

The Diabetic Retinopathy Barometer Report

Portugal

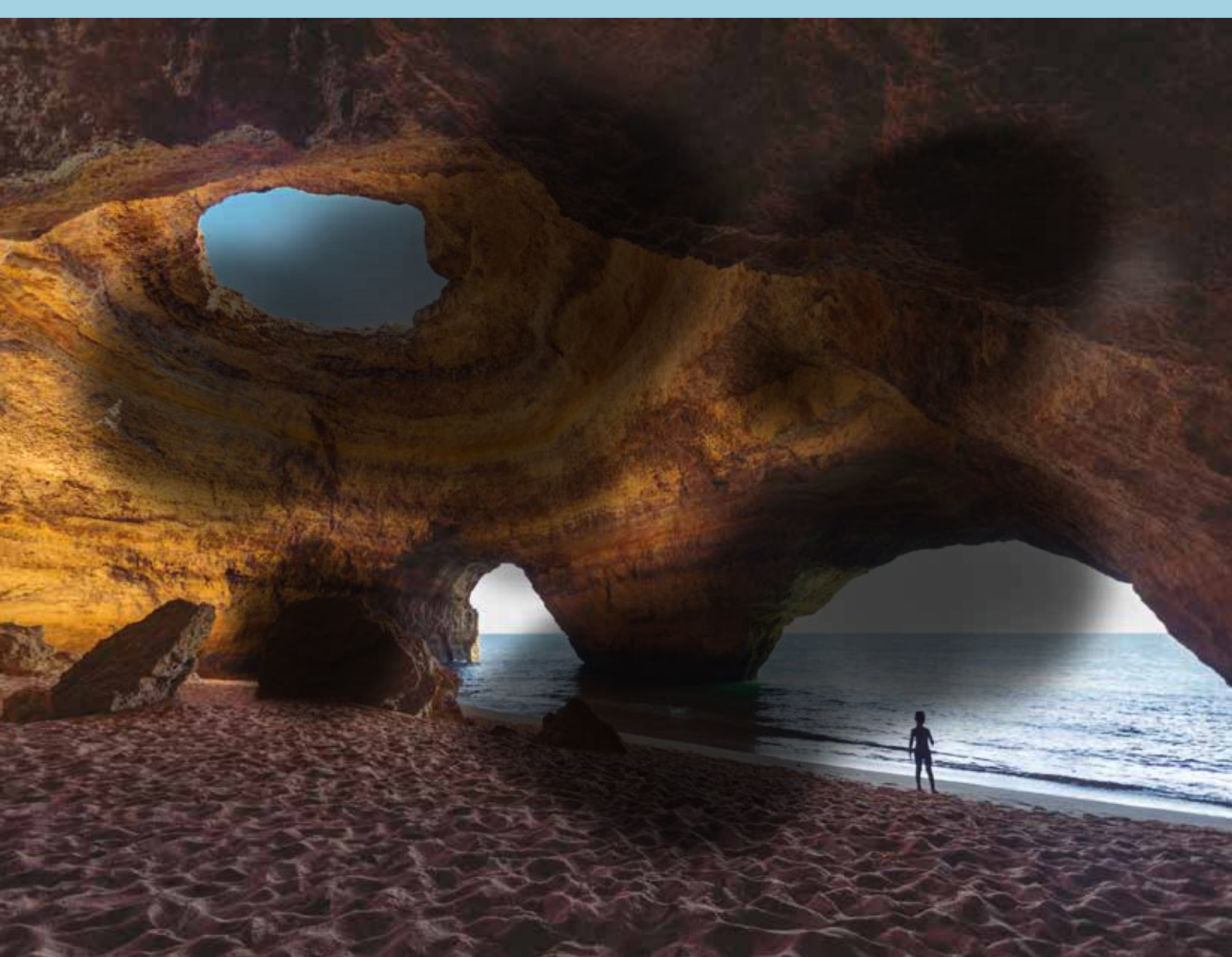


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For detailed information regarding methodology and limitations of the study please refer to the DR Barometer Global Results Report which can be found at DRBarometer.com

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 Portugal.

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 and 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, 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 contribution 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 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 and the World Bank.

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, related national and international policies and the social and economic burden of the disease.

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.

Respondents from each country were grouped into regions as defined by the WHO and into the WBIGs.

Study Populations

The people with diabetes participating in the patient survey were self-selected, predominantly from patient organisations. Therefore, this 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 caution should be applied when interpreting the results.

Even though the sample is not representative of the broader population of people 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 patients and health care professionals around the world. This study provides a rich resource for generating unique insights into the real-life experiences of people living with diabetes, 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 the three following 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% reported to 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 professionals.

Introduction

Portugal Study

Demographic Characteristics¹

Portugal is estimated to be the twelfth most populous country in the European Union with a population of approximately 10.3 million.

Similarly to many other countries belonging to the European Union, Portugal is leaning towards an ageing population. According to most recent statistics it is estimated that only 13% of the population is under the age of 15 while 21% of the population is over the age of 65. This is not surprising as Portugal's population growth for 2015 was -0.5% and life expectancy is currently 81 years old.

This trend will continue in the decades to come leading not only to a decrease in population (9.1 million) but also an increase in the population of those aged 65 or older. By 2050 those under the age of 15 will only make up 14% of the total population while those over the age of 65 will make up 35% of the total population. In just over 30 years the population of 65 years or older will reach an all-time high of 3.2 million, resulting in an age dependency ratio increase from 54% to 88.5%.

Diabetes Profile²

There are 415 million people living with diabetes and more than 59.8 million people are in the European Region. By 2040 this number is expected to rise to 71.1 million.

Fifty-six countries comprise the European Region with diverse populations ranging from Norway, the Russian Federation, Turkey, and Iceland. While the European region has the second-lowest age-adjusted comparative diabetes prevalence rate of any IDF region (after Africa) there are still many countries with relatively high diabetes prevalence rates.

Portugal has over ~1 million (788.1-1,311.8±) adults living with diabetes, which accounts to ~2% of people living with diabetes in this region. Diabetes national prevalence in Portugal (20-79 years) is 13.6% (10.2-17.0±) and the diabetes age-adjusted comparative prevalence in 9.9% (7.1-13.3±), which is above the global average of 8.8%.

Deaths attributed to diabetes in Portugal in 2015 were 7,896, which accounts to only ~1% of the diabetes-related deaths experienced in this region. The estimated number of undiagnosed cases was ~397,900 (408.4-679.8±).

Study Populations: Portugal

As reported by 73 respondents with diabetes in Portugal, 29% were diagnosed with DED and a further 11% reported that they had been diagnosed with DME.

Eighty health care professionals completed the survey in Portugal. Of these, six were diabetes specialist providers (7.5%), 43 were ophthalmologists (54%), and eight were primary care providers (10%). The remaining respondents were either optometrists, nurses, health educators or other professionals.

The DR Barometer Study: Portugal Overview

The DR Barometer study was conducted in 41 countries. In Portugal, 73 adults with diabetes and 80 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

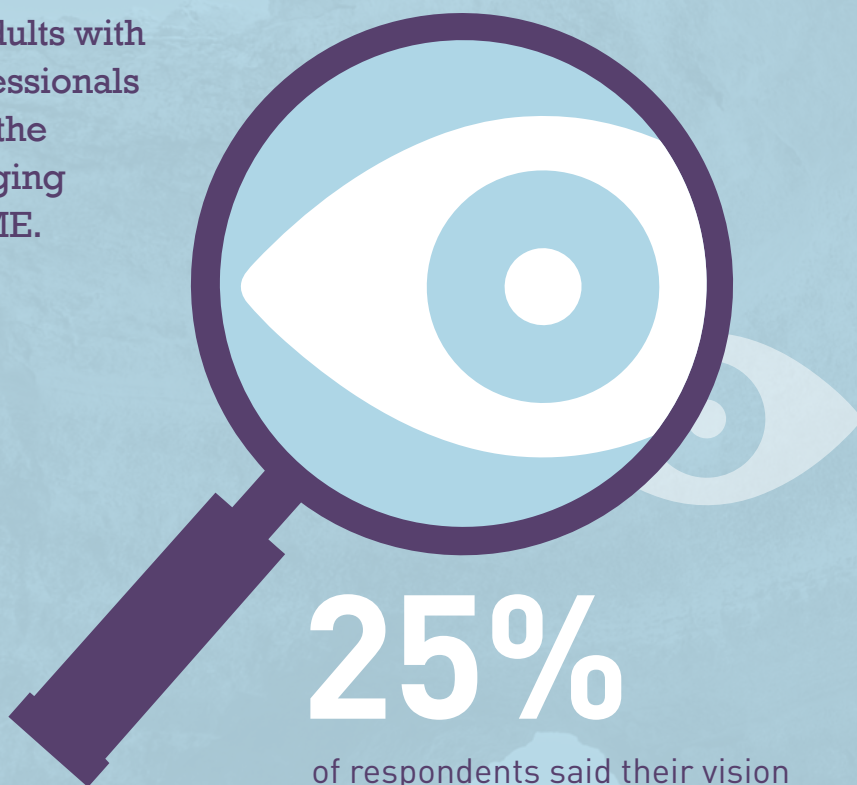
48%

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



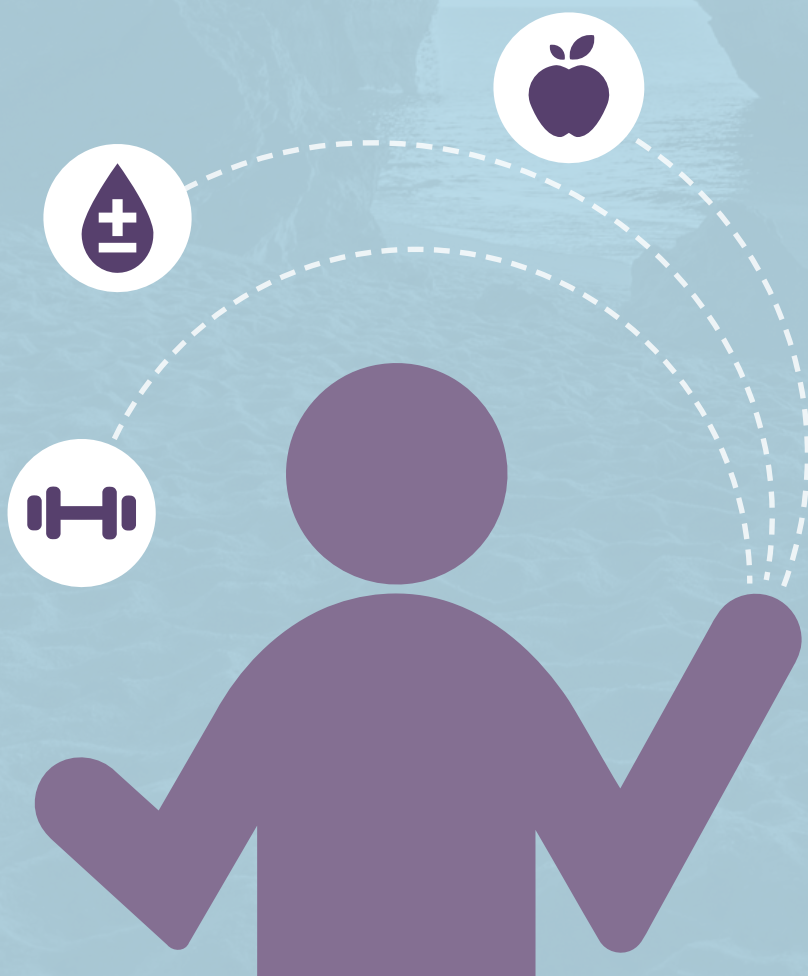
25%

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



21%

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

DRBarometer.com





83%

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



20%

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



27%

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



9%

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



Portugal

DR Barometer Findings:

Adults with Diabetes

Key Demographic Characteristics

Seventy-three adults with diabetes completed the patients' survey in Portugal: 53% were female and 47% were male.

