20% of the respondents without DED who experienced this.

Compared with 41% of those without DED, 63% of people with DME and 62% of people with DED experienced limitations to their daily activities as a result of poor health. Where health impacted daily activities, the primary limitations were; vision problems and hypertension/ high blood pressure (see Appendix EXP 2).

Table 9: Self-reported healthy days of patients without DED, with DED or DME

Health Status	Without DED	With DED	With DME
Self-rated health: Good	53 (79.1%)	23 (65.7%)	10 (66.7%)
Self-rated health: Poor	14 (20.9%)	12 (34.3%)	5 (33.3%)
Physically unhealthy days	31 (47.7%)	20 (55.6%)	10 (62.5%)
Mentally unhealthy days	13 (19.4%)	7 (19.4%)	3 (18.8%)
Unhealthy days	34 (53.1%)	20 (55.6%)	11 (68.8%)
Activity limitation days	12 (20.0%)	12 (35.3%)	4 (25.0%)

NB [1]: Without DED = respondents who did not select “Yes” for both DED and DME.

NB [2]: DED = respondents with DED = “Yes” minus respondents with DME = “Yes”.

NB [3]: DME = respondents with DME = “Yes”.

NB [4]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question.

NB [5]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Colombia

DR Barometer Findings: Health Care Professionals

Key Demographic Characteristics

There were 158 health care professionals who answered at least one of the survey questions in Colombia. Of these, 79 were primary care providers (50%), 21 were diabetes specialist providers (13%) and 30 were ophthalmologists (19%). The remaining respondents were optometrists, nurses or other types of professional (see Appendix PT 1.3).

In this section of the report, data from health care professionals as a whole and then the ophthalmologist subgroup will be reported.

Health care professionals, as a group, had been practicing for an average of 13 years, with the ophthalmologist group practicing for an average of 11.6 years (see Appendix PT 1.5).

All were well educated (65% with graduate or advanced degree), 40% were female and 61% male, and varied in age with 35% between 30 – 39 years of age (see Table 10 and Appendix PT 3.1).

Table 10: Summary of key characteristics of health care professionals

Group	Subgroup	All Respondents	Primary Care Provider	Diabetes Specialist	Ophthalmologist
All respondents		158 (100.0%)	79 (50.0%)	21 (13.3%)	30 (19.0%)
Age group	18 – 29 yrs.	14 (11.1%)	7 (12.3%)	0 (0.0%)	5 (20.8%)
	30 – 39 yrs.	44 (34.9%)	23 (40.4%)	3 (15.8%)	7 (29.2%)
	40 – 49 yrs.	30 (23.8%)	14 (24.6%)	6 (31.6%)	4 (16.7%)
	50 – 59 yrs.	28 (22.2%)	10 (17.5%)	6 (31.6%)	7 (29.2%)
	60 – 69 yrs.	9 (7.1%)	3 (5.3%)	3 (15.8%)	1 (4.2%)
	70 – 79 yrs.	1 (0.8%)	0 (0.0%)	1 (5.3%)	0 (0.0%)
Gender	Female	49 (39.5%)	27 (48.2%)	4 (22.2%)	9 (37.5%)
	Male	75 (60.5%)	29 (51.8%)	14 (77.8%)	15 (62.5%)
Education	College/ University	44 (34.9%)	30 (52.6%)	2 (10.5%)	7 (29.2%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	82 (65.1%)	27 (47.4%)	17 (89.5%)	17 (70.8%)

NB [1]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Clinical Practice Characteristics

Forty percent of all health care professionals have their main practice setting in a medical clinic and for ophthalmologists alone it was an eye clinic (89%). Ninety-eight percent of health care professionals work in an urban setting. (see Appendix PT 2.1 and 2.2)

Most health care professionals worked in the private sector (51%) and ophthalmologists worked mainly in the combined or mixed (43%) and private (43%) sector (see Appendix PT 2.3).

All health care professionals reported that 57% of patients pay through insurance for services, 24% a patients' insurance partly pays for services, and 23% of patients pay out-of-pocket (see Appendix PT 2.7).

Health care professionals reported on average seeing 85 patients a week of which an estimated 29% of these patients had diabetes. Ophthalmologists saw an average of 108 patients per week and an estimated 21% of their patient population had diabetes (see Appendix PT 2.6).

For all health care professionals, the average wait time for an appointment was either more than one week but less than one month (38%), less than one week (33%), or between one and two months (18%).

The average wait time for an appointment with an ophthalmologist was more than one week but less than one month in 63% of practices. In a further 26% of practices, the average wait time was between one and two months (see Table 11 and Appendix PT 2.5).

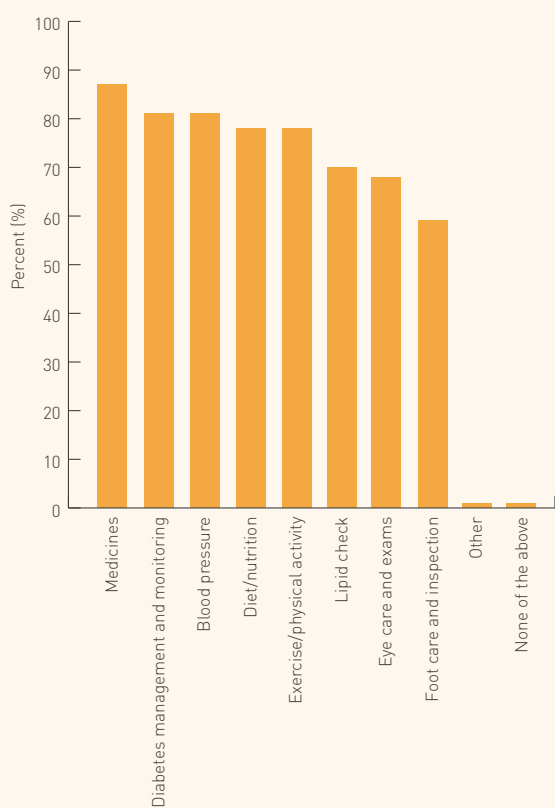
Table 11: Average wait times to schedule an appointment

Wait Time Intervals	All Respondents (n=144)	Ophthalmologist (n=27)
Less than 1 week	48 (33.3%)	1 (3.7%)
More than 1 week but less than 1 month	54 (37.5%)	17 (63.0%)
More than 1 month but less than 2 months	26 (18.1%)	7 (25.9%)
More than 2 months but less than 3 months	8 (5.6%)	1 (3.7%)
More than 3 months but less than 6 months	2 (1.4%)	1 (3.7%)
Six or more months	2 (1.4%)	0 (0.0%)
Do not take appointments	4 (2.8%)	0 (0.0%)

Patient Education Information

A wide range of topics related to diabetes and its management were addressed by the health care professional in a routine visit (see Figure 2 and Appendix PT 2.10).

Figure 2: Health care topics discussed with patients during a routine visit



Health care professionals stated that written information about diabetes is available yet the adequacy of that which was related to eye complications varies.

More than three-quarters (79%) of all health care professionals either did not have any written information about diabetes and potential eye complications available for their patients (44%) or that which they had either did not include eye complications (12%) or was deemed insufficient (22%). Only sixteen percent reported that they had sufficient information about eye complications available for patients.

A little over a third of ophthalmologists (36%) had written information about diabetes and potential eye complications and a further 16% had information on diabetes, but that which was on eye complications was insufficient. Forty-eight percent of ophthalmologists reported that there was no written information available for their patients (See Table 12 and Appendix PT 2.11).

Guidelines and Protocols

Fifty-six percent of all providers, including 60% of ophthalmologists, had written protocols for the management of diabetes available, which were used by staff. However, 15% of all providers had no such protocols (see Appendix PT 2.12).

With respect to the management of diabetes-related vision issues, almost one third of providers (32%) did not have written protocols. Thirty-seven percent of health care professionals had written protocols available that were used by staff and 17% had protocols available, which were not used by staff.

For ophthalmologists, 60% had written protocols available, which were used by staff. Similar to all providers, 24% of ophthalmologists did not have access to protocols on diabetes-related vision issues (see Table 12 and Appendix PT 2.13).

Table 12: Availability and use of information and protocols

Question	Response	All Respondents (n=135)	Ophthalmologist (n=25)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	21 (15.6%)	9 (36.0%)
	Yes, but information on eye complications is not sufficient	30 (22.2%)	4 (16.0%)
	Yes, but no information on eye complications is included	16 (11.9%)	0 (0.0%)
	No written information is available for patients	60 (44.4%)	12 (48.0%)
	Don't know/Not sure	8 (5.9%)	0 (0.0%)
Question	Response	All Respondents (n=133)	Ophthalmologist (n=25)
Do you have written protocols/guidelines for detection and management of diabetes-related vision issues available in your main practice?	Yes, available and used by staff	49 (36.8%)	15 (60.0%)
	Yes, available but not used by staff	23 (17.3%)	3 (12.0%)
	Not available	43 (32.3%)	6 (24.0%)
	Don't know/Not sure	18 (13.5%)	1 (4.0%)

NB [1]: This table is a summary of various questions. For a detailed breakdown for each question, please refer to the Appendices.

Screening Protocols and Barriers in the Care Pathway

Timing for the initial eye exam for persons with diabetes varied depending upon the type of diabetes as reported by all providers.

Most providers, for patients with type 1 (52%) or type 2 (72%) diabetes, reported that the initial eye exam should occur at time of the diagnosis of diabetes (see Appendix PT 2.14).

Overall, 78% of health care professionals, including 79% of ophthalmologists, reported that follow-up eye examinations should be conducted every year. Most providers (63%), including all of the ophthalmologists, screened patients for DR (see Appendix PT 2.15 and 2.16).

For all health care professionals, 52% reported to send appointment reminders and 45% do not (see Appendix PT 2.19). Sixty-two percent of the providers, including 75% of ophthalmologists, shared information to optimise patient care management (see Appendix PT 2.19 and 2.20).

The most common patient characteristics influencing the referral process for eye complications were: diabetes duration (84%), the presence of comorbidities such as hypertension (77%), high glucose levels (71%) and a patient's age (68%). (see Appendix PT 2.17)

As reported by health care professionals, the major barriers to optimising eye health faced by patients with diabetes were: the long wait times for an appointment (63%), the limited access to eye specialists (50%), and the referral process (50%).

Similarly, ophthalmologists reported: the cost of care (58%) and the referral process (54%) (See Table 13 and Appendix PT 2.18).

Table 13: Major barriers to optimising eye health

Response	All Respondents (n=127)	Ophthalmologists (n=24)
Long wait time for appointment	80 (63.0%)	10 (41.7%)
Limited access to eye specialists	64 (50.4%)	10 (41.7%)
Referral process	64 (50.4%)	13 (54.2%)
Cost of care	49 (38.6%)	14 (58.3%)
Limited access to diabetes specialists	46 (36.2%)	7 (29.2%)
Lack of knowledge and/or awareness	37 (29.1%)	8 (33.3%)
Patients feel eye complications are unlikely	33 (26.0%)	9 (37.5%)
Patients feel eye exams are not important	32 (25.2%)	7 (29.2%)
Patients fear of treatment/results	31 (24.4%)	7 (29.2%)
Proximity to care	27 (21.3%)	4 (16.7%)
Long wait time on the day of visit	19 (15.0%)	3 (12.5%)
Recommended treatments are not available	17 (13.4%)	2 (8.3%)
Patients have competing responsibilities and priorities	17 (13.4%)	4 (16.7%)
Clinic too small or lack necessary equipment/staff	15 (11.8%)	1 (4.2%)
Patients they are a burden on family/friends	9 (7.1%)	1 (4.2%)
Other	5 (3.9%)	0 (0.0%)

Colombia

DR Barometer Findings: Ophthalmologists

Screening

There were twenty-three ophthalmologists who answered at least one of the supplementary questions (see Appendix PT 4.1 to PT 4.14).

Ophthalmologists reported that an average of 14% of their patients had DR and 8.4% had DME (See Appendix PT 4.1 and PT 4.2).

The most common wait time for a screening appointment for DED was more than one week but less than one month (67%) while 17% stated between one and two months. Thirty-eight percent of ophthalmologists reported that there was no wait from the time of screening to diagnosis, 21% (n=5) reported a wait time of less than one week. (See Appendix PT 4.3 and PT 4.4)

Treatment and Challenges

Forty-four percent of ophthalmologists personally administer treatment for DR. (See Appendix PT 4.6)

The most common factors influencing the ophthalmologists on how they treat DR or DME are presence of comorbidities such as hypertension (90%), diabetes duration (80%), a patient's age (80%) and high glucose levels (80%). Additional influencing factors including insurance restrictions or a patient's education level (See Appendix PT 4.7).