Eighty-one percent lived in an urban setting and 19% in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents were as follows: 3.2% did not complete primary school, 9.7% were educated to a primary school level, 31% to a secondary school level, 36% to a college or university level, and 21% to a graduate or post-graduate level (see Appendix Table 4.3).

Sixty-one percent of all respondents were in paid employment, 15% were retired, and 13% were not working (see Appendix Table 4.4).

Most respondents (44%) were aged between 18 and 39 years (36% were 40-59 years, 19% were 60-79 years and 1.4% were 80 and over). Seventy-nine percent were of traditional working age (18- 59 years) (see Table 1).

Of the respondents in Portugal, 63% had been diagnosed with type 1 diabetes and 34% with type 2 diabetes. A further 2.7% of respondents were either unsure of or did not know their type of diabetes (see Appendix Table 2.1).

Twenty-nine percent of respondents (n=21) had been diagnosed with DED and a further 11% (n=8) with DME.

Six percent of those surveyed were diagnosed with diabetes within the last year, 1 - 5 years ago (18%), 6 - 10 years ago (15%), 11 - 15 years ago (11%), 16 - 20 years ago (12%) and 21 years ago or more (36%) (see Appendix Table 2.2).

Amongst 18 to 39-year-olds, 94% had type 1 and 3.1% had type 2 diabetes. In the 40-59 age group, 54% had type 1 and 46% had type 2 diabetes. For those aged 60-79 years, 14% had type 1 diabetes and 86% had type 2.

In people aged 18-39 years, 28% had DED and 9.4% had DME. For the age group 40-59 years 23% had DED and 15% had DME, and in those aged 60-79 years 43% had DED and 7.1% had DME.

An important trend noted in the findings was that the longer the time since diagnoses the greater the likelihood to be diagnosed with DED and DME.

In the first 10 years of being diagnosed with diabetes, one respondent had been diagnosed with DED (9.1%) and no one had been diagnosed with DME. Fifty-four percent of respondents diagnosed 21 years ago or more had DED and 24% had DME .

Less than half of the respondents reported that their diabetes was well-controlled (41%), whilst over half (57%) felt that this was not the case. For those who felt their diabetes was controlled, 18% had DED and 18% had DME 7.7% 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		73 (100.0%)	46 (63.0%)	25 (34.2%)	21 (28.8%)	8 (11.0%)
Gender	Male	29 (46.8%)	17 (58.6%)	11 (37.9%)	6 (20.7%)	7 (24.1%)
	Female	33 (53.2%)	25 (75.8%)	8 (24.2%)	15 (45.5%)	1 (3.0%)
	Total Missing	11	4	6	0	0
Age	18-39 yrs.	32 (43.8%)	30 (93.8%)	1 (3.1%)	9 (28.1%)	3 (9.4%)
	40-59 yrs.	26 (35.6%)	14 (53.8%)	12 (46.2%)	6 (23.1%)	4 (15.4%)
	60-79 yrs.	14 (19.2%)	2 (14.3%)	12 (85.7%)	6 (42.9%)	1 (7.1%)
	80 yrs. plus	1 (1.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Time since diagnosis	Within the last year	4 (5.5%)	1 (25.0%)	3 (75.0%)	0 (0.0%)	0 (0.0%)
	1 - 5 yrs.	13 (17.8%)	6 (46.2%)	6 (46.2%)	0 (0.0%)	0 (0.0%)
	6 - 10 yrs.	11 (15.1%)	6 (54.5%)	5 (45.5%)	1 (9.1%)	0 (0.0%)
	11 - 15 yrs.	8 (11.0%)	6 (75.0%)	2 (25.0%)	2 (25.0%)	2 (25.0%)
	16 - 20 yrs.	9 (12.3%)	5 (55.6%)	4 (44.4%)	4 (44.4%)	0 (0.0%)
	21 yrs. plus	26 (35.6%)	21 (80.8%)	5 (19.2%)	14 (53.8%)	6 (23.1%)
	Don't know/ Not sure	2 (2.7%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Control of Diabetes	Controlled	28 (41.2%)	19 (67.9%)	9 (32.1%)	5 (17.9%)	5 (17.9%)
	Not controlled	39 (57.4%)	25 (64.1%)	13 (33.3%)	15 (38.5%)	3 (7.7%)
	Don't know/ Not sure	1 (1.5%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	5	2	2	1	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-six percent of those surveyed saw a health care professional for their diabetes, with 68% seeing a diabetes specialist (average number of visits was 3.4 times per year) and 28% seeing a general or family doctor (average number of visits was 2.7 times per year) (see Appendix Table 2.3.1 and 2.3.2).

People were informed about their condition through a variety of channels. Eighty-nine percent received information from a doctor or nurse, 47% from the internet, and 37% from a diabetes organisation or other health organisation (see Table 2 and Appendix Table 2.4).

Table 2: Source of information about diabetes

Information Source	All Respondents (n=71)
Doctor or nurse	63 (88.7%)
Internet	33 (46.5%)
Diabetes organisation or other health organisation	26 (36.6%)
Nutritionist or dietician	24 (33.8%)
TV/Radio/Newspaper/Magazines	12 (16.9%)
Health educator	11 (15.5%)
Social media (e.g. Facebook, Twitter, blogs)	11 (15.5%)
Family/Friends/Neighbours	9 (12.7%)
Pharmacist	2 (2.8%)
None of the above	1 (1.4%)

A range of strategies were used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 51% managed their diabetes with diet, 42% with exercise and 13% with oral medicine. Of the respondents with type 2 diabetes, 88% reported that they managed their condition with oral medicine, 67% with diet, 63% with exercise, and 42% with insulin.

Twenty-four percent of respondents were enrolled in diabetes management programmes and of those, 82% said the programme included information on 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 eye checks. For those who had eye checks (80%), these occurred at: less than 6 months (39%), 6 - 12 months (26%) and greater than 12 months (12%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: it was too hard to eat the right things (51%), there were too many other things to do (24%), long wait times for an appointment to see their doctor or specialist (20%), high cost of care (16%), and travel to their regular doctor or specialist was difficult (13%) (see Appendix Table 2.9).

Free or low cost medicines or monitoring materials (82%), support from family or friends (34%), health education and information (34%), coordination of healthcare and services by a professional (18%), and support groups (12%) were identified as important to improving the management of their diabetes (see Appendix Table 2.10).

Nature and Information about Complications

Ninety-six percent of respondents were aware of vision loss and believed other complications, such as: amputation (93%), kidney disease (88%), cardiovascular disease or stroke (82%), and neuropathy (79%) were associated with diabetes (see Appendix Table 2.11).

Respondents were most concerned about vision loss (51%), cardiovascular disease or stroke (26%), amputation (13%), kidney disease (4.3%), and neuropathy (1.4%) (see Appendix Table 2.12).

Forty-six percent of respondents reported that they had no complications of diabetes. However, of those who did have complications, 30% had vision loss, neuropathy (12%), kidney disease (11%), cardiovascular disease or stroke (9.1%), and amputation (1.5%) (see Figure 1 and Appendix Table 2.13).

Aside from vision loss, there was an increase in the frequency of people with DED experiencing certain complications compared to people without DED. The frequency of neuropathy increased from 7.7% in those without DED to 21% with DED and 13% with DME; as with the reporting of kidney disease increasing from 5.1% for those without DED to 16% in those with DED and 25% with DME (see Table 3 and Appendix EXP 1).

Figure 1: Presence of complications

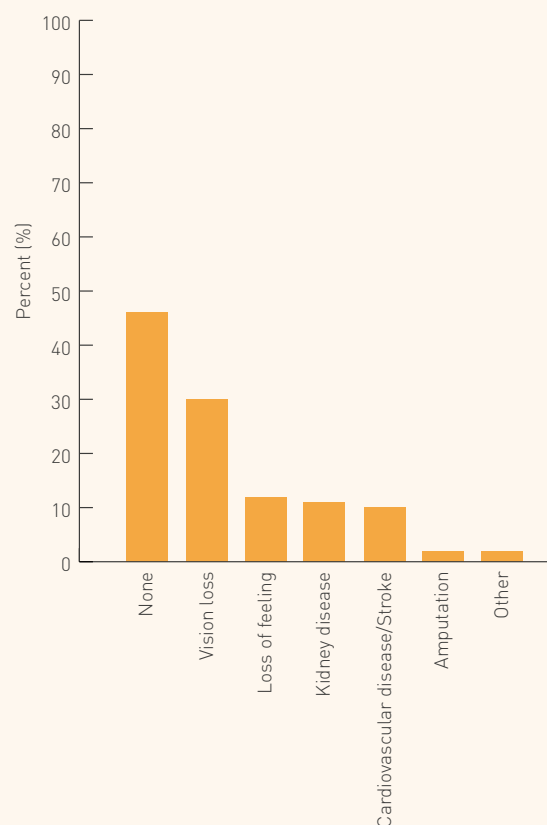


Table 3: Presence of complications without DED, with DED or DEM

Complication	Without DED (n=39)	With DED (n=19)	With DME (n=8)
Any	16 (41%)	12 (63.2%)	8 (100.0%)
Vision loss	3 (7.7%)	11 (57.9%)	6 (75.0%)
Loss of feeling in hands or toes (neuropathy)	3 (7.7%)	4 (21.1%)	1 (12.5%)
Kidney disease	2 (5.1%)	3 (15.8%)	2 (25.0%)
Cardiovascular disease/Stroke	3 (7.7%)	2 (10.5%)	1 (12.5%)
Amputation	0 (0.0%)	0 (0.0%)	1 (12.5%)
Other	0 (0.0%)	0 (0.0%)	1 (12.5%)
None	23 (59.0%)	7 (36.8%)	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.

NB [5]: Not all responses have been presented in this table, but have been included under "Any". Please see Appendix Table EXP1 for the full list of responses.

Information about Diabetic Eye Disease and Diabetic Macular Edema

Eighty-four percent of respondents stated that eye complications were discussed with their health care professionals. Notwithstanding this, one in four patients (27%) either never discussed their eye complications with their providers (15%) or discussions took place only when symptoms arose (12%). The frequency of regular discussions varied from every visit (37%), multiple times a year (15%), and once a year (19%) (see Appendix Table 2.14).

Eighty-eight percent of patients reported that they did what they could to prevent vision problems (e.g. get routine screenings, visit specialists) yet 11% thought that vision problems were a normal part of ageing and 14% made no special effort to have a preventative approach to their eye health (see Appendix Table 2.15).

Seventy-two percent of all respondents had received Information about DR and DME with the doctor or nurse being the most common source (53%) (see Table 4 and Appendix Table 3.9).

Table 4: Sources of information about DR and DME

Source	With DME (n=61)
Doctor/Nurse	32 (52.5%)
Internet	19 (31.1%)
Diabetes organisation or other health organisation	13 (21.3%)
Health educator	7 (11.5%)
TV/Radio/Newspaper/Magazines	4 (6.6%)
Family/Friends/Neighbours	3 (4.9%)
None of the above	17 (27.9%)

NB [1]: 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

Eighty-four percent of respondents reported having an eye exam for DED, with 78% having the exam within the last year and a further 20% more than one year ago but less than two years ago. Half of respondents were aware of government sponsored screening programmes for DED (see Appendix Table 3.1 and 3.2).

While 88% of those surveyed thought they should have their eyes examined for DED once a year, there were a varied small number of respondents who thought that either testing should happen every two years, less often than every two years or that testing should not occur at all (see Appendix Table 3.4).

The biggest barriers to eye exams were long wait times for an appointment (48%), the cost of treatment is too expensive (25%), and long wait times on the day of the visit (17%) (see Table 5 and Appendix Table 3.5).

Table 5: Barriers to eye examinations

Identified Barriers	All Respondents (n=52)
Long wait time for appointment	25 (48.1%)
They are expensive	13 (25.0%)
Long wait time on the day of the visit	9 (17.3%)
Referral process is complicated or takes too long	8 (15.4%)
Eye exams are not available near my home	6 (11.5%)
Don't know much about my condition	6 (11.5%)
Limited access to diabetes specialists	6 (11.5%)
Fear of treatment/results	3 (5.8%)
I'm not likely to have eye complications	3 (5.8%)
Too many other things to do or worry about	3 (5.8%)
Recommended treatments for eye problems are not available	1 (1.9%)
Burden on my family/friends	1 (1.9%)
Clinics are too small or lack necessary equipment/staff	1 (1.9%)
Other	8 (15.4%)

Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME. Those with DED (57%) all received laser treatment which was ongoing for five of the respondents. Half had completed treatment and 73% of this group felt that treatment had been successful and their vision had either improved (55%) or stayed the same (18%). One respondent reported that they felt the treatment did not work (see Table 6).

For the nine respondents (43%) with DED who had not received treatment, the most common reason reported was that their doctor did not recommend treatment.

Eighty-six percent of patients with DME (n=6) had received treatment, that being laser, and all respondents felt that the treatment had been successful and either their vision had improved (33%) or had stayed the same (67%).

There was a strong preference by all of those with DME to have a proactive approach in the treatment pathway to prevent further vision loss rather than a reactive approach 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=21)	With DME (n=7)
Have you had any treatment for diabetic eye disease?	Yes	12 (57.1%)	6 (85.7%)
	No	9 (42.9%)	1 (14.3%)
What treatment did you receive?	Laser	12 (100.0%)	6 (100.0%)
	Anti-VEGF	3 (25.0%)	4 (66.7%)
	Surgery	1 (8.3%)	1 (16.7%)
Did you complete the treatment?	Yes	6 (50.0%)	4 (66.7%)
	No	1 (8.3%)	0 (0.0%)
	Still receiving treatment	5 (41.7%)	2 (33.3%)
Do you feel that the treatment worked?	Yes, and vision improved	6 (54.5%)	2 (33.3%)
	Yes, but vision stayed the same	2 (18.2%)	4 (66.7%)
	No	1 (9.1%)	0 (0.0%)
	Still waiting to know	1 (9.1%)	0 (0.0%)
	Don't know/Not sure	1 (9.1%)	0 (0.0%)
What is/are the reason(s) that you did not complete the treatment?	Other	1 (100.0%)	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	6 (75.0%)	0 (0.0%)
	Treatment would not be effective	1 (12.5%)	0 (0.0%)
	Still waiting for treatment	1 (12.5%)	1 (100.0%)
	Other	1 (12.5%)	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

Sixty-one percent of those diagnosed with DED or DME said that their vision was affected (29% significantly, 32% slightly) (see Appendix Table 3.6).

Ninety-four percent of these respondents reported vision issues impacted their daily lives in various ways such as difficulty experienced in driving a vehicle (56%), working or keeping a job (38%), social interactions with family or friends (31%), leisure activities or exercise (25%), managing their underlying diabetes (25%), travelling (19%), and household responsibilities, such as cooking or cleaning (19%) (see Table 7).

Table 7: Activities affected through vision impairment and loss

	All Respondents (n=16)
Driving (a car/vehicle)	9 (56.3%)
Work or keeping a job	6 (37.5%)
Social interactions with family/friends	5 (31.3%)
Leisure activities/exercise	4 (25.0%)
Managing my diabetes	4 (25.0%)
Travelling	3 (18.8%)
Household responsibilities, such as cooking or cleaning	3 (18.8%)
Other	3 (18.8%)
None	1 (6.3%)

Patients with vision complications reported difficulties with work or keeping a job (38%) and 9.5% of those with DED (n=2) were not working. Sixty-seven percent of those with DED, and 50% with DME, were in paid employment compared with 61% of respondents without DED (see Table 8 and EXP 5.1).

Seventy-one percent of all those surveyed did not receive assistance from the government while 24% received medical assistance (see Appendix Table 4.5). Thirty percent of respondents without DED, 29% with DED, and 25% with DME received some form of assistance from the government.

Sixty-nine percent of respondents said they had no trouble paying for food at any time during the past year. Although 82% stated that their access to health care was not affected by any factors, for 8.9% it was affected by the place where they lived (see Appendix Table 4.6 and 4.7).

Sixty percent of respondents said they worried about their health, 17% about family and 10% were worried about money (see Appendix Table 4.8).

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

Question	Response	Without DED (n=33)	With DED (n=21)	With DME (n=8)
Are you currently working?	Working for pay	20 (60.6%)	14 (66.7%)	4 (50.0%)
	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (4.8%)	0 (0.0%)
	Retired	5 (15.2%)	3 (14.3%)	1 (12.5%)
	Student	4 (12.1%)	1 (4.8%)	1 (12.5%)
	Not working	4 (12.1%)	2 (9.5%)	2 (25.0%)
Question	Response	Without DED (n=30)	With DED (n=21)	With DME (n=8)
Do you receive assistance from the government?	Income assistance	0 (0.0%)	0 (0.0%)	1 (12.5%)
	Medical assistance	6 (20.0%)	6 (28.6%)	2 (25.0%)
	Food assistance	0 (0.0%)	0 (0.0%)	1 (12.5%)
	Pension assistance	4 (13.3%)	1 (4.8%)	0 (0.0%)
	None of the above	21 (70.0%)	15 (71.4%)	6 (75.0%)
Question	Response	Without DED (n=33)	With DED (n=21)	With DME (n=8)
Did you have trouble paying for food at any time during the past year?	Yes	10 (30.3%)	6 (28.6%)	3 (37.5%)
	No	23 (69.7%)	15 (71.4%)	5 (62.5%)

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 depending on whether respondents had been diagnosed with DED or DME (see Table 9).

Seventy-five percent of people with DED, 73% without DED and 86% with DME reported their health as poor. While reported health was reasonably consistent whether the respondent had DED or not, there was a 30% increase in the activity limitation days between those without DED and those with DED. DED impacted on a person’s functional ability to undertake activities.

Compared with 21% of those without DED, 52% of people with DED and 29% of people with DME experienced limitations to their daily activities as a result of poor health. Where health impacted daily activities, the primary limitations were: diabetes, walking problems and back or neck problems (see Appendix EXP 2).

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

Health Status	Without DED (n=44)	With DED (n=21)	With DME (n=8)
Self-rated health: Good	9 (27.3%)	5 (25.0%)	1 (14.3%)
Self-rated health: Poor	24 (72.7%)	15 (75.0%)	6 (85.7%)
Physically unhealthy days	14 (48.3%)	6 (35.3%)	3 (50.0%)
Mentally unhealthy days	14 (50.0%)	6 (40.0%)	2 (33.3%)
Unhealthy days	23 (82.1%)	9 (56.3%)	5 (83.3%)
Activity limitation days	5 (20.0%)	3 (50.0%)	1 (16.7%)

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.

Portugal

DR Barometer Findings:

Health Care Professionals

Key Demographic Characteristics

There were 80 health care professionals who answered at least one of the survey questions in Portugal. Of these, eight were primary care providers (10%), six were diabetes specialist providers (7.5%) and 43 were ophthalmologists (54%). The remaining respondents were optometrists, nurses, health educators or other professionals (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 16 years, with the ophthalmologist group practicing for an average of 19 years (see Appendix PT 1.5).

Health care professionals were well educated (82% with graduate or advanced degree), 48% were female and 52% male, and the largest proportion were aged 50 - 59 years (37%) with a further 20% in the 40-49 age group (see Appendix PT 3.1 and Table 10).

Table 10: Summary of key characteristics of health care professionals

Group	Subgroup	All Respondents	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist
All respondents		80 (100.0%)	8 (10.0%)	6 (7.5%)	43 (53.8%)
Age group	18 - 29 yrs.	4 (7.4%)	3 (50.0%)	0 (0.0%)	1 (2.8%)
	30 - 39 yrs.	14 (25.9%)	1 (16.7%)	0 (0.0%)	9 (25.0%)
	40 - 49 yrs.	11 (20.4%)	0 (0.0%)	1 (16.7%)	9 (25.0%)
	50 - 59 yrs.	20 (37.0%)	2 (33.3%)	3 (50.0%)	14 (38.9%)
	60 - 69 yrs.	5 (9.3%)	0 (0.0%)	2 (33.3%)	3 (8.3%)
Gender	Female	26 (48.1%)	5 (83.3%)	3 (50.0%)	15 (41.7%)
	Male	28 (51.9%)	1 (16.7%)	3 (50.0%)	21 (58.3%)
Education	College/University	10 (18.5%)	5 (83.3%)	0 (0.0%)	2 (5.6%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	44 (81.5%)	1 (16.7%)	6 (100.0%)	34 (94.4%)

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

Fifty-one percent of all providers had their main practice setting in a hospital and for ophthalmologists only the settings were a hospital (69%), eye clinic (19%), and diabetes clinic (12%) (see Appendix PT 2.1).

Eighty-eight percent of health care professionals worked in an urban setting (see Appendix PT 2.2).

Most health care professionals worked in the government sector (57%). Ophthalmologists reported that they worked mainly in the government (57%), combined or mixed (21%), and non profit (12%) sector (see Appendix PT 2.3).

The health care professionals reported that 53% of patients pay a reduced or subsidised rate for services, 42% do not pay for services and 17% pay out-of-pocket (full fees) for services. The pattern was similar for ophthalmologists, where 65% of patients pay a reduced or subsidised rate for services, 38% do not pay for services and 20% pay out-of-pocket (full fees) for services (see Appendix PT 2.7).

Health care professionals reported that an average of 83 patients were seen per week and the average proportion of patients with diabetes was 38%. Ophthalmologists saw an average of 71 patients per week and the average proportion of patients with diabetes was 37% (see Appendix PT 2.6).

For all health care professionals, the average waiting time for an appointment was most commonly more than one week but less than one month (32%), or six or more months (14%) (see Table 11 and Appendix PT 2.5).