The most common venues for outreach for screening for DED were reported to be vision centres (64%), health fairs for all (18%) and health fairs for people with diabetes (14%) (See Appendix PT 4.13).

All ophthalmologists reported that they screen patients for DR based on a fundoscopy through dilated pupils. Additionally, 78% use optical coherence tomography and 70% use fluorescein angiography. Ninety-six percent of ophthalmologists reported that they treat DR and DME based on both visual and anatomical outcomes (see Appendix PT 4.8 and PT 4.9).

Seventy-eight percent of ophthalmologists reported that the majority of their patients present when visual problems have already occurred while 17% (n=4) reported that patients present in time for screening (see Appendix PT 4.10).

Seventy-four percent of ophthalmologists had received specific training in the treatment and diagnosis of DR and or DME, of which 82% had received training within the past year and 12% more than one year ago but less than five years. Ninety-six percent would be interested in online education and certification on DME, angiogenesis and anti-VEGF therapies (see Appendix PT 4.11 and PT 4.12).

Ophthalmologists reported that the greatest challenges for improving patient outcomes in DED were late diagnosis (65%), the referral pathways (65%), limited access to patient education on DR and DME (61%), and reimbursement restrictions on approved therapies (see Table 14 and Appendix 4.14).

Table 14: Challenges for improving outcomes in DED

Question	Response	Ophthalmologist (n=23)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Late diagnosis	15 (65.2%)
	Referral pathways	15 (65.2%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	14 (60.9%)
	Reimbursement/restrictions on approved therapy	11 (47.8%)
	Multi-disciplinary team integration is poor	10 (43.5%)
	Government/insurance not able to cover patient costs	9 (39.1%)
	Ineffective screening services	4 (17.4%)
	No universal guidelines on referral/screening	4 (17.4%)
	No universal guidelines on how to treat	1 (4.3%)
	No universal guideline on when to treat	1 (4.3%)
	Current available therapies not effective	1 (4.3%)

Colombia

DR Barometer Summary

In Colombia, 139 adults with diabetes and 158 health care professionals have provided insight about their experiences of living with, managing and treating diabetes, DR and DME.

The results of the DR Barometer Study, Colombia were intended to assess the level of awareness around diabetes and eye complications, and access and barriers to diabetes management, including screening for DED and DME and timely treatment.

Colombia is the second most populous country in South America with an estimated population of 48.8 million inhabitants and has over 3 million adults living with diabetes, which accounts to ~10% of people living with diabetes in this region.

In 2015, the UN Department of Economic and Social Affairs found that 25% of the population was under the age of 15 and 12% was over the age of 60. By 2050, it is estimated that only 16% of the Colombian population will be 15 and under while 34% of the population will be 60 years old or older. This means that in 2050 approximately every third person will be over the age of 60.

Deaths attributed to diabetes in Colombia in 2015 were 19,802, which accounts to ~8% of the diabetes related deaths experienced in this region. The estimated number of undiagnosed cases was ~1.2 million.

The DR Barometer Study findings indicate that overall a younger population was more likely to be associated with type 1 diabetes, which was the opposite for those with type 2 diabetes, which tended to be an older population. Eighty-three percent of those in the youngest age group (18-39 years) had type 1 diabetes (17% type 2) and in the 40 – 59 age group 7.1% had type 1 (82% type 2). This is an important, but well-known finding, in the context of Colombia's anticipated demographic shift in ageing population.

Of the adults with diabetes who responded to the survey in Colombia, 28% (n=38) reported to be diagnosed with DED and 12% (n=16) had DME.

People were most often informed about their condition by health professionals such as the doctor, nurse. The nutritionist or dietician, and health educators also played important roles and were viewed as valuable sources of information. A trend globally which was not reflected in the Colombian study was the increasing use of the internet where only 11% of respondents sought information through this channel.

Many of those surveyed struggled with the management of their diabetic condition with some issues that were beyond their personal control such as long wait times to schedule an appointment and difficulty in travelling to see their doctor, or specialist.

There was not only a relatively high awareness of the complications but amputation was feared the most (47%) followed by vision loss (27%).

Less than half (22%) of those surveyed had no complications there was still many who reported having kidney disease, cardiovascular disease, and neuropathy. There was also an increase in the frequency of people with DED and DME experiencing some complications compared with people without DED. The frequency of foot ulcers and amputation had a marked increase in those with DED and DME compared with those without DED.

Knowing that diabetic-related vision loss is preventable addressing barriers to eye screening is an important policy issue. While most (79%) respondents had received an eye exam which is understandable considering the purposeful sample, there remained many barriers including the long wait times to schedule an appointment, proximity of eye exam to where one lives, and the complicated or delayed referral process.

The relationship between the patient and the health care professional is critical to realistic and optimal patient outcomes. Indeed, health education and information were reported by patients as the one of the tools to improve the management of one's diabetes yet 30% of respondents did not receive any information on eye complications from traditional sources, such as their doctor or nurse.

Likewise, 61% of ophthalmologists reported one of the major barriers to optimising eye health was a lack of knowledge or awareness and yet more than three-quarters (79%) of all providers either did not have any written information available (44%) or that which they had either did not include eye complications (12%) or was deemed insufficient (22%). Forty-eight percent of ophthalmologists reported that there was no written information available for their patients.

Knowledge and guidance was not only an issue for patients, as almost one in three providers said that they did not have any written protocols or guidelines available in the management of either diabetes or diabetes-related vision issues.

Ninety-two percent of people with DED or DME said that their vision was slightly or significantly affected which in turn impacted their health, lifestyle, and life choices. Eighty percent of these respondents reported vision issues impacted their daily lives. Ways in which their lives were affected included: driving a vehicle, leisure activities or exercise, travelling, household responsibilities, such as cooking or cleaning, working or keeping a job, and sadly, difficulty interacting with family and friends.

People with DED and DME also experienced more unhealthy days when compared to those without DED. One in three people with DED and DME reported their overall health as poor compared with one in five people without DED. Similarly, 35% of those with DED were limited in their daily activities due to an impairment or health problem compared to 20% of the respondents without DED who experienced this.

A proactive treatment approach to prevent further vision loss was preferred by a majority (87%) of those with DME rather than reactive treatment once further vision loss had occurred. However, for some people (11%) access to healthcare was affected by their income. Health, family, and money were the top three 'worries' on the mind of the respondents surveyed.

Supporting this, ophthalmologists reported the cost of care (58%), reimbursement restrictions on approved therapies (48%), and government or insurance not able to cover a patient's costs (39%) as major barriers in optimising patient outcomes in eye health.

For patients with both type 1 and type 2 diabetes, 52% and 72% of all providers respectively said that an initial eye exam should occur at time of the diagnosis of diabetes and there was agreement by most providers and ophthalmologists that follow-up eye examinations should be conducted every year. Yet, almost half (45%) of providers did not send reminders to their patient to schedule an appointment.

The top patient characteristics influencing the referral process for eye complications across all providers were diabetes duration, presence of comorbidities such as hypertension, high glucose levels, and a patient's age.

Three in four ophthalmologists said that the majority of their patients present when visual problems have already occurred. Late diagnosis, complicated referral process, access to patient education, and reimbursement restrictions on approved therapies were viewed by ophthalmologists as the greatest challenges for improving patient outcomes in DED in Colombia.

In large part, the patients and providers who participated in the study were self-selected, and therefore this population group is more likely to be engaged and motivated in the management of their diabetes hence a possible explanation for the rates of awareness and screening.

Even though the sample is not representative of the broader population, and as such may not truly reflect the national situation, the findings illustrate important trends, and certainly highlight specific areas of concern and potential calls for action in Colombia.

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Appendices

The Diabetic Retinopathy Barometer Survey: Appendices for Colombia

APPENDIX 1 : National Results

Table 1.1

Survey Information	Number of Respondents (%)
All valid respondents [1]	155 (100.0%)
Respondents aged 18 or over	154 (99.4%)
Respondents with diabetes	135 (87.1%)

NB [1]: valid respondents are those with country information

Table 1.2

Survey Information	Number of Respondents (%)
All valid respondents	155 (100.0%)
Included in Diabetic Analysis Set	134 (86.5%)
Excluded from Diabetic Analysis Set	21 (13.5%)
Reasons for exclusion from diabetic analysis set	.
Under 18 years of age	1
Not diagnosed with diabetes	13
Missing information on diabetes diagnosis	6
Gestational diabetes only	1

Table 1.3

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	134 (100.0%)
World Bank Income Group: Upper-middle income	134 (100.0%)
Persons with diabetic eye disease (DED)	38 (28.4%)
Persons with diabetic macular edema (DME)	16 (11.9%)
Persons with Type I diabetes	9 (6.7%)
Persons with Type II diabetes	114 (85.1%)
Persons not seeing health care professional for diabetes	8 (6.0%)
Persons seeing health care professional for diabetes	124 (92.5%)
Persons with eye disease & not received treatment	5 (3.7%)

Survey Information	Number of Respondents (%)
Persons with eye disease & received treatment	47 (35.1%)

Table 2.1

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	9 (6.7)
	Type II	114 (85.1)
	Don't know/Not sure	11 (8.2)
	Total Valid Response	134 (100.0)

Table 2.2

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	6 (4.6)
	1 - 5 years ago	20 (15.3)
	6 - 10 years ago	25 (19.1)
	11 - 15 years ago	27 (20.6)
	16 - 20 years ago	27 (20.6)
	21 years ago or longer	25 (19.1)
	Don't know/Not sure	1 (0.8)
	Total Valid Response	131 (100.0)
	Total missing	3

Table 2.3.1

Question	Response	Number of Respondents (%)
Do you see a health care professional for your diabetes?	Yes	124 (93.9)
	No	8 (6.1)
	Total Valid Response	132 (100.0)
	Total missing	2
What kind of health care professional?	General/Family Doctor	30 (24.4)
	Nurse	2 (1.6)

Question	Response	Number of Respondents (%)
	Diabetes Specialist	88 (71.5)
	Other	2 (1.6)
	Don't know/Not sure of kind	1 (0.8)
	Total Valid Response	123 (100.0)
	Total missing	11

Table 2.3.2

Type of health care professional	Times per year seen for diabetes	Value
General/Family Doctor	Total valid numeric response (n)	28
	Mean	6.4
	SD	3.3
	Median	6.0
	Min	2
	Max	12
	Don't know/Not sure	1
	Total missing	1
Nurse	Total valid numeric response (n)	2
	Mean	12.0
	SD	0.0
	Median	12.0
	Min	12
	Max	12
Diabetes Specialist	Total valid numeric response (n)	85
	Mean	10.5
	SD	3.2
	Median	12.0
	Min	1
	Max	12
	Total missing	3
Other	Total valid numeric response (n)	2
	Mean	8.0
	SD	5.7

Type of health care professional	Times per year seen for diabetes	Value
	Median	8.0
	Min	4
	Max	12
Don't know/Not sure of kind	Total valid numeric response (n)	1
	Mean	6.0
	SD	
	Median	6.0
	Min	6
	Max	6

Table 2.4

Question	Response	Number of Respondents (%)
How have you received information about diabetes?	Doctor or nurse	121 (96.8%)
	Health educator	46 (36.8%)
	Nutritionist or dietitian	60 (48.0%)
	Diabetes organization or other health organization	12 (9.6%)
	Family/Friends/Neighbors	20 (16.0%)
	TV/Radio/Newspaper/Magazines	12 (9.6%)
	Internet	14 (11.2%)
	Social media (e.g. Facebook, Twitter, blogs)	5 (4.0%)
	Pharmacist	38 (30.4%)
	None of the above	1 (0.8%)
	Total Valid Response	125 (100.0%)
	Total missing	9

Table 2.5

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	111 (86.0%)
	Oral medicine	87 (67.4%)
	Exercise	47 (36.4%)

Question	Response	Number of Respondents (%)
	Insulin	103 (79.8%)
	Natural/Herbal medicine	12 (9.3%)
	Total Valid Response	129 (100.0%)
	Total missing	5

Table 2.6

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	71 (55.0)
	No	58 (45.0)
	Total Valid Response	129 (100.0)
	Total missing	5
Who sponsors the programme?	Hospital support program	3 (4.2)
	Clinic support program	62 (87.3)
	Patient organization support program	3 (4.2)
	Don't know/Not sure	3 (4.2)
	Total Valid Response	71 (100.0)
	Total missing	63
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	61 (87.1)
	No	9 (12.9)
	Total Valid Response	70 (100.0)
	Total missing	64