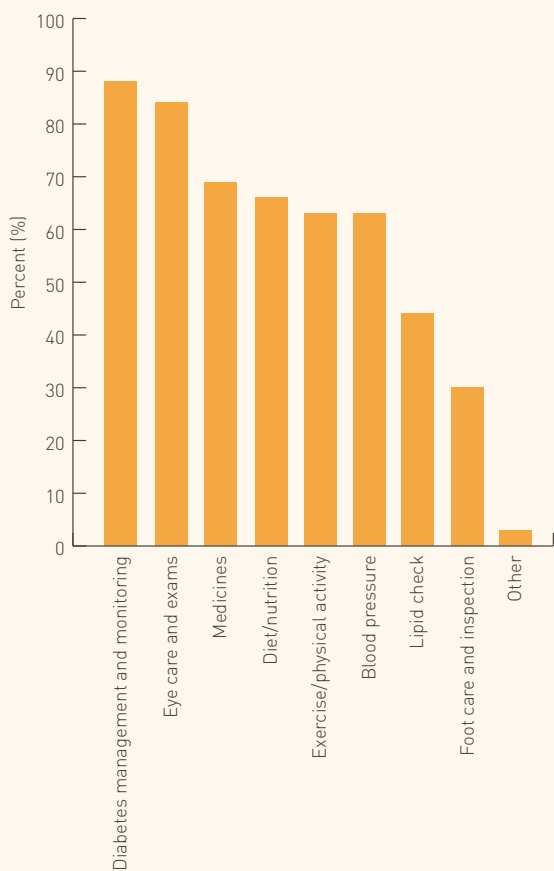
Table 11: Average wait times to schedule an appointment

Wait Time Intervals	All Respondents (n=65)	Ophthalmologist (n=40)
Less than 1 week	8 (12.3%)	3 (7.5%)
More than 1 week but less than 1 month	21 (32.3%)	13 (32.5%)
More than 1 month but less than 2 months	6 (9.2%)	3 (7.5%)
More than 2 months but less than 3 months	5 (7.7%)	4 (10.0%)
More than 3 months but less than 6 months	8 (12.3%)	7 (17.5%)
Six or more months	9 (13.8%)	7 (17.5%)
Do not take appointments	3 (4.6%)	0 (0.0%)
Other	1 (1.5%)	1 (2.5%)
Don't know/Not sure	4 (6.2%)	2 (5.0%)

Patient Education Information

A wide range of topics related to diabetes and its management were addressed by the health care professionals 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 related to eye complications varies.

Sixteen percent of all providers reported that they had sufficient information on diabetes and potential eye complications, 27% said the information on eye complications was not sufficient and 3.6% said information on eye complications was not included. Overall, 35% of those surveyed had no written information available at all for their patients (see Table 12 and Appendix PT 2.11).

Some ophthalmologists (20%) had written information about diabetes and potential eye complications and 17% had information on diabetes but information on eye complications was not sufficient. Forty-three percent of ophthalmologists said there was no written information available at all.

Guidelines and Protocols

Sixty-three percent of providers, including 56% of ophthalmologists, had written protocols for the management of diabetes which were used by staff. However, 23% had no such protocols (see Appendix PT 2.12).

With respect to the management of diabetes-related vision issues, 57% of health care professionals, including 67% of ophthalmologists, had written protocols and these were used by staff but for some 8.9% the protocols available were not used by staff. Twenty-one percent of all providers did not have protocols on the management of diabetes-related vision issues available (see Table 12 and Appendix PT 2.13).

Table 12: Availability and use of information and protocols

Question	Response	All Respondents (n=55)	Ophthalmologist (n=35)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	9 (16.4%)	7 (20.0%)
	Yes, but information on eye complications is not sufficient	15 (27.3%)	6 (17.1%)
	Yes, but no information on eye complications is included	2 (3.6%)	0 (0.0%)
	No written information is available for patients	19 (34.5%)	15 (42.9%)
	Don't know/Not sure	10 (18.2%)	7 (20.0%)
Question	Response	All Respondents (n=56)	Ophthalmologist (n=36)
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	32 (57.1%)	24 (66.7%)
	Yes, available but not used by staff	5 (8.9%)	3 (8.3%)
	Not available	12 (21.4%)	7 (19.4%)
	Don't know/Not sure	7 (12.5%)	2 (5.6%)

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.

For those with type 1 diabetes 44% of all providers reported that the initial eye exam should occur at time of the diagnosis of diabetes. For patients with type 2 diabetes 82% of all providers recommended an eye exam at time of diagnosis (see Appendix PT 2.14).

Overall, eighty-nine percent of health care professionals reported that follow-up eye examinations were conducted every year. All ophthalmologists screen patients for DR (see Appendix PT 2.15 and PT 2.16).

Across all health care professionals, 57% reported that they send appointment reminders and 35% do not (see Appendix PT 2.19).

Eighty-seven percent of the health care professionals shared information with other health care professionals to optimise patient care management (see Appendix PT 2.20).

The most common patient characteristics influencing the referral process for eye complications were: diabetes duration (70%), high glucose levels (65%), presence of comorbidities such as hypertension (63%), patient's age (43%), and patient adherence to recommendations (28%) (see Appendix PT 2.17).

As reported by health care professionals, the major barriers to optimising eye health faced by patients with diabetes were long wait times for an appointment (52%), proximity to care (37%), and referral process (37%). Ophthalmologists like health care professionals reported similar such barriers (see Table 13 and Appendix PT 2.18).

Table 13: Major barriers to optimising eye health

Response	All Respondents (n=54)	Ophthalmologists (n=36)
Long wait time for appointment	28 (51.9%)	19 (52.8%)
Referral process	20 (37.0%)	15 (41.7%)
Cost of care	16 (29.6%)	14 (38.9%)
Proximity to care	20 (37.0%)	13 (36.1%)
Limited access to eye specialists	18 (33.3%)	10 (27.8%)
Lack of knowledge and/or awareness	12 (22.2%)	9 (25.0%)
Patients fear of treatment/results	14 (25.9%)	9 (25.0%)
Limited access to diabetes specialists	10 (18.5%)	8 (22.2%)
Long wait time on the day of visit	7 (13.0%)	6 (16.7%)
Patients feel eye exams are not important	8 (14.8%)	6 (16.7%)
Patients feel eye complications are unlikely	9 (16.7%)	5 (13.9%)
Recommended treatments are not available	5 (9.3%)	3 (8.3%)
Patients have competing responsibilities and priorities	5 (9.3%)	3 (8.3%)
Clinic too small or lack necessary equipment/staff	3 (5.6%)	2 (5.6%)
Patients feel they are a burden on family/friends	3 (5.6%)	0 (0.0%)
Other	5 (9.3%)	4 (11.1%)

Portugal

DR Barometer Findings:

Ophthalmologists

Screening

There were thirty-four ophthalmologists who answered at least one of the supplementary questions (see Appendix PT 4.1 to PT 4.14). On average, 24% of patients seen by the ophthalmologists had DR and 14% DME (see Appendix PT 4.1 and PT 4.2).

The most common waiting time for a screening appointment for DED was more than one week but less than one month (34%) with 14% stating six or more months (see Appendix PT 4.3).

Sixty-six percent of ophthalmologists reported that there was no wait from time of screening to diagnosis, 17% (n=6) reported a wait time of more than one month but less than two months (see Appendix PT 4.4).

Treatment and Challenges

All ophthalmologists personally administer treatment for DR (See Appendix PT 4.6).

The most common factors influencing how ophthalmologists treat patients with DR or DME were: the duration of diabetes (71%), the presence of comorbidities such as hypertension (71%), and high glucose levels (68%) (see Appendix PT 4.7).

The most common outreach venues for screening for DED were vision centres (41%), mobile screening centres (21%), don't know or not sure (21%), health fairs for people with diabetes (8.8%), other (8.8%), and health fairs for all (2.9%) (see Appendix PT 4.13).

Seventy-nine percent of ophthalmologists reported that they screen patients for DR using retinal photo. Additionally, 62% use fundoscopy through dilated pupils, 27% use fluorescein angiography, and 24% use optical coherence tomography. Ninety-four percent said that they treat DR and DME based on both visual and anatomical outcomes (see Appendix PT 4.8 and PT 4.9).

Fifty-three percent of ophthalmologists said that most patients present when visual problems have already occurred, 41% said that patients present “in time” for screening and 5.9% (n=2) said that patients present too late for effective treatment although the sample is notably very small (see Appendix PT 4.10).

Ninety-one percent of ophthalmologists had received specific training on the treatment and diagnosis of DR and or DME. Sixty-eight percent had training within the past year, 26% more than one year ago but less than five years and 3.2% had training five or more years ago (see Appendix PT 4.11).

Ninety-one percent would be interested in online education and certification on DME, angiogenesis and anti-VEGF therapies (see Appendix PT 4.12).

Ophthalmologists reported that the greatest challenges for improving patient outcomes in DED were late diagnosis of DR and DME (65%), complex and sometime inadequate referral pathways (56%), and reimbursement or restrictions on approved therapy (41%) (see Table 14 Appendix PT 4.14).

Table 14: Challenges for improving outcomes in DED

Question	Response	Ophthalmologist (n=34)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Late diagnosis	22 (64.7%)
	Referral pathways	19 (55.9%)
	Reimbursement/restrictions on approved therapy	14 (41.2%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	12 (35.3%)
	Multi-disciplinary team integration is poor	10 (29.4%)
	Government/insurance not able to cover patient costs	9 (26.5%)
	Current available therapies not effective	6 (17.6%)
	Ineffective screening services	4 (11.8%)
	No universal guidelines on referral/screening	2 (5.9%)
	No universal guidelines on how to treat	1 (2.9%)
	No universal guideline on when to treat	1 (2.9%)
	Other	4 (11.8%)

Portugal

DR Barometer Summary

In Portugal, 73 adults with diabetes and 80 health care professionals have provided insight about their experiences of living with, managing and treating diabetes, DR and DME. The results help to understand awareness, management and services available in Portugal.

Portugal is estimated to be the twelfth most populous country in the European Union with a population of approximately 10.3 million with an estimated over ~1 million adults living with diabetes. Similarly to many other countries belonging to the European Union, Portugal is leaning towards an ageing population. According to most recent statistics it is estimated that only 13% of the population is under the age of 15 while 21% of the population is over the age of 65.

This trend will continue in the decades to come leading not only to a decrease in population (but also an increase in the population of those aged 65 or older. In just over 30 years the population of 65 years or older will reach an all-time high of 3.2 million, resulting in an age dependency ratio increase from 54% to 88.5%.

Diabetes national prevalence in Portugal (20-79 years) is 13.6% (10.2-17.0±) and the diabetes age-adjusted comparative prevalence in 9.9% (7.1-13.3±), which is above the global average of 8.8%. Deaths attributed to diabetes in Portugal in 2015 were 7,896, and the estimated number of undiagnosed cases was ~397,900 (408.4-679.8±).

Of the respondents in Portugal, 63% had been diagnosed with type 1 diabetes and 34% with type 2 diabetes. Amongst 18 to 39 year-olds, 94% had type 1 and 3.1% had type 2 diabetes. In the 40-59 age group, 54% had type 1 and 46% had type 2 diabetes. For those aged 60-79 years, 14% had type 1 diabetes and 86% had type 2.