Table 2.7

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctor's office or clinic?		
Blood glucose test	Yes	122 (95.3%)
	Less than 6 months	115 (89.8%)
	6 - 12 months	6 (4.7%)

Test	Response	Number of Respondents (%)
	Greater than 12 months	1 (0.8%)
	Total valid response	122 (95.3%)
	Total missing	12
	No	6 (4.7%)
	Total valid response	128 (100.0%)
	Total missing	6
Urine check	Yes	120 (94.5%)
	Less than 6 months	107 (84.3%)
	6 - 12 months	9 (7.1%)
	Greater than 12 months	3 (2.4%)
	Total valid response	119 (93.7%)
	Total missing	15
	No	7 (5.5%)
	Total valid response	127 (100.0%)
	Total missing	7
Weight check	Yes	121 (94.5%)
	Less than 6 months	113 (88.3%)
	6 - 12 months	8 (6.3%)
	Total valid response	121 (94.5%)
	Total missing	13
	No	6 (4.7%)
	Don't know/Not sure	1 (0.8%)
	Total valid response	128 (100.0%)
	Total missing	6
Blood pressure check	Yes	120 (93.8%)
	Less than 6 months	111 (86.7%)
	6 - 12 months	8 (6.3%)
	Total valid response	119 (93.0%)
	Total missing	15
	No	7 (5.5%)
	Don't know/Not	1 (0.8%)

Test	Response	Number of Respondents (%)
	sure	
	Total valid response	128 (100.0%)
	Total missing	6
Foot check	Yes	87 (68.0%)
	Less than 6 months	53 (41.4%)
	6 - 12 months	21 (16.4%)
	Greater than 12 months	12 (9.4%)
	Total valid response	86 (67.2%)
	Total missing	48
	No	35 (27.3%)
	Don't know/Not sure	6 (4.7%)
	Total valid response	128 (100.0%)
	Total missing	6
Eye check	Yes	123 (96.1%)
	Less than 6 months	90 (70.3%)
	6 - 12 months	26 (20.3%)
	Greater than 12 months	7 (5.5%)
	Total valid response	123 (96.1%)
	Total missing	11
	No	4 (3.1%)
	Don't know/Not sure	1 (0.8%)
	Total valid response	128 (100.0%)
	Total missing	6

Table 2.8

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	20 (15.9%)
	Well	75 (59.5%)
	Not very well	24 (19.0%)

Question	Response	Number of Respondents (%)
	Not well at all	4 (3.2%)
	Don't know/Not sure	3 (2.4%)
	Total Valid Response	126 (100.0%)
	Total missing	8

Table 2.9

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	13 (10.3%)
	No insurance	9 (7.1%)
	Travel to my regular doctor or specialist is difficult	69 (54.8%)
	Long wait time for an appointment to see my doctor or specialist	26 (20.6%)
	Health services needed are not available	9 (7.1%)
	Don't know enough about diabetes	8 (6.3%)
	Too hard to eat the right things	44 (34.9%)
	Too many other things to do	16 (12.7%)
	Stigma or discrimination because of diabetes	6 (4.8%)
	Don't want to think about having diabetes	14 (11.1%)
	Other	10 (7.9%)
	Total Valid Response	126 (100.0%)
Total missing	8	

Table 2.10

Question	Response	Number of Respondents (%)
Which of the following services currently help you better manage your diabetes?	Free or low cost medicines or monitoring materials	41 (46.1%)
	Support groups	7 (7.9%)

Question	Response	Number of Respondents (%)
	Support from family or friends	31 (34.8%)
	Health education and information	18 (20.2%)
	Mobile services (services that travel to or near your home)	5 (5.6%)
	Coordination of healthcare and services by a professional	26 (29.2%)
	Emergency helpline	3 (3.4%)
	Other	1 (1.1%)
	None	26 (29.2%)
	Total Valid Response	89 (100.0%)
	Total missing	45

Table 2.11

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	110 (90.2%)
	Foot ulcers	95 (77.9%)
	Increased risk of broken bones or fractures	68 (55.7%)
	Loss of feeling in hands or toes (neuropathy)	86 (70.5%)
	Vision loss	103 (84.4%)
	Irritable bowel disease	56 (45.9%)
	Kidney disease	106 (86.9%)
	Cardiovascular disease/Stroke	81 (66.4%)
	Other	13 (10.7%)
	Don't know/Not sure	2 (1.6%)
	None	1 (0.8%)
	Total Valid Response	122 (100.0%)
	Total missing	12

Table 2.12

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	56 (46.7)
	Foot ulcers	3 (2.5)
	Increased risk of broken bones or fractures	2 (1.7)
	Loss of feeling in hands or toes (neuropathy)	1 (0.8)
	Vision loss	32 (26.7)
	Kidney disease	8 (6.7)
	Cardiovascular disease/Stroke	6 (5.0)
	Don't know/Not sure	11 (9.2)
	None	1 (0.8)
	Total Valid Response	120 (100.0)
	Total missing	14

Table 2.13

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	10 (8.3%)
	Foot ulcers	12 (9.9%)
	Broken bones or fractures	1 (0.8%)
	Loss of feeling in hands or toes (neuropathy)	16 (13.2%)
	Vision loss	51 (42.1%)
	Irritable bowel disease	6 (5.0%)
	Kidney disease	31 (25.6%)
	Cardiovascular disease/Stroke	17 (14.0%)
	Other	16 (13.2%)
	Don't know/Not sure	2 (1.7%)
	None	27 (22.3%)
	Total Valid Response	121 (100.0%)
Total missing	13	

Table 2.14

Question	Response	Number of Respondents (%)
How often do you discuss the possibility of eye complications with your health care professional?	Every visit	30 (25.0%)
	Multiple times per year	41 (34.2%)
	Once per year	21 (17.5%)
	Only when symptoms arise	15 (12.5%)
	Never	12 (10.0%)
	Don't know/Not sure	1 (0.8%)
	Total Valid Response	120 (100.0%)
	Total missing	14

Table 2.15

Question	Response	Number of Respondents (%)
Which of the following best describes your attitude to vision issues?	I think that vision problems are a normal part of ageing	16 (12.8%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit specialists)	106 (84.8%)
	I do not make any special effort to prevent vision problems	9 (7.2%)
	Total Valid Response	125 (100.0%)
	Total missing	9

Table 2.16

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	27 (24.5)
	Public - Private	13 (11.8)
	Private	65 (59.1)
	None	5 (4.5)
	Total Valid Response	110 (100.0)
	Total missing	24

Table 2.17

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
General doctor visits (e.g. primary care doctor)	Care is free	2 (1.9)
	Insurance pays total cost	60 (56.6)
	Insurance and out-of-pocket/cash (e.g. co-pays)	38 (35.8)
	Out-of-pocket only (pay cash for all care)	4 (3.8)
	Do not use service	1 (0.9)
	Don't know/Not Sure	1 (0.9)
	Total Valid Response	106 (100.0)
	Total missing	28
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	1 (0.9)
	Insurance pays total cost	62 (57.4)
	Insurance and out-of-pocket/cash (e.g. co-pays)	33 (30.6)
	Out-of-pocket only (pay cash for all care)	8 (7.4)
	Do not use service	2 (1.9)
	Don't know/Not Sure	2 (1.9)
	Total Valid Response	108 (100.0)
	Total missing	26
Medicines	Care is free	2 (1.9)
	Insurance pays total cost	59 (56.7)
	Insurance and out-of-pocket/cash (e.g. co-pays)	34 (32.7)
	Out-of-pocket only (pay cash for all care)	5 (4.8)
	Do not use service	3 (2.9)
	Don't know/Not Sure	1 (1.0)
	Total Valid Response	104 (100.0)
	Total missing	30
Medical supplies (e.g. blood glucose meter/strips)	Care is free	1 (0.9)

Question	Response	Number of Respondents (%)
	Insurance pays total cost	65 (60.2)
	Insurance and out-of-pocket/cash (e.g. co-pays)	23 (21.3)
	Out-of-pocket only (pay cash for all care)	9 (8.3)
	Do not use service	8 (7.4)
	Don't know/Not Sure	2 (1.9)
	Total Valid Response	108 (100.0)
	Total missing	26
Procedures	Care is free	1 (0.9)
	Insurance pays total cost	62 (57.4)
	Insurance and out-of-pocket/cash (e.g. co-pays)	36 (33.3)
	Out-of-pocket only (pay cash for all care)	4 (3.7)
	Do not use service	4 (3.7)
	Don't know/Not Sure	1 (0.9)
	Total Valid Response	108 (100.0)
	Total missing	26
Tests/screenings	Care is free	1 (0.9)
	Insurance pays total cost	62 (58.5)
	Insurance and out-of-pocket/cash (e.g. co-pays)	34 (32.1)
	Out-of-pocket only (pay cash for all care)	4 (3.8)
	Do not use service	2 (1.9)
	Don't know/Not Sure	3 (2.8)
	Total Valid Response	106 (100.0)
	Total missing	28
Health education	Care is free	6 (5.7)
	Insurance pays total cost	59 (56.2)
	Insurance and out-of-pocket/cash (e.g. co-pays)	7 (6.7)
	Out-of-pocket only (pay cash for all care)	1 (1.0)

Question	Response	Number of Respondents (%)
	Do not use service	19 (18.1)
	Don't know/Not Sure	13 (12.4)
	Total Valid Response	105 (100.0)
	Total missing	29
Counseling	Care is free	6 (5.7)
	Insurance pays total cost	60 (57.1)
	Insurance and out-of-pocket/cash (e.g. co-pays)	4 (3.8)
	Out-of-pocket only (pay cash for all care)	1 (1.0)
	Do not use service	22 (21.0)
	Don't know/Not Sure	12 (11.4)
	Total Valid Response	105 (100.0)
	Total missing	29

Table 3.1

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	9 (7.3%)
	No	114 (92.7%)
	Total valid response	123 (100.0%)
	Total missing	11

Table 3.2

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	99 (79.2%)
	No	26 (20.8%)
	Total valid response	125 (100.0%)
	Total missing	9
How long ago was your last eye exam?	Within the last year	66 (68.8%)
	More than 1 year ago but less	24 (25.0%)

Question	Response	Number of Respondents (%)
	than 2 years	
	More than 2 years ago but less than 3 years	5 (5.2%)
	Five or more years ago	1 (1.0%)
	Total valid response	96 (100.0%)
	Total missing	38
Who did the last exam?	General/Family practitioner	4 (4.1%)
	Eye doctor/Eye clinic	88 (90.7%)
	Other	4 (4.1%)
	Don't know/Not sure	1 (1.0%)
	Total valid response	97 (100.0%)
	Total missing	37

Table 3.3

Question	Response	Number of Respondents (%)
Have you ever had a dilated eye exam, where your eyes are examined after eye drops?	Yes	105 (86.1%)
	No	15 (12.3%)
	Don't know/Not sure	2 (1.6%)
	Total valid response	122 (100.0%)
	Total missing	12

Table 3.4

Question	Response	Number of Respondents (%)
Based on what you know, how often should you get your eyes examined for diabetic eye disease?	Once a year	100 (81.3%)
	Every two years	6 (4.9%)
	Less often than every two years	1 (0.8%)
	Only when symptoms occur	8 (6.5%)
	Don't know/Not sure	8 (6.5%)

Question	Response	Number of Respondents (%)
	Total valid response	123 (100.0%)
	Total missing	11

Table 3.5

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	15 (12.8%)
	Eye exams are not available near my home	41 (35.0%)
	Long wait time for appointment	62 (53.0%)
	Long wait time on the day of the visit	15 (12.8%)
	Referral process is complicated or takes too long	24 (20.5%)
	Recommended treatments for eye problems are not available	4 (3.4%)
	Don't know much about my condition	4 (3.4%)
	Fear of treatment/results	2 (1.7%)
	Burden on my family/friends	10 (8.5%)
	Limited access to diabetes specialists	4 (3.4%)
	Too many other things to do or worry about	5 (4.3%)
	Clinics are too small or lack necessary equipment/staff	1 (0.9%)
	Other	12 (10.3%)
	Total valid response	117 (100.0%)
	Total missing	17

Table 3.6

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	52 (41.6%)
	No	73 (58.4%)
	Total valid response	125 (100.0%)
	Total missing	9

Question	Response	Number of Respondents (%)
Has your diabetic eye disease affected your vision?	Yes, slightly	31 (59.6%)
	Yes, significantly	17 (32.7%)
	No	4 (7.7%)
	Total valid response	52 (100.0%)
	Total missing	82
Have vision issues caused you to have difficulty with any of the following?	Traveling	11 (24.4%)
	Household responsibilities, such as cooking or cleaning	9 (20.0%)
	Social interactions with family/friends	7 (15.6%)
	Leisure activities/exercise	13 (28.9%)
	Work or keeping a job	9 (20.0%)
	Managing my diabetes	2 (4.4%)
	Other	5 (11.1%)
	None	9 (20.0%)
	Driving (a car/vehicle)	13 (28.9%)
	Total valid response	45 (100.0%)
	Total missing	89

Table 3.7

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	47 (90.4%)
	No	5 (9.6%)
	Total valid response	52 (100.0%)
	Total missing	82
What treatment did you receive?	Laser	30 (66.7%)
	Injection in the eye (Anti-VEGF)	20 (44.4%)
	Surgery	32 (71.1%)
	Other	3 (6.7%)
	Total valid response	45 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	89
Did you complete the treatment?	Yes	26 (56.5%)
	No	1 (2.2%)
	Still receiving treatment	19 (41.3%)
	Total valid response	46 (100.0%)
	Total missing	88
Do you feel that the treatment worked?	Yes, and vision improved	25 (58.1%)
	Yes, but vision stayed the same	13 (30.2%)
	No	1 (2.3%)
	Still waiting to know	2 (4.7%)
	Don't know/Not sure	2 (4.7%)
	Total valid response	43 (100.0%)
	Total missing	91
What is/are the reason(s) that you did not complete the treatment?	Other	1 (100.0%)
	Total valid response	1 (100.0%)
	Total missing	133
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)
	Still waiting for treatment	1 (20.0%)
	No insurance	1 (20.0%)
	Total valid response	5 (100.0%)
	Total missing	129

Table 3.8

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	16 (13.0%)
	No	87 (70.7%)
	Don't know/Not sure	20 (16.3%)
	Total valid response	123 (100.0%)
	Total missing	11

Question	Response	Number of Respondents (%)
If Yes, which of the following would you prefer	Treatment to prevent further vision loss	13 (86.7%)
	Don't know/Not sure	2 (13.3%)
	Total valid response	15 (100.0%)
	Total missing	119

Table 3.9

Question	Response	Number of Respondents (%)
Have you received information about diabetic retinopathy or diabetic macular edema from any of the following sources?	Doctor/Nurse	76 (62.8%)
	Health educator	9 (7.4%)
	Diabetes organization or other health organization	5 (4.1%)
	Family/Friends/Neighbors	6 (5.0%)
	TV/Radio/Newspaper/Magazines	6 (5.0%)
	Internet	7 (5.8%)
	None of the above	37 (30.6%)
	Total valid response	121 (100.0%)
	Total missing	13

Table 4.1

Question	Response	Number of Respondents (%)
What is your gender?	Female	72 (59.0)
	Male	50 (41.0)
	Total Valid Response	122 (100.0)
	Total missing	12
Please indicate your age	18 - 29	4 (3.0)
	30 - 39	2 (1.5)
	40 - 49	9 (6.7)
	50 - 59	19 (14.2)
	60 - 69	46 (34.3)
	70 - 79	42 (31.3)

Question	Response	Number of Respondents (%)
	80 - 89	9 (6.7)
	90 years and above	3 (2.2)
	Total Valid Response	134 (100.0)

Table 4.2

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	109 (88.6)
	Non-urban setting	14 (11.4)
	Total Valid Response	123 (100.0)
	Total missing	11

Table 4.3

Question	Response	Number of Respondents (%)
What is the highest level of education you completed?	Did not complete primary school	21 (17.2)
	Primary school	39 (32.0)
	Secondary school	45 (36.9)
	College/University	14 (11.5)
	Graduate or post-graduate	3 (2.5)
	Total valid response	122 (100.0)
	Total missing	12

Table 4.4

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	13 (12.0)
	Working without pay at home (e.g. housework, farming)	11 (10.2)
	Retired	16 (14.8)
	Student	2 (1.9)
	Not working	66 (61.1)
	Total Valid Response	108 (100.0)
	Total missing	26

Table 4.5

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Medical assistance	2 (1.8%)
	Pension assistance	10 (9.2%)
	None of the above	97 (89.0%)
	Total valid response	109 (100.0%)
	Total missing	25

Table 4.6

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	13 (11.3)
	No	102 (88.7)
	Total Valid Response	115 (100.0)
	Total missing	19

Table 4.7

Question	Response	Number of Respondents (%)
Do you feel that your access to health care is negatively affected by any of the following?	Age	5 (4.4)
	Education	2 (1.8)
	Income	12 (10.5)
	Place where you live	7 (6.1)
	Tribal affiliation	1 (0.9)
	None of the above	97 (85.1)
	Total valid response	114 (100.0)
	Total missing	20

Table 4.8

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Food	5 (4.2)
	Housing	6 (5.1)
	Money	8 (6.8)
	Health	73 (61.9)
	Family	19 (16.1)
	Other	1 (0.8)
	None of the above	6 (5.1)
	Total Valid Response	118 (100.0)
	Total missing	16

Table 5.1

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Very good	8 (6.8%)
	Good	78 (66.7%)
	Total good health	86 (73.5%)
	Fair	27 (23.1%)
	Poor	4 (3.4%)
	Fair or poor health	31 (26.5%)
	Total valid response	117 (100.0%)
	Total missing	17

Table 5.2

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	61 (52.1%)
	1-5 unhealthy days	10 (8.5%)
	6-10 unhealthy days	15 (12.8%)
	11-20 unhealthy days	15 (12.8%)

Question	Response	Number of Respondents (%)
	21-30 unhealthy days	21 (17.9%)
	No unhealthy days	56 (47.9%)
	Total valid response	117 (100.0%)
	Total missing	17

Table 5.3.1

Question	Response	Number of Respondents (%)
How many days during last 30 days was your mental health not good	Any unhealthy days	23 (19.3%)
	1-5 unhealthy days	4 (3.4%)
	6-10 unhealthy days	4 (3.4%)
	11-20 unhealthy days	6 (5.0%)
	21-30 unhealthy days	9 (7.6%)
	No unhealthy days	96 (80.7%)
	Total valid response	119 (100.0%)
	Total missing	15

Table 5.3.2

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	65 (56.0%)
	1-5 unhealthy days	10 (8.6%)
	6-10 unhealthy days	16 (13.8%)
	11-20 unhealthy days	13 (11.2%)
	21-30 unhealthy	26 (22.4%)

Question	Response	Number of Respondents (%)
	days	
	No unhealthy days	51 (44.0%)
	Total valid response	116 (100.0%)

Table 5.4

Question	Response	Number of Respondents (%)
How many days during last 30 days did poor health limit your usual activities	Any unhealthy days	28 (25.5%)
	1-5 unhealthy days	3 (2.7%)
	6-10 unhealthy days	2 (1.8%)
	11-20 unhealthy days	7 (6.4%)
	21-30 unhealthy days	16 (14.5%)
	No unhealthy days	82 (74.5%)
	Total valid response	110 (100.0%)
	Total missing	24

Table 5.5

Question	Response	Number of Respondents (%)
Are you limited in any way in any activities because of any impairment or health problem?	Yes	61 (50.8%)
	No	59 (49.2%)
	Total valid response	120 (100.0%)
	Total missing	14
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	9 (28.1%)

Question	Response	Number of Respondents (%)
	No	21 (65.6%)
	Don't know/Not sure	1 (3.1%)
	Refused	1 (3.1%)
	Total valid response	32 (100.0%)
	Total missing	102
b) Back or neck problem	Yes	7 (21.9%)
	No	24 (75.0%)
	Don't know/Not sure	1 (3.1%)
	Total valid response	32 (100.0%)
	Total missing	102
c) Fractures, bone/joint injury	Yes	8 (23.5%)
	No	26 (76.5%)
	Total valid response	34 (100.0%)
	Total missing	100
d) Walking problem	Yes	18 (51.4%)
	No	17 (48.6%)
	Total valid response	35 (100.0%)
	Total missing	99
e) Lung/breathing problem	Yes	5 (16.1%)
	No	26 (83.9%)
	Total valid response	31 (100.0%)
	Total missing	103
f) Hearing problem	Yes	10 (31.3%)
	No	22 (68.8%)
	Total valid response	32 (100.0%)
	Total missing	102
g) Eye/vision problem	Yes	26 (78.8%)

Question	Response	Number of Respondents (%)
	No	7 (21.2%)
	Total valid response	33 (100.0%)
	Total missing	101
h) Heart problem	Yes	10 (28.6%)
	No	25 (71.4%)
	Total valid response	35 (100.0%)
	Total missing	99
i) Stroke problem	Yes	1 (3.6%)
	No	27 (96.4%)
	Total valid response	28 (100.0%)
	Total missing	106
j) Hypertension/high blood pressure	Yes	22 (59.5%)
	No	15 (40.5%)
	Total valid response	37 (100.0%)
	Total missing	97
k) Diabetes	Yes	50 (90.9%)
	No	4 (7.3%)
	Don't know/Not sure	1 (1.8%)
	Total valid response	55 (100.0%)
	Total missing	79
l) Cancer	Yes	2 (6.9%)
	No	27 (93.1%)
	Total valid response	29 (100.0%)
	Total missing	105
m) Mental or emotional health	Yes	2 (6.7%)
	No	28 (93.3%)
	Total valid response	30 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	104

PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	158 (100.0%)
Included in Provider Analysis Set (PAS)	158 (100.0%)
Excluded in Provider Analysis Set (PAS)	0 (0.0%)
Reasons for exclusion from Provider Analysis Set:	
No other valid survey data	0
Provider Analysis Set	158
Included in the Eye Care Professional Set (Eye Specialist)	32 (20.3%)
Excluded in the Eye Care Professional Set (Eye Specialist)	126 (79.7%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	126
No valid (non-missing) response for the supplemental eye questionnaire	0

PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	158 (100.0%)
Primary Care Provider	79 (50.0%)
Diabetes Specialist Provider	21 (13.3%)
Eye Care Professional	32 (20.3%)
Ophthalmologist	30 (19.0%)

NB [1]: Primary Care Provider = General Practitioner/Family practitioner (but not diabetes specialist or eye care professional)

NB [2]: Diabetes specialist provider = Diabetes specialist (but not eye care professional)

NB [4]: Ophthalmologist = General ophthalmologist or retinal specialist

NB [5]: Note that providers may have selected more than one speciality

PT 1.4

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your specialty?	General primary care/Family	79 (100.0%)	2 (9.5%)	1 (3.3%)	82 (51.9%)

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	practitioner				
	Diabetes specialist	0 (0.0%)	21 (100.0%)	0 (0.0%)	21 (13.3%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	18 (60.0%)	18 (11.4%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.3%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	12 (40.0%)	12 (7.6%)
	Nurse	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.3%)
	Health educator	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	24 (15.2%)
	Total valid response	79 (100.0%)	21 (100.0%)	30 (100.0%)	158 (100.0%)
	Total missing	0	0	0	0

PT 1.5

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
How long have you been practicing in this profession?	Total valid response (n)	79	21	30	157
	Mean	12.5	17.4	11.6	13.1
	SD	9.0	11.9	10.4	10.0
	Median	10.0	16.0	10.0	11.0
	Min.	0	0	0	0
	Max.	35	36	35	38
	Total missing	0	0	0	1

PT 2.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your main practice setting?	Diabetes clinic/practice	7 (9.5%)	12 (57.1%)	0 (0.0%)	21 (13.9%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Eye clinic/practice	2 (2.7%)	1 (4.8%)	25 (89.3%)	30 (19.9%)
	General medical clinic/practice	50 (67.6%)	4 (19.0%)	2 (7.1%)	60 (39.7%)
	Hospital	11 (14.9%)	3 (14.3%)	1 (3.6%)	27 (17.9%)
	Other	4 (5.4%)	1 (4.8%)	0 (0.0%)	13 (8.6%)
	Total Valid Response	74 (100.0%)	21 (100.0%)	28 (100.0%)	151 (100.0%)
	Total missing	5	0	2	7

PT 2.2

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	73 (98.6%)	20 (95.2%)	27 (96.4%)	148 (98.0%)
	Non-urban setting	1 (1.4%)	1 (4.8%)	1 (3.6%)	3 (2.0%)
	Total Valid Response	74 (100.0%)	21 (100.0%)	28 (100.0%)	151 (100.0%)
	Total missing	5	0	2	7