Twenty-nine percent of respondents (n=21) had been diagnosed with DED and a further 11% (n=8) with DME. In people aged 18-39 years, 28% had DED and 9.4% had DME, this increased to 23% for DED and 15% had DME in those aged 40-59 years. For people aged 60-79 years 43% had DED and 7.1% had DME.

The DR Barometer findings indicate an important, and well known, trend noted in the findings that generally the longer the time since diagnoses the greater the likelihood to be diagnosed with DED. In the first 10 years of being diagnosed with diabetes, one respondent had been diagnosed with DED (9.1%) and no one had been diagnosed with DME. Fifty-four percent of respondents diagnosed 21 years ago or more had DED and 24% had DME .

People were most often informed about their condition from their health care professionals, such as doctor, nurse, nutritionist, or dietician. It should be noted though a reliance on diabetes, or other health, organisations. A trend globally, which was reflected in the Portugal study, was the increasing usage of the internet by over half (47%).

Many of those surveyed struggled with the management of their diabetic condition with some issues that were within their personal control such as finding the right things to eat, balancing one's health with other life priorities, not wanting to acknowledge having diabetes. For some capacity constraints on healthcare services was a barrier.

A compilation of not balancing priorities whilst having diabetes may be a factor in the finding that only 24% of respondents were currently enrolled in a diabetes management programme.

There was not only high awareness of the complications associated with diabetes but vision loss was feared twice more than any other complication such as cardiovascular disease, stroke or loss of limb.

There was also an increase in the frequency of people with DED and DME experiencing certain complications compared with those without DED. The frequency of kidney disease increased from 5.1% in those without DED to 16% with DED and 25% with DME. The frequency of other complications also increased but the number of respondents were too small to identify a specific trend.

The relationship between the patient and their health care provider is critical to realistic and optimal patient outcomes. Indeed, health education and information was reported by patients as an important tool to improve the management of one's diabetes yet almost half of respondents did not receive any information on eye complications from their doctor or nurse.

Likewise, almost a quarter (22%) of all health care professional reported one of the major barriers to optimising eye health was a lack of knowledge or awareness on behalf of the patient and yet only 16% of all providers felt that they had sufficient information on diabetes and potential eye complications available for their patients.

It is also important to note, one in four patients either never discussed eye complications with their health care providers or discussions only took place once symptoms arose. Equally concerning were the myths and perceptions around vision changes and prevention strategies, with one in ten believing that vision problems were a normal part of ageing and some not making any effort to prevent vision problems.

Knowledge and guidance was not only an issue for patients, as 57% of all providers said that they did not have written protocols or guidelines available in the management of diabetes-related vision issues.

Almost two-thirds (61%) of those diagnosed with DED or DME said that their vision was affected either slightly or significantly, and 94% of these respondent reported ways in which in vision impairment impacted their health, lifestyle, and life choices.

Diving a vehicle, working or keeping a job, social interactions with family or friends, household responsibilities such as cooking or cleaning, and even managing their underlying diabetes was affected by vision impairment or loss due to DED or DME. All respondents with DME preferred a proactive treatment approach to prevent further vision loss rather than a reactive treatment once further vision loss has occurred.

Health, family, and money were the top three 'worries' on the mind of the respondents surveyed.

Knowing that diabetes-related vision loss is preventable, addressing barriers to eye screening is an important policy issue. While most respondents had received an eye exam, which is understandable considering the purposeful sample, there remained many barriers, primarily those associated with clinical capacities, such as long wait time to schedule an appointment, high cost of care, and difficulties in travelling to their regular doctor or specialist.

Supporting this, health care professionals reported long wait times to schedule an appointment, proximity to care, and the referral process as the major barriers to optimising eye health.

The top characteristics influencing the referral process for eye care providers, including ophthalmologists, were the duration of diabetes, high glucose levels, the presence of comorbidities such as hypertension, a patient's age, and a patient's ability to adhere to recommendations.

Ophthalmologists reported that the greatest challenges for improving patient outcomes in DED were late diagnosis of DR or DME, complex, and sometimes inadequate, referral pathways, and reimbursement restrictions on approved therapies.

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 policy action in Portugal.

References and Acknowledgement

¹ The World Bank. (2016). *Health nutrition and population statistics: Population estimates and projections* (World Data Bank). Washington, D.C.: The World Bank. Retrieved from <http://databank.worldbank.org/data/reports.aspx?source=Health%20Nutrition%20and%20Population%20Statistics:%20Population%20estimates%20and%20projections>

² International Diabetes Federation. (2015). *IDF Diabetes Atlas*. Accessed from: <http://www.diabetesatlas.org/>

The IFA, IDF and IAPB would like to acknowledge and thank the many organisations and health care professionals from Portugal that assisted in the dissemination of patient and provider surveys, your contributions were pivotal to the success of the DR Barometer Study.

Appendices

The Diabetic Retinopathy Barometer Survey: Appendices for Portugal

APPENDIX 1 : National Results

Table 1.1

Survey Information	Number of Respondents (%)
All valid respondents [1]	95 (100.0%)
Respondents aged 18 or over	89 (93.7%)
Respondents with diabetes	75 (78.9%)

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

Table 1.2

Survey Information	Number of Respondents (%)
All valid respondents	95 (100.0%)
Included in Diabetic Analysis Set	73 (76.8%)
Excluded from Diabetic Analysis Set	22 (23.2%)
Reasons for exclusion from diabetic analysis set	.
Under 18 years of age	6
Not diagnosed with diabetes	10
Missing information on diabetes diagnosis	4
Gestational diabetes only	2

Table 1.3

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	73 (100.0%)
World Bank Income Group: High Income	73 (100.0%)
Persons with diabetic eye disease (DED)	21 (28.8%)
Persons with diabetic macular edema (DME)	8 (11.0%)
Persons with Type I diabetes	46 (63.0%)
Persons with Type II diabetes	25 (34.2%)
Persons not seeing health care professional for diabetes	3 (4.1%)
Persons seeing health care professional for diabetes	70 (95.9%)
Persons with eye disease & not received treatment	10 (13.7%)

Survey Information	Number of Respondents (%)
Persons with eye disease & received treatment	18 (24.7%)

Table 2.1

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	46 (63.0)
	Type II	25 (34.2)
	Don't know/Not sure	2 (2.7)
	Total Valid Response	73 (100.0)

Table 2.2

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	4 (5.5)
	1 - 5 years ago	13 (17.8)
	6 - 10 years ago	11 (15.1)
	11 - 15 years ago	8 (11.0)
	16 - 20 years ago	9 (12.3)
	21 years ago or longer	26 (35.6)
	Don't know/Not sure	2 (2.7)
	Total Valid Response	73 (100.0)

Table 2.3.1

Question	Response	Number of Respondents (%)
Do you see a health care professional for your diabetes?	Yes	70 (95.9)
	No	3 (4.1)
	Total Valid Response	73 (100.0)
What kind of health care professional?	General/Family Doctor	19 (27.9)
	Diabetes Specialist	46 (67.6)
	Other	2 (2.9)
	Don't know/Not sure of kind	1 (1.5)

Question	Response	Number of Respondents (%)
	Total Valid Response	68 (100.0)
	Total missing	5

Table 2.3.2

Type of health care professional	Times per year seen for diabetes	Value
General/Family Doctor	Total valid numeric response (n)	13
	Mean	2.7
	SD	1.1
	Median	3.0
	Min	1
	Max	4
	Don't know/Not sure	5
	Total missing	1
Diabetes Specialist	Total valid numeric response (n)	44
	Mean	3.4
	SD	1.6
	Median	4.0
	Min	1
	Max	10
	Don't know/Not sure	1
	Total missing	1
Other	Total valid numeric response (n)	2
	Mean	2.5
	SD	2.1
	Median	2.5
	Min	1
	Max	4
Don't know/Not sure of kind	Don't know/Not sure	1

Table 2.4

Question	Response	Number of Respondents (%)
How have you received	Doctor or nurse	63 (88.7%)

Question	Response	Number of Respondents (%)
information about diabetes?		
	Health educator	11 (15.5%)
	Nutritionist or dietitian	24 (33.8%)
	Diabetes organization or other health organization	26 (36.6%)
	Family/Friends/Neighbors	9 (12.7%)
	TV/Radio/Newspaper/Magazines	12 (16.9%)
	Internet	33 (46.5%)
	Social media (e.g. Facebook, Twitter, blogs)	11 (15.5%)
	Pharmacist	2 (2.8%)
	None of the above	1 (1.4%)
	Total Valid Response	71 (100.0%)
	Total missing	2

Table 2.5

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	40 (57.1%)
	Oral medicine	28 (40.0%)
	Exercise	34 (48.6%)
	Insulin	53 (75.7%)
	Natural/Herbal medicine	2 (2.9%)
	Total Valid Response	70 (100.0%)
	Total missing	3

Table 2.6

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	17 (23.9)
	No	54 (76.1)
	Total Valid Response	71 (100.0)
	Total missing	2
Who sponsors the programme?	Hospital support	2 (12.5)

Question	Response	Number of Respondents (%)
	program	
	Pharmaceutical support program	1 (6.3)
	Patient organization support program	10 (62.5)
	Don't know/Not sure	3 (18.8)
	Total Valid Response	16 (100.0)
	Total missing	57
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	14 (82.4)
	No	3 (17.6)
	Total Valid Response	17 (100.0)
	Total missing	56

Table 2.7

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
Blood glucose test	Yes	69 (98.6%)
	Less than 6 months	58 (82.9%)
	6 - 12 months	6 (8.6%)
	Greater than 12 months	2 (2.9%)
	Total valid response	66 (94.3%)
	Total missing	7
	No	1 (1.4%)
	Total valid response	70 (100.0%)
	Total missing	3
Urine check	Yes	68 (97.1%)
	Less than 6 months	51 (72.9%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	6 - 12 months	11 (15.7%)
	Greater than 12 months	3 (4.3%)
	Total valid response	65 (92.9%)
	Total missing	8
	No	2 (2.9%)
	Total valid response	70 (100.0%)
	Total missing	3
Weight check	Yes	68 (100.0%)
	Less than 6 months	54 (79.4%)
	6 - 12 months	9 (13.2%)
	Greater than 12 months	2 (2.9%)
	Total valid response	65 (95.6%)
	Total missing	8
	Total valid response	68 (100.0%)
	Total missing	5
Blood pressure check	Yes	68 (97.1%)
	Less than 6 months	60 (85.7%)
	6 - 12 months	2 (2.9%)
	Greater than 12 months	2 (2.9%)
	Total valid response	64 (91.4%)
	Total missing	9
	No	1 (1.4%)
	Don't know/Not sure	1 (1.4%)
	Total valid	70 (100.0%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	response	
	Total missing	3
Foot check	Yes	41 (59.4%)
	Less than 6 months	17 (24.6%)
	6 - 12 months	12 (17.4%)
	Greater than 12 months	10 (14.5%)
	Total valid response	39 (56.5%)
	Total missing	34
	No	26 (37.7%)
	Don't know/Not sure	2 (2.9%)
	Total valid response	69 (100.0%)
	Total missing	4
Eye check	Yes	55 (79.7%)
	Less than 6 months	27 (39.1%)
	6 - 12 months	18 (26.1%)
	Greater than 12 months	8 (11.6%)
	Total valid response	53 (76.8%)
	Total missing	20
	No	12 (17.4%)
	Don't know/Not sure	2 (2.9%)
	Total valid response	69 (100.0%)
	Total missing	4