PT 2.3

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In which sector is your main practice?	Government	7 (9.5%)	0 (0.0%)	3 (10.7%)	12 (7.9%)
	Private	41 (55.4%)	9 (42.9%)	12 (42.9%)	77 (51.0%)
	Non profit	3 (4.1%)	4 (19.0%)	1 (3.6%)	11 (7.3%)
	Combined/mixed	23 (31.1%)	8 (38.1%)	12 (42.9%)	51 (33.8%)
	Total Valid Response	74 (100.0%)	21 (100.0%)	28 (100.0%)	151 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	5	0	2	7

PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	31 (41.9%)	13 (61.9%)	17 (60.7%)	76 (50.3%)
	Yes, limited by age	9 (12.2%)	3 (14.3%)	0 (0.0%)	18 (11.9%)
	Yes, limited to persons in the military or veterans	0 (0.0%)	0 (0.0%)	1 (3.6%)	3 (2.0%)
	Yes, limited to persons with health insurance	26 (35.1%)	4 (19.0%)	6 (21.4%)	39 (25.8%)
	Yes, limited to low income or uninsured persons	4 (5.4%)	0 (0.0%)	4 (14.3%)	8 (5.3%)
	Yes, limited to persons who pay out-of-pocket	2 (2.7%)	1 (4.8%)	1 (3.6%)	4 (2.6%)
	Yes, other	7 (9.5%)	2 (9.5%)	3 (10.7%)	15 (9.9%)
	Total valid response	74 (100.0%)	21 (100.0%)	28 (100.0%)	151 (100.0%)
	Total missing	5	0	2	7

PT 2.5

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the average wait time for an appointment in your main practice?	Less than 1 week	36 (52.2%)	6 (28.6%)	1 (3.7%)	48 (33.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	More than 1 week but less than 1 month	19 (27.5%)	9 (42.9%)	17 (63.0%)	54 (37.5%)
	More than 1 month but less than 2 months	4 (5.8%)	4 (19.0%)	7 (25.9%)	26 (18.1%)
	More than 2 months but less than 3 months	4 (5.8%)	2 (9.5%)	1 (3.7%)	8 (5.6%)
	More than 3 months but less than 6 months	1 (1.4%)	0 (0.0%)	1 (3.7%)	2 (1.4%)
	Six or more months	2 (2.9%)	0 (0.0%)	0 (0.0%)	2 (1.4%)
	Do not take appointments	3 (4.3%)	0 (0.0%)	0 (0.0%)	4 (2.8%)
	Total Valid Response	69 (100.0%)	21 (100.0%)	27 (100.0%)	144 (100.0%)
	Total missing	10	0	3	14

PT 2.6

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
On average, how many patients do you see per week in your main practice [n patients]	Total valid response (n)	68	21	27	142
	Mean	73.4	100.8	107.6	84.6
	SD	43.4	79.6	78.8	63.9
	Median	65	80	75	70
	Min.	0	20	50	0
	Max.	200	380	400	400
	Total missing	11	0	3	16
What percentage of the patients in your main practice have diabetes [% patients]	Total valid response (n)	67	21	27	140

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Mean	23.8	51.8	21.3	29.2
	SD	21.3	31.9	13	24.4
	Median	20	40	20	20
	Min.	0	8	2	0
	Max.	100	100	50	100
	Total missing	12	0	3	18

PT 2.7

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, how do patients pay for the care and services that you provide?	Don't pay	17 (24.6%)	2 (9.5%)	2 (7.4%)	24 (16.7%)
	Pay a reduced/subsidized rate	11 (15.9%)	5 (23.8%)	6 (22.2%)	25 (17.4%)
	Pay out-of-pocket (full fees)	15 (21.7%)	7 (33.3%)	7 (25.9%)	33 (22.9%)
	Pay through insurance	34 (49.3%)	12 (57.1%)	17 (63.0%)	82 (56.9%)
	Patient pays some, insurance pays some	12 (17.4%)	6 (28.6%)	12 (44.4%)	34 (23.6%)
	Other	4 (5.8%)	2 (9.5%)	1 (3.7%)	11 (7.6%)
	Total valid response	69 (100.0%)	21 (100.0%)	27 (100.0%)	144 (100.0%)
	Total missing	10	0	3	14

PT 2.8

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In addition to your	Yes	27	11 (52.4%)	5 (18.5%)	54

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
main practice, do you work in another practice setting?		(39.1%)			(37.5%)
	No	42 (60.9%)	10 (47.6%)	22 (81.5%)	90 (62.5%)
	Total valid response	69 (100.0%)	21 (100.0%)	27 (100.0%)	144 (100.0%)
	Total missing	10		3	14
In which other practice setting(s) do you work?	Hospital	4 (15.4%)	3 (27.3%)	1 (25.0%)	8 (15.4%)
	General medical clinic/practice	11 (42.3%)	3 (27.3%)		14 (26.9%)
	Diabetes clinic/practice		2 (18.2%)		3 (5.8%)
	Eye clinic/practice			1 (25.0%)	2 (3.8%)
	Other	13 (50.0%)	4 (36.4%)	2 (50.0%)	28 (53.8%)
	Total valid response	26 (100.0%)	11 (100.0%)	4 (100.0%)	52 (100.0%)
	Total missing	53	10	26	106
In which sector(s) is(are) the practice(s)?	Government	3 (11.5%)	1 (9.1%)		4 (7.7%)
	Private	14 (53.8%)	6 (54.5%)	2 (50.0%)	31 (59.6%)
	Non profit	1 (3.8%)		1 (25.0%)	3 (5.8%)
	Combined/mixed	8 (30.8%)	4 (36.4%)	1 (25.0%)	14 (26.9%)
	Total valid response	26 (100.0%)	11 (100.0%)	4 (100.0%)	52 (100.0%)
	Total missing	53	10	26	106
Is there a major difference between your practices with respect to how diabetic eye disease is screened and managed?	Yes	10 (38.5%)	4 (36.4%)	3 (75.0%)	19 (36.5%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No	16 (61.5%)	7 (63.6%)	1 (25.0%)	33 (63.5%)
	Total valid response	26 (100.0%)	11 (100.0%)	4 (100.0%)	52 (100.0%)
	Total missing	53	10	26	106

PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		64 (94.1%)	21 (100.0%)	23 (92.0%)	131 (95.6%)
		Total valid numeric response (n)	61 (89.7%)	19 (90.5%)	22 (88.0%)	125 (91.2%)
		Mean	10.5	31.2	3.7	11.6
		SD	22.3	80.4	3.7	35.5
		Median	4.0	12.0	2.0	4.0
		Min	0	0	0	0
		Max	100	360	12	360
		Total missing	18	2	8	33
	No		4 (5.9%)		2 (8.0%)	6 (4.4%)
	Total valid response		68 (100.0%)	21 (100.0%)	25 (100.0%)	137 (100.0%)
	Total missing		11		5	21
HbA1c	Yes		62 (91.2%)	21 (100.0%)	22 (88.0%)	128 (93.4%)
		Total valid numeric response (n)	59 (86.8%)	19 (90.5%)	21 (84.0%)	122 (89.1%)
		Mean	11.0	6.1	2.4	7.4
		SD	48.6	9.7	1.0	34.0
		Median	3.0	4.0	2.0	3.0
		Min	0	2	1	0

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Max	365	46	4	365
		Total missing	20	2	9	36
	No		6 (8.8%)		3 (12.0%)	9 (6.6%)
	Total valid response		68 (100.0%)	21 (100.0%)	25 (100.0%)	137 (100.0%)
	Total missing		11		5	21
Urine check	Yes		64 (97.0%)	20 (95.2%)	10 (45.5%)	117 (88.6%)
		Total valid numeric response (n)	61 (92.4%)	18 (85.7%)	9 (40.9%)	111 (84.1%)
		Mean	18.8	4.4	1.7	11.8
		SD	59.9	3.4	1.1	44.9
		Median	3.0	4.0	2.0	3.0
		Min	0	1	0	0
		Max	300	12	4	300
		Total missing	18	3	21	47
	No		2 (3.0%)	1 (4.8%)	12 (54.5%)	15 (11.4%)
	Total valid response		66 (100.0%)	21 (100.0%)	22 (100.0%)	132 (100.0%)
	Total missing		13		8	26
Weight check	Yes		66 (97.1%)	20 (100.0%)	10 (45.5%)	121 (89.6%)
		Total valid numeric response (n)	64 (94.1%)	18 (90.0%)	9 (40.9%)	116 (85.9%)
		Mean	21.5	8.2	4.7	14.9
		SD	72.3	4.7	4.3	54.1
		Median	4.5	6.0	3.0	4.0
		Min	0	4	1	0

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS	
		Max	365	20	12	365	
		Total missing	15	3	21	42	
	No		2 (2.9%)		12 (54.5%)	14 (10.4%)	
	Total valid response		68 (100.0%)	20 (100.0%)	22 (100.0%)	135 (100.0%)	
	Total missing		11	1	8	23	
Blood pressure check	Yes		67 (100.0%)	21 (100.0%)	15 (68.2%)	128 (94.8%)	
		Total valid numeric response (n)	64 (95.5%)	19 (90.5%)	14 (63.6%)	122 (90.4%)	
		Mean	35.7	26.6	6.8	25.1	
		SD	96.9	80.9	4.6	77.7	
		Median	6.0	8.0	4.5	6.0	
		Min	0	0	2	0	
		Max	365	360	12	365	
		Total missing	15	2	16	36	
	No					7 (31.8%)	7 (5.2%)
	Total valid response		67 (100.0%)	21 (100.0%)	22 (100.0%)	135 (100.0%)	
	Total missing		12		8	23	
Foot check	Yes		52 (76.5%)	19 (90.5%)	2 (9.1%)	92 (68.1%)	
		Total valid numeric response (n)	50 (73.5%)	17 (81.0%)	2 (9.1%)	88 (65.2%)	
		Mean	14.3	6.9	7.5	10.7	
		SD	52.5	5.7	6.4	39.7	
		Median	4.0	4.0	7.5	4.0	
		Min	0	1	3	0	

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Max	365	20	12	365
		Total missing	29	4	28	70
	No		16 (23.5%)	2 (9.5%)	20 (90.9%)	43 (31.9%)
	Total valid response		68 (100.0%)	21 (100.0%)	22 (100.0%)	135 (100.0%)
	Total missing		11		8	23
Eye examination - Un-dilated	Yes		45 (66.2%)	14 (66.7%)	20 (87.0%)	96 (70.6%)
		Total valid numeric response (n)	43 (63.2%)	12 (57.1%)	19 (82.6%)	91 (66.9%)
		Mean	14.0	6.0	2.6	8.6
		SD	56.8	5.8	2.5	39.3
		Median	3.0	4.0	2.0	2.0
		Min	0	1	1	0
		Max	365	20	12	365
		Total missing	36	9	11	67
	No		23 (33.8%)	7 (33.3%)	3 (13.0%)	40 (29.4%)
	Total valid response		68 (100.0%)	21 (100.0%)	23 (100.0%)	136 (100.0%)
	Total missing		11		7	22
Eye examination - Optical Coherence Tomography	Yes		7 (10.6%)	1 (5.3%)	22 (84.6%)	30 (22.9%)
		Total valid numeric response (n)	5 (7.6%)	1 (5.3%)	22 (84.6%)	28 (21.4%)
		Mean	0.4	1.0	1.3	1.1

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS	
		SD	0.5		0.9	0.9	
		Median	0.0	1.0	1.0	1.0	
		Min	0	1	0	0	
		Max	1	1	4	4	
		Total missing	74	20	8	130	
	No	Total valid response		59 (89.4%)	18 (94.7%)	4 (15.4%)	101 (77.1%)
				66 (100.0%)	19 (100.0%)	26 (100.0%)	131 (100.0%)
				13	2	4	27
	Total missing	Total missing		13	2	4	27
				37 (54.4%)	14 (70.0%)	26 (100.0%)	92 (67.2%)
			37 (54.4%)	14 (70.0%)	26 (100.0%)	92 (67.2%)	
Eye examination - Fundoscopy	Yes		37 (54.4%)	14 (70.0%)	26 (100.0%)	92 (67.2%)	
		Total valid numeric response (n)	35 (51.5%)	13 (65.0%)	25 (96.2%)	88 (64.2%)	
		Mean	3.5	2.6	2.2	3.1	
		SD	3.0	3.1	2.3	3.0	
		Median	3.0	1.0	2.0	2.0	
		Min	0	0	0	0	
		Max	12	12	12	12	
		Total missing	44	8	5	70	
	No	Total valid response		31 (45.6%)	6 (30.0%)		45 (32.8%)
				68 (100.0%)	20 (100.0%)	26 (100.0%)	137 (100.0%)
				11	1	4	21
Total missing	Total missing		11	1	4	21	
			4 (6.2%)	1 (5.3%)	23 (88.5%)	30 (23.1%)	
			4 (6.2%)	1 (5.3%)	23 (88.5%)	30 (23.1%)	
Eye examination - Fluorescein Angiography	Yes		4 (6.2%)	1 (5.3%)	23 (88.5%)	30 (23.1%)	
		Total valid	4 (6.2%)	1 (5.3%)	22 (84.6%)	29	

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS	
		numeric response (n)				(22.3%)	
		Mean	0.5	0.0	1.2	1.1	
		SD	0.6		0.5	0.6	
		Median	0.5	0.0	1.0	1.0	
		Min	0	0	1	0	
		Max	1	0	3	3	
		Total missing	75	20	8	129	
	No		61 (93.8%)	18 (94.7%)	3 (11.5%)	100 (76.9%)	
	Total valid response		65 (100.0%)	19 (100.0%)	26 (100.0%)	130 (100.0%)	
	Total missing		14	2	4	28	
	Eye examination - Lipid check	Yes		43 (63.2%)	17 (85.0%)	14 (63.6%)	91 (68.9%)
			Total valid numeric response (n)	41 (60.3%)	15 (75.0%)	13 (59.1%)	86 (65.2%)
			Mean	9.5	3.1	1.2	5.8
SD			46.5	2.3	0.9	32.1	
Median			2.0	3.0	1.0	2.0	
Min			0	1	0	0	
Max			300	10	4	300	
Total missing			38	6	17	72	
No			25 (36.8%)	3 (15.0%)	8 (36.4%)	41 (31.1%)	
Total valid response			68 (100.0%)	20 (100.0%)	22 (100.0%)	132 (100.0%)	
Total missing			11	1	8	26	

PT 2.10

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, what topics do you cover during a routine visit with a patient who has diabetes?	Diabetes management and monitoring	58 (90.6%)	18 (94.7%)	13 (52.0%)	110 (81.5%)
	Diet/nutrition	57 (89.1%)	18 (94.7%)	10 (40.0%)	105 (77.8%)
	Exercise/physical activity	56 (87.5%)	19 (100.0%)	9 (36.0%)	105 (77.8%)
	Medicines	61 (95.3%)	18 (94.7%)	14 (56.0%)	117 (86.7%)
	Foot care and inspection	45 (70.3%)	14 (73.7%)	2 (8.0%)	78 (57.8%)
	Blood pressure	61 (95.3%)	19 (100.0%)	6 (24.0%)	110 (81.5%)
	Eye care and exams	38 (59.4%)	14 (73.7%)	24 (96.0%)	90 (66.7%)
	Lipid check	54 (84.4%)	18 (94.7%)	2 (8.0%)	93 (68.9%)
	Other	0 (0.0%)	0 (0.0%)	1 (4.0%)	1 (0.7%)
	None of the above	1 (1.6%)	0 (0.0%)	0 (0.0%)	1 (0.7%)
	Total valid response	64 (100.0%)	19 (100.0%)	25 (100.0%)	135 (100.0%)
	Total missing	15	2	5	23

PT 2.11

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	5 (7.8%)	2 (10.5%)	9 (36.0%)	21 (15.6%)
	Yes, but information on eye complications	9 (14.1%)	10 (52.6%)	4 (16.0%)	30 (22.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	is not sufficient				
	Yes, but no information on eye complications is included	9 (14.1%)	2 (10.5%)	0 (0.0%)	16 (11.9%)
	No written information is available for patients	35 (54.7%)	5 (26.3%)	12 (48.0%)	60 (44.4%)
	Don't know/Not sure	6 (9.4%)	0 (0.0%)	0 (0.0%)	8 (5.9%)
	Total Valid Response	64 (100.0%)	19 (100.0%)	25 (100.0%)	135 (100.0%)
	Total missing	15	2	5	23

PT 2.12

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines available in your main practice for the management of diabetes?	Yes, available and used by staff	37 (59.7%)	13 (68.4%)	15 (60.0%)	74 (55.6%)
	Yes, available but not used by staff	13 (21.0%)	4 (21.1%)	3 (12.0%)	27 (20.3%)
	Not available	9 (14.5%)	2 (10.5%)	5 (20.0%)	20 (15.0%)
	Don't know/Not sure	3 (4.8%)	0 (0.0%)	2 (8.0%)	12 (9.0%)
	Total Valid Response	62 (100.0%)	19 (100.0%)	25 (100.0%)	133 (100.0%)
	Total missing	17	2	5	25

PT 2.13

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines for detection and management of diabetes-related vision issue available in your main practice?	Yes, available and used by staff	22 (35.5%)	4 (21.1%)	15 (60.0%)	49 (36.8%)
	Yes, available but not used by staff	13 (21.0%)	5 (26.3%)	3 (12.0%)	23 (17.3%)
	Not available	17 (27.4%)	10 (52.6%)	6 (24.0%)	43 (32.3%)
	Don't know/Not sure	10 (16.1%)	0 (0.0%)	1 (4.0%)	18 (13.5%)
	Total Valid Response	62 (100.0%)	19 (100.0%)	25 (100.0%)	133 (100.0%)
	Total missing	17	2	5	25

PT 2.14

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type I?	After a predetermined number of years (numeric response) (n)	6 (9.8%)	6 (35.3%)	7 (29.2%)	21 (16.4%)
	Mean	3.5	4.5	5.0	4.4
	SD	1.6	0.8	0.0	1.1
	Median	3.5	5.0	5.0	5.0
	Min	2	3	5	2
	Max	5	5	5	5
	After a predetermined age (numeric response)	2 (3.3%)	0 (0.0%)	0 (0.0%)	2 (1.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	(n)				
	Mean	57.5			57.5
	SD	10.6			10.6
	Median	57.5			57.5
	Min	50			50
	Max	65			65
	As soon as they are diagnosed	33 (54.1%)	8 (47.1%)	14 (58.3%)	66 (51.6%)
	When a patient reports eye/vision problems	8 (13.1%)	3 (17.6%)		12 (9.4%)
	No standard practice, timing varies case by case	10 (16.4%)		2 (8.3%)	22 (17.2%)
	Don't know/Not sure			1 (4.2%)	3 (2.3%)
	Other	2 (3.3%)			2 (1.6%)
	Total valid response	61 (100.0%)	17 (100.0%)	24 (100.0%)	128 (100.0%)
	Total missing	18	4	6	30
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type II?	After a predetermined number of years (numeric response) (n)	3 (4.9%)	1 (5.3%)	3 (12.5%)	7 (5.4%)
	Mean	2.3	3.0	4.3	3.3
	SD	2.3		1.2	1.8
	Median	1.0	3.0	5.0	3.0
	Min	1	3	3	1
	Max	5	3	5	5
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mean				

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	SD				
	Median				
	Min				
	Max				
	As soon as they are diagnosed	40 (65.6%)	16 (84.2%)	18 (75.0%)	93 (72.1%)
	When a patient reports eye/vision problems	8 (13.1%)	1 (5.3%)		9 (7.0%)
	No standard practice, timing varies case by case	9 (14.8%)	1 (5.3%)	3 (12.5%)	17 (13.2%)
	Don't know/Not sure				2 (1.6%)
	Other	1 (1.6%)			1 (0.8%)
	Total valid response	61 (100.0%)	19 (100.0%)	24 (100.0%)	129 (100.0%)
	Total missing	18	2	6	29

PT 2.15

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of follow-up eye examinations for persons with diabetes?	Once a year	49 (79.0%)	14 (73.7%)	19 (79.2%)	102 (77.9%)
	Every two years	1 (1.6%)	1 (5.3%)	0 (0.0%)	2 (1.5%)
	Only when symptoms are present	7 (11.3%)	2 (10.5%)	0 (0.0%)	10 (7.6%)
	Other	3 (4.8%)	2 (10.5%)	5 (20.8%)	12 (9.2%)
	Don't know/Not sure	2 (3.2%)	0 (0.0%)	0 (0.0%)	5 (3.8%)
	Total Valid	62	19 (100.0%)	24 (100.0%)	131

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Response	(100.0%)			(100.0%)
	Total missing	17	2	6	27

PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes	33 (53.2%)	14 (73.7%)	24 (100.0%)	82 (62.6%)
	No	29 (46.8%)	5 (26.3%)		49 (37.4%)
	Total valid response	62 (100.0%)	19 (100.0%)	24 (100.0%)	131 (100.0%)
	Total missing	17	2	6	27
Where do you screen patients?	In clinic	29 (90.6%)	12 (85.7%)	21 (91.3%)	72 (90.0%)
	Outreach	1 (3.1%)		2 (8.7%)	3 (3.8%)
	Other	3 (9.4%)	3 (21.4%)	1 (4.3%)	8 (10.0%)
	Total valid response	32 (100.0%)	14 (100.0%)	23 (100.0%)	80 (100.0%)
	Total missing	47	7	7	78

PT 2.17

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What patient characteristics influence your vision care and/or vision referrals?	Diabetes duration	46 (79.3%)	16 (84.2%)	20 (83.3%)	106 (83.5%)
	Patient's age	45 (77.6%)	10 (52.6%)	15 (62.5%)	86 (67.7%)
	Patient's gender	9 (15.5%)	3 (15.8%)	2 (8.3%)	15 (11.8%)
	Presence of comorbidities such as hypertension, etc.	44 (75.9%)	16 (84.2%)	17 (70.8%)	98 (77.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	High glucose levels	43 (74.1%)	13 (68.4%)	15 (62.5%)	90 (70.9%)
	Ability or inability to pay	4 (6.9%)	2 (10.5%)	0 (0.0%)	8 (6.3%)
	Insurance restrictions	7 (12.1%)	2 (10.5%)	2 (8.3%)	13 (10.2%)
	Patient educational level	10 (17.2%)	2 (10.5%)	8 (33.3%)	23 (18.1%)
	Patient adherence to recommendations	17 (29.3%)	8 (42.1%)	8 (33.3%)	38 (29.9%)
	None of the above	5 (8.6%)	0 (0.0%)	2 (8.3%)	8 (6.3%)
	Not applicable	2 (3.4%)	0 (0.0%)	2 (8.3%)	4 (3.1%)
	Total valid response	58 (100.0%)	19 (100.0%)	24 (100.0%)	127 (100.0%)
	Total missing	21	2	6	31

PT 2.18

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What are the major barriers to optimizing eye health faced by patients with diabetes in your main practice?	Cost of care	21 (36.2%)	9 (47.4%)	14 (58.3%)	49 (38.6%)
	Proximity to care	16 (27.6%)	3 (15.8%)	4 (16.7%)	27 (21.3%)
	Long wait time for appointment	43 (74.1%)	9 (47.4%)	10 (41.7%)	80 (63.0%)
	Long wait time on the day of visit	8 (13.8%)	3 (15.8%)	3 (12.5%)	19 (15.0%)
	Referral process	36 (62.1%)	6 (31.6%)	13 (54.2%)	64 (50.4%)
	Recommended treatments are not available	10 (17.2%)	1 (5.3%)	2 (8.3%)	17 (13.4%)
	Lack of knowledge	18	5 (26.3%)	8 (33.3%)	37

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	and/or awareness	(31.0%)			(29.1%)
	Patients fear of treatment/results	17 (29.3%)	5 (26.3%)	7 (29.2%)	31 (24.4%)
	Patients they are a burden on family/friends	7 (12.1%)	1 (5.3%)	1 (4.2%)	9 (7.1%)
	Limited access to diabetes specialists	29 (50.0%)	4 (21.1%)	7 (29.2%)	46 (36.2%)
	Limited access to eye specialists	39 (67.2%)	9 (47.4%)	10 (41.7%)	64 (50.4%)
	Patients feel eye complications are unlikely	16 (27.6%)	3 (15.8%)	9 (37.5%)	33 (26.0%)
	Patients feel eye exams are not important	17 (29.3%)	4 (21.1%)	7 (29.2%)	32 (25.2%)
	Patients have competing responsibilities and priorities	8 (13.8%)	3 (15.8%)	4 (16.7%)	17 (13.4%)
	Clinic too small or lack necessary equipment/staff	12 (20.7%)	1 (5.3%)	1 (4.2%)	15 (11.8%)
	Other	2 (3.4%)	1 (5.3%)	0 (0.0%)	5 (3.9%)
	Total valid response	58 (100.0%)	19 (100.0%)	24 (100.0%)	127 (100.0%)
	Total missing	21	2	6	31