Table 2.8

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	3 (4.4%)
	Well	25 (36.8%)
	Not very well	32 (47.1%)
	Not well at all	7 (10.3%)
	Don't know/Not sure	1 (1.5%)
	Total Valid Response	68 (100.0%)
	Total missing	5

Table 2.9

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	11 (15.7%)
	No insurance	8 (11.4%)
	Travel to my regular doctor or specialist is difficult	9 (12.9%)
	Long wait time for an appointment to see my doctor or specialist	14 (20.0%)
	Health services needed are not available	9 (12.9%)
	Don't know enough about diabetes	6 (8.6%)
	Too hard to eat the right things	36 (51.4%)
	Too many other things to do	17 (24.3%)
	Stigma or discrimination because of diabetes	8 (11.4%)
	Don't want to think about having diabetes	9 (12.9%)
	Other	12 (17.1%)
	Total Valid Response	70 (100.0%)
	Total missing	3

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	56 (82.4%)
	Support groups	8 (11.8%)
	Support from family or friends	23 (33.8%)
	Health education and information	23 (33.8%)
	Mobile services (services that travel to or near your home)	2 (2.9%)
	Coordination of healthcare and services by a professional	12 (17.6%)
	Emergency helpline	1 (1.5%)
	Other	5 (7.4%)
	None	8 (11.8%)
	Total Valid Response	68 (100.0%)
	Total missing	5

Table 2.11

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	62 (92.5%)
	Foot ulcers	51 (76.1%)
	Increased risk of broken bones or fractures	13 (19.4%)
	Loss of feeling in hands or toes (neuropathy)	53 (79.1%)
	Vision loss	64 (95.5%)
	Irritable bowel disease	14 (20.9%)
	Kidney disease	59 (88.1%)
	Cardiovascular disease/Stroke	55 (82.1%)
	Other	11 (16.4%)
	Don't know/Not sure	1 (1.5%)
	None	1 (1.5%)
	Total Valid Response	67 (100.0%)
	Total missing	6

Table 2.12

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	9 (13.0)
	Loss of feeling in hands or toes (neuropathy)	1 (1.4)
	Vision loss	35 (50.7)
	Kidney disease	3 (4.3)
	Cardiovascular disease/Stroke	18 (26.1)
	Don't know/Not sure	3 (4.3)
	Total Valid Response	69 (100.0)
	Total missing	4

Table 2.13

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	1 (1.5%)
	Broken bones or fractures	2 (3.0%)
	Loss of feeling in hands or toes (neuropathy)	8 (12.1%)
	Vision loss	20 (30.3%)
	Irritable bowel disease	2 (3.0%)
	Kidney disease	7 (10.6%)
	Cardiovascular disease/Stroke	6 (9.1%)
	Other	1 (1.5%)
	Don't know/Not sure	5 (7.6%)
	None	30 (45.5%)
	Total Valid Response	66 (100.0%)
	Total missing	7

Table 2.14

Question	Response	Number of Respondents (%)
How often do you discuss the possibility of eye	Every visit	25 (37.3%)

Question	Response	Number of Respondents (%)
complications with your health care professional?		
	Multiple times per year	10 (14.9%)
	Once per year	13 (19.4%)
	Only when symptoms arise	8 (11.9%)
	Never	10 (14.9%)
	Don't know/Not sure	1 (1.5%)
	Total Valid Response	67 (100.0%)
	Total missing	6

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	7 (10.6%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit specialists)	58 (87.9%)
	I do not make any special effort to prevent vision problems	9 (13.6%)
	Total Valid Response	66 (100.0%)
	Total missing	7

Table 2.16

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	43 (64.2)
	Public - Private	18 (26.9)
	Private	3 (4.5)
	None	3 (4.5)
	Total Valid Response	67 (100.0)
	Total missing	6

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	34 (54.0)
	Insurance pays total cost	1 (1.6)
	Insurance and out-of-pocket/cash (e.g. co-pays)	10 (15.9)
	Out-of-pocket only (pay cash for all care)	13 (20.6)
	Do not use service	3 (4.8)
	Don't know/Not Sure	2 (3.2)
	Total Valid Response	63 (100.0)
	Total missing	10
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	21 (32.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	20 (31.3)
	Out-of-pocket only (pay cash for all care)	19 (29.7)
	Do not use service	2 (3.1)
	Don't know/Not Sure	2 (3.1)
	Total Valid Response	64 (100.0)
	Total missing	9
Medicines	Care is free	17 (29.8)
	Insurance pays total cost	1 (1.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	18 (31.6)
	Out-of-pocket only (pay cash for all care)	15 (26.3)
	Do not use service	4 (7.0)
	Don't know/Not Sure	2 (3.5)
	Total Valid Response	57 (100.0)
	Total missing	16
Medical supplies (e.g. blood glucose meter/strips)	Care is free	15 (25.0)
	Insurance pays total cost	2 (3.3)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Insurance and out-of-pocket/cash (e.g. co-pays)	20 (33.3)
	Out-of-pocket only (pay cash for all care)	15 (25.0)
	Do not use service	6 (10.0)
	Don't know/Not Sure	2 (3.3)
	Total Valid Response	60 (100.0)
	Total missing	13
Procedures	Care is free	14 (24.1)
	Insurance and out-of-pocket/cash (e.g. co-pays)	15 (25.9)
	Out-of-pocket only (pay cash for all care)	10 (17.2)
	Do not use service	9 (15.5)
	Don't know/Not Sure	10 (17.2)
	Total Valid Response	58 (100.0)
	Total missing	15
Tests/screenings	Care is free	27 (44.3)
	Insurance and out-of-pocket/cash (e.g. co-pays)	20 (32.8)
	Out-of-pocket only (pay cash for all care)	8 (13.1)
	Do not use service	2 (3.3)
	Don't know/Not Sure	4 (6.6)
	Total Valid Response	61 (100.0)
	Total missing	12
Health education	Care is free	20 (36.4)
	Insurance and out-of-pocket/cash (e.g. co-pays)	3 (5.5)
	Out-of-pocket only (pay cash for all care)	4 (7.3)
	Do not use service	23 (41.8)
	Don't know/Not Sure	5 (9.1)
	Total Valid Response	55 (100.0)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Total missing	18
Counseling	Care is free	24 (44.4)
	Insurance and out-of-pocket/cash (e.g. co-pays)	6 (11.1)
	Out-of-pocket only (pay cash for all care)	4 (7.4)
	Do not use service	17 (31.5)
	Don't know/Not Sure	3 (5.6)
	Total Valid Response	54 (100.0)
	Total missing	19

Table 3.1

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	32 (50.0%)
	No	32 (50.0%)
	Total valid response	64 (100.0%)
	Total missing	9

Table 3.2

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	56 (83.6%)
	No	11 (16.4%)
	Total valid response	67 (100.0%)
	Total missing	6
How long ago was your last eye exam?	Within the last year	43 (78.2%)
	More than 1 year ago but less than 2 years	11 (20.0%)
	More than 2 years ago but less than 3 years	1 (1.8%)

Question	Response	Number of Respondents (%)
	Total valid response	55 (100.0%)
	Total missing	18
Who did the last exam?	General/Family practitioner	1 (1.8%)
	Eye doctor/Eye clinic	53 (96.4%)
	Other	1 (1.8%)
	Total valid response	55 (100.0%)
	Total missing	18

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	53 (82.8%)
	No	10 (15.6%)
	Don't know/Not sure	1 (1.6%)
	Total valid response	64 (100.0%)
	Total missing	9

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	57 (87.7%)
	Every two years	2 (3.1%)
	Less often than every two years	1 (1.5%)
	Never	1 (1.5%)
	Don't know/Not sure	4 (6.2%)
	Total valid response	65 (100.0%)
	Total missing	8

Table 3.5

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	13 (25.0%)
	Eye exams are not available near my home	6 (11.5%)
	Long wait time for appointment	25 (48.1%)
	Long wait time on the day of the visit	9 (17.3%)
	Referral process is complicated or takes too long	8 (15.4%)
	Recommended treatments for eye problems are not available	1 (1.9%)
	Don't know much about my condition	6 (11.5%)
	Fear of treatment/results	3 (5.8%)
	Burden on my family/friends	1 (1.9%)
	Limited access to diabetes specialists	6 (11.5%)
	I'm not likely to have eye complications	3 (5.8%)
	Too many other things to do or worry about	3 (5.8%)
	Clinics are too small or lack necessary equipment/staff	1 (1.9%)
	Other	8 (15.4%)
	Total valid response	52 (100.0%)
	Total missing	21

Table 3.6

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	28 (43.1%)
	No	37 (56.9%)
	Total valid response	65 (100.0%)
	Total missing	8
Has your diabetic eye disease affected your vision?	Yes, slightly	9 (32.1%)
	Yes, significantly	8 (28.6%)
	No	11 (39.3%)
	Total valid response	28 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	45
Have vision issues caused you to have difficulty with any of the following?	Traveling	3 (18.8%)
	Household responsibilities, such as cooking or cleaning	3 (18.8%)
	Social interactions with family/friends	5 (31.3%)
	Leisure activities/exercise	4 (25.0%)
	Work or keeping a job	6 (37.5%)
	Managing my diabetes	4 (25.0%)
	Other	3 (18.8%)
	None	1 (6.3%)
	Driving (a car/vehicle)	9 (56.3%)
	Total valid response	16 (100.0%)
	Total missing	57

Table 3.7

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	18 (64.3%)
	No	10 (35.7%)
	Total valid response	28 (100.0%)
	Total missing	45
What treatment did you receive?	Laser	18 (100.0%)
	Injection in the eye (Anti-VEGF)	7 (38.9%)
	Surgery	2 (11.1%)
	Total valid response	18 (100.0%)
	Total missing	55
Did you complete the treatment?	Yes	10 (55.6%)
	No	1 (5.6%)
	Still receiving treatment	7 (38.9%)
	Total valid response	18 (100.0%)
	Total missing	55

Question	Response	Number of Respondents (%)
Do you feel that the treatment worked?	Yes, and vision improved	8 (47.1%)
	Yes, but vision stayed the same	6 (35.3%)
	No	1 (5.9%)
	Still waiting to know	1 (5.9%)
	Don't know/Not sure	1 (5.9%)
	Total valid response	17 (100.0%)
	Total missing	56
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	72
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	6 (66.7%)
	Treatment would not be effective	1 (11.1%)
	Still waiting for treatment	2 (22.2%)
	Other	1 (11.1%)
	Total valid response	9 (100.0%)
	Total missing	64

Table 3.8

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	8 (13.1%)
	No	41 (67.2%)
	Don't know/Not sure	12 (19.7%)
	Total valid response	61 (100.0%)
	Total missing	12
If Yes, which of the following would you prefer	Treatment to prevent further vision loss	7 (100.0%)
	Total valid response	7 (100.0%)
	Total missing	66

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	32 (52.5%)
	Health educator	7 (11.5%)
	Diabetes organization or other health organization	13 (21.3%)
	Family/Friends/Neighbors	3 (4.9%)
	TV/Radio/Newspaper/Magazines	4 (6.6%)
	Internet	19 (31.1%)
	None of the above	17 (27.9%)
	Total valid response	61 (100.0%)
	Total missing	12