PT 2.19

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, are patients contacted with reminders for general follow-up appointments?	Yes	28 (49.1%)	13 (68.4%)	11 (45.8%)	65 (51.6%)
	No	28 (49.1%)	6 (31.6%)	13 (54.2%)	57 (45.2%)
	Don't know/Not	1 (1.8%)	0 (0.0%)	0 (0.0%)	4 (3.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	sure				
	Total Valid Response	57 (100.0%)	19 (100.0%)	24 (100.0%)	126 (100.0%)
	Total missing	22	2	6	32

PT 2.20

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you share relevant patient information with other health care professionals involved in the patients care e.g. his or her general practitioner, ophthalmologist, podiatrist?	Yes	31 (55.4%)	13 (68.4%)	18 (75.0%)	78 (62.4%)
	No	23 (41.1%)	5 (26.3%)	6 (25.0%)	43 (34.4%)
	Don't know/Not sure	2 (3.6%)	1 (5.3%)	0 (0.0%)	4 (3.2%)
	Total Valid Response	56 (100.0%)	19 (100.0%)	24 (100.0%)	125 (100.0%)
	Total missing	23	2	6	33

PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	18 - 29	7 (12.3%)		5 (20.8%)	14 (11.1%)
	30 - 39	23 (40.4%)	3 (15.8%)	7 (29.2%)	44 (34.9%)
	40 - 49	14 (24.6%)	6 (31.6%)	4 (16.7%)	30 (23.8%)
	50 - 59	10 (17.5%)	6 (31.6%)	7 (29.2%)	28 (22.2%)
	60 - 69	3 (5.3%)	3 (15.8%)	1 (4.2%)	9 (7.1%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	70 - 79		1 (5.3%)		1 (0.8%)
	Total valid response	57 (100.0%)	19 (100.0%)	24 (100.0%)	126 (100.0%)
	Total missing	22	2	6	32
What is your gender?	Female	27 (48.2%)	4 (22.2%)	9 (37.5%)	49 (39.5%)
	Male	29 (51.8%)	14 (77.8%)	15 (62.5%)	75 (60.5%)
	Total valid response	56 (100.0%)	18 (100.0%)	24 (100.0%)	124 (100.0%)
	Total missing	23	3	6	34
What is your highest level of education completed?	College/University	30 (52.6%)	2 (10.5%)	7 (29.2%)	44 (34.9%)
	Graduate or advanced degree (e.g. PhD, MD, etc)	27 (47.4%)	17 (89.5%)	17 (70.8%)	82 (65.1%)
	Total valid response	57 (100.0%)	19 (100.0%)	24 (100.0%)	126 (100.0%)
	Total missing	22	2	6	32

PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	24
	Mean	14.3
	SD	11.6
	Median	10.0
	Min	2
	Max	40
	Total missing	6

PT 4.2

Question	Response	Ophthalmologist
What percentage of your patients have diabetic	Total valid numeric	24

Question	Response	Ophthalmologist
macular edema?	response (n)	
	Mean	8.4
	SD	7.8
	Median	5.0
	Min	1
	Max	30
	Total missing	6

PT 4.3

Question	Response	Ophthalmologist
What is the average amount of time your patients wait for an appointment to be screened for diabetic eye disease in your practice?	Less than 1 week	1 (4.2%)
	More than 1 week but less than 1 month	16 (66.7%)
	More than 1 month but less than 2 months	4 (16.7%)
	More than 2 months but less than 3 months	1 (4.2%)
	Six or more months	2 (8.3%)
	Total Valid Response	24 (100.0%)
	Total missing	6

PT 4.4

Question	Response	Ophthalmologist
From the time a patient is screened, what is the average length of time he/she waits for diagnosis?	Less than 1 week	5 (20.8%)
	More than 1 week but less than 1 month	4 (16.7%)
	More than 1 month but less than 2 months	3 (12.5%)
	More than 2 months but less than 3 months	2 (8.3%)
	More than 3 months but less than 6 months	1 (4.2%)

Question	Response	Ophthalmologist
	There is not wait, diagnosis is given when screened	9 (37.5%)
	Total Valid Response	24 (100.0%)
	Total missing	6

PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist	
Laser photocoagulation	Is the treatment available?	Available within country	10 (43.5%)	
		Available locally	5 (21.7%)	
		Available in practice	18 (78.3%)	
		Total valid response	23 (100.0%)	
		Total missing	7	
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	20 (87.0%)	
		Mean	1.9	
		SD	1.1	
		Median	1.5	
		Min	1	
		Max	4	
		Don't know/not sure	2 (8.7%)	
		Not applicable	1 (4.3%)	
		Total valid response	23 (100.0%)	
		Total missing	7	
		What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	19 (82.6%)
			Mean	2.1
	SD		1.2	
	Median		2.0	
	Min		1	
	Max		4	

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a second treatment?(weeks)	Don't know/not sure	3 (13.0%)
		Not applicable	1 (4.3%)
		Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	17 (85.0%)
		Mean	2.6
		SD	1.9
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	3 (15.0%)
		Total valid response	20 (100.0%)
		Total missing	10
		Anti-VEGF therapies	Is the treatment available?
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Available locally	6 (26.1%)
		Available in practice	17 (73.9%)
		Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	19 (82.6%)
		Mean	3.1
		SD	2.5
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	3 (13.0%)

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a first treatment?(weeks)	Not applicable	1 (4.3%)
		Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	17 (77.3%)
		Mean	2.9
		SD	2.3
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	4 (18.2%)
	Not applicable	1 (4.5%)	
	Total valid response	22 (100.0%)	
	Total missing	8	
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	16 (80.0%)
		Mean	2.9
		SD	1.6
		Median	4.0
Min		1	
Max		5	
Don't know/not sure		4 (20.0%)	
Total valid response		20 (100.0%)	
Total missing	10		
Intravitreal steroid	Is the treatment available?	Available within country	10 (43.5%)
		Available locally	5 (21.7%)
		Available in practice	18 (78.3%)
		Total valid	23 (100.0%)

Type of Treatment	Question	Response/time	Ophthalmologist
		response	
		Total missing	7
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	19 (82.6%)
		Mean	2.7
		SD	2.2
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	3 (13.0%)
		Not applicable	1 (4.3%)
		Total valid response	23 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	16 (80.0%)
		Mean	3.0
		SD	2.1
		Median	3.0
		Min	1
		Max	8
		Don't know/not sure	3 (15.0%)
		Not applicable	1 (5.0%)
		Total valid response	20 (100.0%)
		Total missing	10
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	17 (85.0%)
Mean		4.3	
SD		4.8	
Median		4.0	
Min		1	

Type of Treatment	Question	Response/time	Ophthalmologist	
		Max	20	
		Don't know/not sure	3 (15.0%)	
		Total valid response	20 (100.0%)	
		Total missing	10	
Uncomplicated vitrectomy	Is the treatment available?	Available within country	10 (43.5%)	
		Available locally	5 (21.7%)	
		Available in practice	18 (78.3%)	
		Total valid response	23 (100.0%)	
		Total missing	7	
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	20 (87.0%)	
		Mean	2.6	
		SD	1.7	
		Median	2.5	
		Min	1	
		Max	7	
		Don't know/not sure	2 (8.7%)	
		Not applicable	1 (4.3%)	
		Total valid response	23 (100.0%)	
		Total missing	7	
		What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	20 (87.0%)
			Mean	2.9
SD	1.9			
Median	2.5			
Min	1			
Max	8			
Don't know/not	2 (8.7%)			

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a second treatment?(weeks)	sure	
		Not applicable	1 (4.3%)
		Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	15 (75.0%)
		Mean	2.9
		SD	2.2
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	5 (25.0%)
		Total valid response	20 (100.0%)
		Total missing	10
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	10 (43.5%)
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Available locally	5 (21.7%)
		Available in practice	18 (78.3%)
		Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	19 (82.6%)
		Mean	2.6
		SD	1.3
		Median	3.0
		Min	1
		Max	4
		Don't know/not sure	3 (13.0%)
Not applicable	1 (4.3%)		

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	19 (82.6%)
		Mean	2.9
		SD	1.8
		Median	3.0
		Min	1
		Max	8
		Don't know/not sure	3 (13.0%)
		Not applicable	1 (4.3%)
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid response	23 (100.0%)
		Total missing	7
		Total valid numeric response (n)	13 (72.2%)
		Mean	2.8
		SD	2.0
		Median	2.0
		Min	1
		Max	8
Don't know/not sure	5 (27.8%)		
Total valid response	18 (100.0%)		
Total missing	12		

PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	10 (43.5%)
	No	13 (56.5%)
	Total valid response	23 (100.0%)

Question	Response	Ophthalmologist
	Total missing	7
Who administer it?	Another provider in your practice	11 (84.6%)
	Refer to a provider at another facility	1 (7.7%)
	Other	1 (7.7%)
	Total valid response	13 (100.0%)
	Total missing	17

PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	8 (80.0%)
	Patient's age	8 (80.0%)
	Patient's gender	2 (20.0%)
	Presence of comorbidities such as hypertension, etc.	9 (90.0%)
	High glucose levels	8 (80.0%)
	Insurance restrictions	4 (40.0%)
	Patient educational level	4 (40.0%)
	Patient adherence to recommendations	3 (30.0%)
	None of the above	1 (10.0%)
	Total valid response	10 (100.0%)
	Total missing	20

PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Visual outcome	1 (4.3%)
	Both	22 (95.7%)
	Total Valid Response	23 (100.0%)
	Total missing	7

PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	3 (13.0%)
	Fundoscopy dilated	23 (100.0%)
	Retinal photo	10 (43.5%)
	Optical Coherence Tomography	18 (78.3%)
	Fluorescein Angiography	16 (69.6%)
	Total valid response	23 (100.0%)
	Total missing	7

PT 4.10

Question	Response	Ophthalmologist
In your opinion, do the majority of your patients present:	In time for screening	4 (17.4%)
	When visual problems have already occurred	18 (78.3%)
	Too late for effective treatment	1 (4.3%)
	Total Valid Response	23 (100.0%)
	Total missing	7

PT 4.11

Question	Response	Ophthalmologist
Have you received training specifically on treatment and diagnosis of diabetic retinopathy and/or clinically significant diabetic macular edema?	Yes	17 (73.9%)
	No	6 (26.1%)
	Total valid response	23 (100.0%)
	Total missing	7
If yes, When was your last training?	Five or more years ago	1 (5.9%)
	Greater than 1 year ago but less than 5 years	2 (11.8%)
	Within the past year	14 (82.4%)
	Total valid response	17 (100.0%)

Question	Response	Ophthalmologist
	Total missing	13

PT 4.12

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	22 (95.7%)
	No	1 (4.3%)
	Total Valid Response	23 (100.0%)
	Total missing	7

PT 4.13

Question	Response	Ophthalmologist
How is outreach for screening for diabetic eye disease done in your main practice?	Health fairs for all	4 (18.2%)
	Health fairs for people with diabetes	3 (13.6%)
	Mobile screening centers	2 (9.1%)
	At vision centers	14 (63.6%)
	Other	3 (13.6%)
	Not done	4 (18.2%)
	Don't know/Not sure	1 (4.5%)
	Total valid response	22 (100.0%)
	Total missing	8

PT 4.14

Question	Response	Ophthalmologist
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Reimbursement/restrictions on approved therapy	11 (47.8%)
	Late diagnosis	15 (65.2%)
	Referral pathways	15 (65.2%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	14 (60.9%)

Question	Response	Ophthalmologist
	No universal guidelines on referral/screening	4 (17.4%)
	No universal guidelines on how to treat	1 (4.3%)
	No universal guideline on when to treat	1 (4.3%)
	Current available therapies not effective	1 (4.3%)
	Government/insurance not able to cover patient costs	9 (39.1%)
	Multi-disciplinary team integration is poor	10 (43.5%)
	Ineffective screening services	4 (17.4%)
	Total valid response	23 (100.0%)
	Total missing	7

EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Cardiovascular disease/Stroke	10 (14.3%)	6 (16.7%)	1 (6.7%)
	Foot ulcers	5 (7.1%)	5 (13.9%)	2 (13.3%)
	Irritable bowel disease	3 (4.3%)	2 (5.6%)	1 (6.7%)
	Kidney disease	20 (28.6%)	9 (25.0%)	2 (13.3%)
	Loss of feeling in hands or toes (neuropathy)	7 (10.0%)	8 (22.2%)	1 (6.7%)
	Vision loss	17 (24.3%)	23 (63.9%)	11 (73.3%)
	Amputation	0 (0.0%)	9 (25.0%)	1 (6.7%)
	Broken bones or fractures	1 (1.4%)	0 (0.0%)	0 (0.0%)
	Other	12 (17.1%)	3 (8.3%)	1 (6.7%)
	None	20 (28.6%)	4 (11.1%)	3 (20.0%)
	Don't know/Not sure	2 (2.9%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	70 (100.0%)	36 (100.0%)	15 (100.0%)
	Total missing	10	2	1

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

EXP 2

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Limited in any way in any activities because of impairment or health problem	28 (41.2%)	23 (62.2%)	10 (62.5%)
Impairment or health problem			
Diabetes	23 (95.8%)	18 (81.8%)	9 (100.0%)
Hypertension/high blood pressure	11 (91.7%)	8 (50.0%)	3 (33.3%)
Walking problem	6 (60.0%)	8 (44.4%)	4 (57.1%)
Heart problem	7 (58.3%)	2 (12.5%)	1 (14.3%)
Arthritis/rheumatism	5 (50.0%)	3 (20.0%)	1 (14.3%)
Fractures, bone/joint injury	5 (45.5%)	2 (12.5%)	1 (14.3%)
Back or neck problem	4 (40.0%)	2 (13.3%)	1 (14.3%)
Eye/vision problem	3 (37.5%)	17 (89.5%)	6 (100.0%)
Lung/breathing problem	3 (33.3%)	2 (13.3%)	0 (0.0%)
Mental or emotional health	2 (25.0%)	0 (0.0%)	0 (0.0%)
Hearing problem	2 (22.2%)	5 (31.3%)	3 (42.9%)
Cancer	1 (12.5%)	0 (0.0%)	1 (14.3%)
Stroke problem	1 (12.5%)	0 (0.0%)	0 (0.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

EXP 3

Health Status	Without DED (%)	With DED (%)	With DME (%)
Self-rated health: Good	53 (79.1%)	23 (65.7%)	10 (66.7%)
Self-rated health: Poor	14 (20.9%)	12 (34.3%)	5 (33.3%)
Physically unhealthy days	31 (47.7%)	20 (55.6%)	10 (62.5%)
Mentally unhealthy days	13 (19.4%)	7 (19.4%)	3 (18.8%)
Unhealthy days	34 (53.1%)	20 (55.6%)	11 (68.8%)
Activity limitation days	12 (20.0%)	12 (35.3%)	4 (25.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

EXP 4

Item	Response	All respondents	Respondents with Type I diabetes	Respondents with Type II diabetes
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Item	Response	All respondents	Respondents with Type I diabetes	Respondents with Type II diabetes
How do you manage your diabetes?	Diet	111 (86.0%)	7 (77.8%)	96 (88.1%)
	Oral medicine	87 (67.4%)	3 (33.3%)	78 (71.6%)
	Exercise	47 (36.4%)	4 (44.4%)	43 (39.4%)
	Insulin	103 (79.8%)	9 (100.0%)	90 (82.6%)
	Natural/Herbal medicine	12 (9.3%)	1 (11.1%)	8 (7.3%)

NB [1]: Percentages within groups are calculated from non-missing data for that question.

EXP 5.1

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	8 (13.1%)	3 (9.4%)	2 (13.3%)
	Working without pay at home (e.g. housework, farming)	3 (4.9%)	3 (9.4%)	5 (33.3%)
	Retired	10 (16.4%)	5 (15.6%)	1 (6.7%)
	Student	1 (1.6%)	1 (3.1%)	0 (0.0%)
	Not working	39 (63.9%)	20 (62.5%)	7 (46.7%)
	Total Valid Response	61 (100.0%)	32 (100.0%)	15 (100.0%)
	Total missing	19	6	1
Do you receive assistance from the government?	Medical assistance	0 (0.0%)	1 (3.2%)	1 (7.7%)
	Pension assistance	6 (9.2%)	3 (9.7%)	1 (7.7%)
	None of the above	59 (90.8%)	27 (87.1%)	11 (84.6%)
	Total valid response	65 (100.0%)	31 (100.0%)	13 (100.0%)
	Total missing	15	7	3
Did you have trouble paying for food at anytime during the past year?	Yes	8 (12.5%)	3 (8.6%)	2 (12.5%)
	No	56 (87.5%)	32 (91.4%)	14 (87.5%)
	Total Valid Response	64	35	16

Item	Response	Without DED (%)	With DED (%)	With DME (%)
		(100.0%)	(100.0%)	(100.0%)
	Total missing	16	3	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

NB [4]: Percentages within groups are calculated from non-missing data for that question.

EXP 5.2: Age group 18-39 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	2 (40.0%)	0 (0.0%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	1 (20.0%)	0 (0.0%)	0 (0.0%)
	Student	1 (20.0%)	0 (0.0%)	0 (0.0%)
	Not working	1 (20.0%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	5 (100.0%)	0 (0.0%)	0 (0.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	None of the above	5 (100.0%)	0 (0.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	0	0
	Total missing	1	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	2 (40.0%)	0 (0.0%)	0 (0.0%)
	No	3 (60.0%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	5 (100.0%)	0 (0.0%)	0 (0.0%)
	Total missing	1	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

EXP 5.3: Age group 40-59 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	5 (55.6%)	2 (18.2%)	1 (33.3%)
	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (9.1%)	1 (33.3%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Retired	1 (11.1%)	1 (9.1%)	0 (0.0%)
	Student	0 (0.0%)	1 (9.1%)	0 (0.0%)
	Not working	3 (33.3%)	6 (54.5%)	1 (33.3%)
	Total Valid Response	9 (100.0%)	11 (100.0%)	3 (100.0%)
	Total missing	5	0	0
Do you receive assistance from the government?	Medical assistance	0 (0.0%)	1 (10.0%)	1 (50.0%)
	Pension assistance	1 (11.1%)	2 (20.0%)	0 (0.0%)
	None of the above	8 (88.9%)	7 (70.0%)	1 (50.0%)
	Total valid response	9 (100.0%)	10 (100.0%)	2 (100.0%)
	Total missing	5	1	1
Did you have trouble paying for food at anytime during the past year?	Yes	1 (11.1%)	2 (18.2%)	0 (0.0%)
	No	8 (88.9%)	9 (81.8%)	3 (100.0%)
	Total Valid Response	9 (100.0%)	11 (100.0%)	3 (100.0%)
	Total missing	5	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

EXP 5.4: Age group 60-79 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	1 (2.6%)	1 (4.8%)	1 (10.0%)
	Working without pay at home (e.g. housework, farming)	2 (5.3%)	2 (9.5%)	4 (40.0%)
	Retired	6 (15.8%)	4 (19.0%)	1 (10.0%)
	Not working	29 (76.3%)	14 (66.7%)	4 (40.0%)
	Total Valid Response	38 (100.0%)	21 (100.0%)	10 (100.0%)
	Total missing	12	6	1
Do you receive assistance from	Pension assistance	3 (7.0%)	1 (4.8%)	1 (11.1%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
the government?				
	None of the above	40 (93.0%)	20 (95.2%)	8 (88.9%)
	Total valid response	43 (100.0%)	21 (100.0%)	9 (100.0%)
	Total missing	7	6	2
Did you have trouble paying for food at anytime during the past year?	Yes	4 (9.5%)	1 (4.2%)	1 (9.1%)
	No	38 (90.5%)	23 (95.8%)	10 (90.9%)
	Total Valid Response	42 (100.0%)	24 (100.0%)	11 (100.0%)
	Total missing	8	3	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

EXP 5.5: Age group 80+ years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Retired	3 (33.3%)	0 (0.0%)	0 (0.0%)
	Not working	6 (66.7%)	0 (0.0%)	2 (100.0%)
	Total Valid Response	9 (100.0%)	0 (0.0%)	2 (100.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	Pension assistance	2 (25.0%)	0 (0.0%)	0 (0.0%)
	None of the above	6 (75.0%)	0 (0.0%)	2 (100.0%)
	Total valid response	8 (100.0%)	0	2 (100.0%)
	Total missing	2	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	1 (12.5%)	0 (0.0%)	1 (50.0%)
	No	7 (87.5%)	0 (0.0%)	1 (50.0%)
	Total Valid Response	8 (100.0%)	0 (0.0%)	2 (100.0%)
	Total missing	2	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.

NB [2]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [3]: DME = respondents with DME = "Yes".

EXP 6

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
All respondents		134 (100%)	9 (6.7%)	114 (85.1%)	38 (28.4%)	16 (11.9%)
Gender	Male	50 (41.0%)	0 (0.0%)	46 (92.0%)	18 (36.0%)	4 (8.0%)
	Female	72 (59.0%)	8 (11.1%)	58 (80.6%)	19 (26.4%)	12 (16.7%)
	Total Missing	12	1	10	1	0
Age	18-39 yrs	6 (4.5%)	5 (83.3%)	1 (16.7%)	0 (0.0%)	0 (0.0%)
	40-59 yrs	28 (20.9%)	2 (7.1%)	23 (82.1%)	11 (39.3%)	3 (10.7%)
	60-79 yrs	88 (65.7%)	1 (1.1%)	81 (92.0%)	27 (30.7%)	11 (12.5%)
	80 yrs and over	12 (9.0%)	1 (8.3%)	9 (75.0%)	0 (0.0%)	2 (16.7%)
Time since diagnosis	Within the last year	6 (4.6%)	0 (0.0%)	2 (33.3%)	1 (16.7%)	0 (0.0%)
	1 - 5 years ago	20 (15.3%)	2 (10.0%)	17 (85.0%)	8 (40.0%)	1 (5.0%)
	6 - 10 years ago	25 (19.1%)	3 (12.0%)	20 (80.0%)	6 (24.0%)	3 (12.0%)
	11 - 15 years ago	27 (20.6%)	1 (3.7%)	25 (92.6%)	7 (25.9%)	5 (18.5%)
	16 - 20 years ago	27 (20.6%)	1 (3.7%)	24 (88.9%)	6 (22.2%)	5 (18.5%)
	21 years ago or longer	25 (19.1%)	2 (8.0%)	22 (88.0%)	8 (32.0%)	2 (8.0%)
	Don't know/Not sure	1 (0.8%)	0 (0.0%)	1 (100.0%)	1 (100.0%)	0 (0.0%)
	Total Missing	3	0	3	1	0
Control of Diabetes	Controlled	95 (75.4%)	7 (7.4%)	84 (88.4%)	29 (30.5%)	13 (13.7%)
	Not controlled	28 (22.2%)	1 (3.6%)	21 (75.0%)	7 (25.0%)	3 (10.7%)
	Don't know/Not	3 (2.4%)	1 (33.3%)	1 (33.3%)	0 (0.0%)	0 (0.0%)

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
	sure					
	Total Missing	8	0	8	2	0

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Percentages within groups are calculated from non-missing data for that question.

EXP 7

Question	Response	With DED n (%)	With DME n (%)
Have you had any treatment for diabetic eye disease?	Yes	33 (86.8%)	14 (100.0%)
	No	5 (13.2%)	0 (0.0%)
	Total valid response	38 (100.0%)	14 (100.0%)
	Total missing	0	2
What treatment did you receive?	Laser	20 (64.5%)	10 (71.4%)
	Anti-VEGF	11 (35.5%)	9 (64.3%)
	Surgery	25 (80.6%)	7 (50.0%)
	Other	2 (6.5%)	1 (7.1%)
	Total valid response	31 (100.0%)	14 (100.0%)
	Total missing	7	2
Did you complete the treatment?	Yes	20 (62.5%)	6 (42.9%)
	No	1 (3.1%)	0 (0.0%)
	Still receiving treatment	11 (34.4%)	8 (57.1%)
	Total valid response	32 (100.0%)	14 (100.0%)
	Total missing	6	2
Do you feel that the treatment worked?	Yes, and vision improved	16 (55.2%)	9 (64.3%)
	Yes, but vision stayed the same	9 (31.0%)	4 (28.6%)
	No	0 (0.0%)	1 (7.1%)
	Still waiting to know	2 (6.9%)	0 (0.0%)
	Don't know/Not sure	2 (6.9%)	0 (0.0%)
	Total valid response	29 (100.0%)	14 (100.0%)

Question	Response	With DED n (%)	With DME n (%)
	Total missing	9	2
What is/are the reason(s) that you did not complete the treatment?	Other	1 (100.0%)	0 (0.0%)
	Total valid response	1 (100.0%)	0 (0.0%)
	Total missing	37	16
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)	0 (0.0%)
	Still waiting for treatment	1 (20.0%)	0 (0.0%)
	No insurance	1 (20.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	0 (0.0%)
	Total missing	33	16

NB [1]: DED = respondents with DED = "Yes" minus respondents with DME = "Yes".

NB [2]: DME = respondents with DME = "Yes".

NB [3]: Percentages within groups are calculated from non-missing data for that question.

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