Table 4.1

Question	Response	Number of Respondents (%)
What is your gender?	Female	33 (53.2)
	Male	29 (46.8)
	Total Valid Response	62 (100.0)
	Total missing	11
Please indicate your age	18 - 29	16 (21.9)
	30 - 39	16 (21.9)
	40 - 49	17 (23.3)
	50 - 59	9 (12.3)
	60 - 69	10 (13.7)
	70 - 79	4 (5.5)
	80 - 89	1 (1.4)
	Total Valid Response	73 (100.0)

Table 4.2

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	50 (80.6)
	Non-urban setting	12 (19.4)

Question	Response	Number of Respondents (%)
	Total Valid Response	62 (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	2 (3.2)
	Primary school	6 (9.7)
	Secondary school	19 (30.6)
	College/University	22 (35.5)
	Graduate or post-graduate	13 (21.0)
	Total valid response	62 (100.0)
	Total missing	11

Table 4.4

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	38 (61.3)
	Working without pay at home (e.g. housework, farming)	1 (1.6)
	Retired	9 (14.5)
	Student	6 (9.7)
	Not working	8 (12.9)
	Total Valid Response	62 (100.0)
	Total missing	11

Table 4.5

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Income assistance	1 (1.7%)
	Medical assistance	14 (23.7%)
	Food assistance	1 (1.7%)
	Pension assistance	5 (8.5%)

Question	Response	Number of Respondents (%)
	None of the above	42 (71.2%)
	Total valid response	59 (100.0%)
	Total missing	14

Table 4.6

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	19 (30.6)
	No	43 (69.4)
	Total Valid Response	62 (100.0)
	Total missing	11

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	1 (1.8)
	Gender	2 (3.6)
	Income	3 (5.4)
	Place where you live	5 (8.9)
	None of the above	46 (82.1)
	Total valid response	56 (100.0)
	Total missing	17

Table 4.8

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Food	3 (5.0)
	Housing	1 (1.7)

Question	Response	Number of Respondents (%)
	Money	6 (10.0)
	Health	36 (60.0)
	Family	10 (16.7)
	None of the above	4 (6.7)
	Total Valid Response	60 (100.0)
	Total missing	13

Table 5.1

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Very good	4 (6.7%)
	Good	11 (18.3%)
	Total good health	15 (25.0%)
	Fair	31 (51.7%)
	Poor	14 (23.3%)
	Fair or poor health	45 (75.0%)
	Total valid response	60 (100.0%)
	Total missing	13

Table 5.2

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	23 (44.2%)
	1-5 unhealthy days	10 (19.2%)
	6-10 unhealthy days	4 (7.7%)
	11-20 unhealthy days	6 (11.5%)
	21-30 unhealthy days	3 (5.8%)
	No unhealthy days	29 (55.8%)
	Total valid response	52 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	21

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	22 (44.9%)
	1-5 unhealthy days	4 (8.2%)
	6-10 unhealthy days	2 (4.1%)
	11-20 unhealthy days	4 (8.2%)
	21-30 unhealthy days	12 (24.5%)
	No unhealthy days	27 (55.1%)
	Total valid response	49 (100.0%)
	Total missing	24

Table 5.3.2

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	37 (74.0%)
	1-5 unhealthy days	10 (20.0%)
	6-10 unhealthy days	5 (10.0%)
	11-20 unhealthy days	8 (16.0%)
	21-30 unhealthy days	14 (28.0%)
	No unhealthy days	13 (26.0%)
	Total valid response	50 (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	9 (24.3%)
	1-5 unhealthy days	4 (10.8%)
	6-10 unhealthy days	1 (2.7%)
	11-20 unhealthy days	2 (5.4%)
	21-30 unhealthy days	2 (5.4%)
	No unhealthy days	28 (75.7%)
	Total valid response	37 (100.0%)
	Total missing	36

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	20 (33.9%)
	No	39 (66.1%)
	Total valid response	59 (100.0%)
	Total missing	14
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	5 (31.3%)
	No	10 (62.5%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	57
b) Back or neck problem	Yes	11 (61.1%)
	No	5 (27.8%)

Question	Response	Number of Respondents (%)
	Don't know/Not sure	2 (11.1%)
	Total valid response	18 (100.0%)
	Total missing	55
c) Fractures, bone/joint injury	Yes	9 (56.3%)
	No	7 (43.8%)
	Total valid response	16 (100.0%)
	Total missing	57
d) Walking problem	Yes	11 (61.1%)
	No	6 (33.3%)
	Don't know/Not sure	1 (5.6%)
	Total valid response	18 (100.0%)
	Total missing	55
e) Lung/breathing problem	Yes	2 (13.3%)
	No	12 (80.0%)
	Don't know/Not sure	1 (6.7%)
	Total valid response	15 (100.0%)
	Total missing	58
f) Hearing problem	Yes	3 (20.0%)
	No	11 (73.3%)
	Don't know/Not sure	1 (6.7%)
	Total valid response	15 (100.0%)
	Total missing	58
g) Eye/vision problem	Yes	9 (50.0%)
	No	6 (33.3%)
	Don't know/Not sure	3 (16.7%)
	Total valid	18 (100.0%)

Question	Response	Number of Respondents (%)
	response	
	Total missing	55
h) Heart problem	Yes	3 (20.0%)
	No	11 (73.3%)
	Don't know/Not sure	1 (6.7%)
	Total valid response	15 (100.0%)
	Total missing	58
i) Stroke problem	Yes	3 (18.8%)
	No	12 (75.0%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	57
j) Hypertension/high blood pressure	Yes	8 (50.0%)
	No	8 (50.0%)
	Total valid response	16 (100.0%)
	Total missing	57
k) Diabetes	Yes	19 (95.0%)
	Don't know/Not sure	1 (5.0%)
	Total valid response	20 (100.0%)
	Total missing	53
l) Cancer	Yes	1 (7.1%)
	No	12 (85.7%)
	Don't know/Not sure	1 (7.1%)
	Total valid response	14 (100.0%)
	Total missing	59
m) Mental or emotional health	Yes	10 (62.5%)
	No	5 (31.3%)

Question	Response	Number of Respondents (%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	57

PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	80 (100.0%)
Included in Provider Analysis Set (PAS)	80 (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	80
Included in the Eye Care Professional Set (Eye Specialist)	43 (53.8%)
Excluded in the Eye Care Professional Set (Eye Specialist)	37 (46.3%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	37
No valid (non-missing) response for the supplemental eye questionnaire	0

PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	80 (100.0%)
Primary Care Provider	8 (10.0%)
Diabetes Specialist Provider	6 (7.5%)
Eye Care Professional	43 (53.8%)
Ophthalmologist	43 (53.8%)

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 specialty

PT 1.4

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your specialty?	General primary care/Family practitioner	8 (100.0%)	0 (0.0%)	0 (0.0%)	8 (10.0%)
	Diabetes specialist	0 (0.0%)	6 (100.0%)	1 (2.3%)	7 (8.8%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	15 (34.9%)	15 (18.8%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	32 (74.4%)	32 (40.0%)
	Nurse	0 (0.0%)	0 (0.0%)	0 (0.0%)	10 (12.5%)
	Health educator	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.3%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	13 (16.3%)
	Total valid response	8 (100.0%)	6 (100.0%)	43 (100.0%)	80 (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)	8	6	43	80
	Mean	7.8	25.2	19.0	16.2
	SD	10.4	11.8	9.6	10.9
	Median	3.5	25.5	20.0	15.0
	Min.	0	7	1	0
	Max.	30	40	40	40
	Total missing	0	0	0	0

PT 2.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
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Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your main practice setting?	Diabetes clinic/practice	0 (0.0%)	4 (66.7%)	5 (11.9%)	10 (13.5%)
	Eye clinic/practice	0 (0.0%)	0 (0.0%)	8 (19.0%)	8 (10.8%)
	General medical clinic/practice	7 (100.0%)	0 (0.0%)	0 (0.0%)	10 (13.5%)
	Hospital	0 (0.0%)	2 (33.3%)	29 (69.0%)	38 (51.4%)
	Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	8 (10.8%)
	Total Valid Response	7 (100.0%)	6 (100.0%)	42 (100.0%)	74 (100.0%)
	Total missing	1	0	1	6

PT 2.2

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	4 (57.1%)	6 (100.0%)	39 (92.9%)	65 (87.8%)
	Non-urban setting	3 (42.9%)	0 (0.0%)	3 (7.1%)	9 (12.2%)
	Total Valid Response	7 (100.0%)	6 (100.0%)	42 (100.0%)	74 (100.0%)
	Total missing	1	0	1	6

PT 2.3

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In which sector is your main practice?	Government	7 (100.0%)	2 (33.3%)	24 (57.1%)	42 (56.8%)
	Private	0 (0.0%)	2 (33.3%)	4 (9.5%)	11 (14.9%)
	Non profit	0 (0.0%)	2 (33.3%)	5 (11.9%)	9 (12.2%)
	Combined/mixed	0 (0.0%)	0 (0.0%)	9 (21.4%)	12 (16.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total Valid Response	7 (100.0%)	6 (100.0%)	42 (100.0%)	74 (100.0%)
	Total missing	1	0	1	6

PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	7 (100.0%)	3 (50.0%)	40 (95.2%)	64 (86.5%)
	Yes, limited by age	0 (0.0%)	1 (16.7%)	0 (0.0%)	2 (2.7%)
	Yes, limited to persons with health insurance	0 (0.0%)	1 (16.7%)	0 (0.0%)	2 (2.7%)
	Yes, limited to low income or uninsured persons	0 (0.0%)	1 (16.7%)	1 (2.4%)	3 (4.1%)
	Yes, limited to persons who pay out-of-pocket	0 (0.0%)	0 (0.0%)	1 (2.4%)	2 (2.7%)
	Yes, other	0 (0.0%)	1 (16.7%)	0 (0.0%)	3 (4.1%)
	Total valid response	7 (100.0%)	6 (100.0%)	42 (100.0%)	74 (100.0%)
	Total missing	1	0	1	6

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	2 (33.3%)	2 (33.3%)	3 (7.5%)	8 (12.3%)
	More than 1 week but less	3 (50.0%)	2 (33.3%)	13 (32.5%)	21 (32.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	than 1 month				
	More than 1 month but less than 2 months	0 (0.0%)	1 (16.7%)	3 (7.5%)	6 (9.2%)
	More than 2 months but less than 3 months	0 (0.0%)	1 (16.7%)	4 (10.0%)	5 (7.7%)
	More than 3 months but less than 6 months	0 (0.0%)	0 (0.0%)	7 (17.5%)	8 (12.3%)
	Six or more months	1 (16.7%)	0 (0.0%)	7 (17.5%)	9 (13.8%)
	Do not take appointments	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (4.6%)
	Other	0 (0.0%)	0 (0.0%)	1 (2.5%)	1 (1.5%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	2 (5.0%)	4 (6.2%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	40 (100.0%)	65 (100.0%)
	Total missing	2	0	3	15

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)	6	6	37	57
	Mean	80.8	38.3	70.8	82.8
	SD	44.5	17.2	47.4	101.7
	Median	90	40	52	52
	Min.	10	20	20	10
	Max.	140	60	225	700
	Total missing	2	0	6	23
What percentage of the patients in your main	Total valid response (n)	6	6	38	59

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
practice have diabetes [% patients]					
	Mean	15.8	78.3	37.2	37.8
	SD	10.6	17.2	27.6	28.4
	Median	14.5	80	30	30
	Min.	4	60	5	4
	Max.	30	100	100	100
	Total missing	2	0	5	21

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	3 (50.0%)	3 (50.0%)	15 (37.5%)	27 (42.2%)
	Pay a reduced/subsidized rate	3 (50.0%)	2 (33.3%)	26 (65.0%)	34 (53.1%)
	Pay out-of-pocket (full fees)	0 (0.0%)	1 (16.7%)	8 (20.0%)	11 (17.2%)
	Pay through insurance	1 (16.7%)	1 (16.7%)	5 (12.5%)	9 (14.1%)
	Patient pays some, insurance pays some	0 (0.0%)	1 (16.7%)	8 (20.0%)	11 (17.2%)
	Other	0 (0.0%)	0 (0.0%)	3 (7.5%)	7 (10.9%)
	Total valid response	6 (100.0%)	6 (100.0%)	40 (100.0%)	64 (100.0%)
	Total missing	2	0	3	16

PT 2.8

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In addition to your main practice, do you work in another practice setting?	Yes	1 (16.7%)	1 (16.7%)	38 (95.0%)	41 (63.1%)
	No	5 (83.3%)	5 (83.3%)	2 (5.0%)	24 (36.9%)
	Total valid response	6 (100.0%)	6 (100.0%)	40 (100.0%)	65 (100.0%)
	Total missing	2		3	15
In which other practice setting(s) do you work?	Hospital			10 (26.3%)	10 (24.4%)
	General medical clinic/practice			7 (18.4%)	7 (17.1%)
	Diabetes clinic/practice		1 (100.0%)	1 (2.6%)	2 (4.9%)
	Eye clinic/practice			28 (73.7%)	28 (68.3%)
	Other	1 (100.0%)		1 (2.6%)	3 (7.3%)
	Total valid response	1 (100.0%)	1 (100.0%)	38 (100.0%)	41 (100.0%)
	Total missing	7	5	5	39
In which sector(s) is(are) the practice(s)?	Government			2 (5.3%)	3 (7.3%)
	Private	1 (100.0%)	1 (100.0%)	30 (78.9%)	32 (78.0%)
	Non profit			1 (2.6%)	1 (2.4%)
	Combined/mixed			5 (13.2%)	5 (12.2%)
	Total valid response	1 (100.0%)	1 (100.0%)	38 (100.0%)	41 (100.0%)
	Total missing	7	5	5	39
Is there a major difference between your practices with respect to how diabetic eye disease is screened and	Yes	1 (100.0%)		17 (44.7%)	19 (46.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
managed?					
	No		1 (100.0%)	21 (55.3%)	22 (53.7%)
	Total valid response	1 (100.0%)	1 (100.0%)	38 (100.0%)	41 (100.0%)
	Total missing	7	5	5	39

PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		6 (100.0%)	6 (100.0%)	32 (91.4%)	54 (94.7%)
		Total valid numeric response (n)	6 (100.0%)	6 (100.0%)	28 (80.0%)	48 (84.2%)
		Mean	3.3	63.2	2.9	25.6
		SD	1.5	147.9	3.2	88.6
		Median	3.0	3.5	2.0	2.5
		Min	2	0	0	0
		Max	6	365	12	365
		Total missing	2	0	15	32
	No				3 (8.6%)	3 (5.3%)
	Total valid response		6 (100.0%)	6 (100.0%)	35 (100.0%)	57 (100.0%)
	Total missing		2		8	23
HbA1c	Yes		4 (80.0%)	6 (100.0%)	27 (77.1%)	45 (81.8%)
		Total valid numeric response (n)	4 (80.0%)	6 (100.0%)	24 (68.6%)	41 (74.5%)
		Mean	2.3	3.3	2.0	11.1
		SD	0.5	0.5	1.5	56.7
		Median	2.0	3.0	2.0	2.0

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Min	2	3	0	0
		Max	3	4	6	365
		Total missing	4	0	19	39
	No		1 (20.0%)		8 (22.9%)	10 (18.2%)
	Total valid response		5 (100.0%)	6 (100.0%)	35 (100.0%)	55 (100.0%)
	Total missing		3		8	25
Urine check	Yes		4 (80.0%)	6 (100.0%)	20 (60.6%)	38 (71.7%)
		Total valid numeric response (n)	4 (80.0%)	6 (100.0%)	18 (54.5%)	34 (64.2%)
		Mean	2.0	1.8	2.1	2.1
		SD	0.8	1.2	2.0	1.7
		Median	2.0	1.5	1.5	2.0
		Min	1	1	0	0
		Max	3	4	6	6
		Total missing	4	0	25	46
	No		1 (20.0%)		13 (39.4%)	15 (28.3%)
	Total valid response		5 (100.0%)	6 (100.0%)	33 (100.0%)	53 (100.0%)
	Total missing		3		10	27
Weight check	Yes		6 (100.0%)	6 (100.0%)	21 (65.6%)	42 (79.2%)
		Total valid numeric response (n)	6 (100.0%)	6 (100.0%)	18 (56.3%)	37 (69.8%)
		Mean	3.3	3.8	2.2	12.6
		SD	1.5	0.4	2.0	59.6

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Median	3.0	4.0	1.5	3.0
		Min	2	3	0	0
		Max	6	4	6	365
		Total missing	2	0	25	43
	No				11 (34.4%)	11 (20.8%)
	Total valid response				32 (100.0%)	53 (100.0%)
	Total missing				11	27
	Blood pressure check	Yes	6 (100.0%)	6 (100.0%)	29 (82.9%)	51 (89.5%)
		Total valid numeric response (n)	6 (100.0%)	6 (100.0%)	25 (71.4%)	45 (78.9%)
		Mean	3.5	4.5	3.2	12.6
		SD	1.5	1.8	3.2	54.3
		Median	3.5	4.0	3.0	3.0
		Min	2	3	0	0
		Max	6	8	12	365
		Total missing	2	0	18	35
	No				6 (17.1%)	6 (10.5%)
	Total valid response				35 (100.0%)	57 (100.0%)
	Total missing				8	23
Foot check	Yes		5 (83.3%)	6 (100.0%)	19 (59.4%)	35 (66.0%)
		Total valid numeric response (n)	5 (83.3%)	6 (100.0%)	17 (53.1%)	33 (62.3%)
		Mean	1.2	1.8	1.1	1.4

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		SD	1.1	1.2	1.0	1.1
		Median	1.0	1.5	1.0	1.0
		Min	0	1	0	0
		Max	3	4	3	4
		Total missing	3	0	26	47
	No		1 (16.7%)		13 (40.6%)	18 (34.0%)
	Total valid response		6 (100.0%)	6 (100.0%)	32 (100.0%)	53 (100.0%)
	Total missing		2		11	27
	Eye examination - Un-dilated		1 (20.0%)	6 (100.0%)	36 (92.3%)	49 (83.1%)
		Total valid numeric response (n)	1 (20.0%)	6 (100.0%)	31 (79.5%)	43 (72.9%)
		Mean	1.0	1.3	1.4	5.9
		SD		0.8	1.3	30.3
		Median	1.0	1.0	1.0	1.0
		Min	1	1	0	0
		Max	1	3	5	200
		Total missing	7	0	12	37
	No		4 (80.0%)		3 (7.7%)	10 (16.9%)
	Total valid response		5 (100.0%)	6 (100.0%)	39 (100.0%)	59 (100.0%)
	Total missing		3		4	21
Eye examination - Optical Coherence Tomography	Yes		1 (20.0%)	5 (83.3%)	38 (97.4%)	47 (79.7%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Total valid numeric response (n)	1 (20.0%)	5 (83.3%)	35 (89.7%)	43 (72.9%)
		Mean	0.0	0.4	1.9	1.6
		SD		0.5	2.1	2.0
		Median	0.0	0.0	2.0	1.0
		Min	0	0	0	0
		Max	0	1	12	12
		Total missing	7	1	8	37
	No		4 (80.0%)	1 (16.7%)	1 (2.6%)	12 (20.3%)
	Total valid response		5 (100.0%)	6 (100.0%)	39 (100.0%)	59 (100.0%)
	Total missing		3		4	21
	Eye examination - Fundoscopy		3 (50.0%)	6 (100.0%)	40 (100.0%)	52 (85.2%)
		Total valid numeric response (n)	3 (50.0%)	6 (100.0%)	36 (90.0%)	48 (78.7%)
		Mean	0.7	1.2	1.8	1.6
		SD	0.6	1.0	1.4	1.3
		Median	1.0	1.0	2.0	1.0
		Min	0	0	0	0
		Max	1	3	5	5
		Total missing	5	0	7	32
	No		3 (50.0%)			9 (14.8%)
	Total valid response		6 (100.0%)	6 (100.0%)	40 (100.0%)	61 (100.0%)
	Total missing		2		3	19

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Eye examination - Fluorescein Angiography	Yes		1 (20.0%)	5 (83.3%)	36 (90.0%)	43 (71.7%)
		Total valid numeric response (n)	1 (20.0%)	5 (83.3%)	33 (82.5%)	40 (66.7%)
		Mean	1.0	0.6	0.7	0.8
		SD		0.5	0.5	0.5
		Median	1.0	1.0	1.0	1.0
		Min	1	0	0	0
		Max	1	1	2	2
		Total missing	7	1	10	40
	No		4 (80.0%)	1 (16.7%)	4 (10.0%)	17 (28.3%)
	Total valid response		5 (100.0%)	6 (100.0%)	40 (100.0%)	60 (100.0%)
	Total missing		3		3	20
	Yes		2 (33.3%)	4 (66.7%)	24 (72.7%)	35 (64.8%)
Eye examination - Lipid check	Yes					
		Total valid numeric response (n)	2 (33.3%)	4 (66.7%)	21 (63.6%)	31 (57.4%)
		Mean	1.0	2.5	1.1	1.3
		SD	0.0	1.3	1.0	1.1
		Median	1.0	2.5	1.0	1.0
		Min	1	1	0	0
		Max	1	4	4	4
		Total missing	6	2	22	49
	No		4 (66.7%)	2 (33.3%)	9 (27.3%)	19 (35.2%)
	Total valid		6 (100.0%)	6 (100.0%)	33 (100.0%)	54 (100.0%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	response					
	Total missing		2		10	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	6 (100.0%)	6 (100.0%)	30 (83.3%)	48 (87.3%)
	Diet/nutrition	6 (100.0%)	6 (100.0%)	18 (50.0%)	36 (65.5%)
	Exercise/physical activity	5 (83.3%)	6 (100.0%)	18 (50.0%)	34 (61.8%)
	Medicines	6 (100.0%)	6 (100.0%)	19 (52.8%)	38 (69.1%)
	Foot care and inspection	4 (66.7%)	6 (100.0%)	3 (8.3%)	17 (30.9%)
	Blood pressure	6 (100.0%)	6 (100.0%)	17 (47.2%)	34 (61.8%)
	Eye care and exams	3 (50.0%)	5 (83.3%)	36 (100.0%)	46 (83.6%)
	Lipid check	4 (66.7%)	6 (100.0%)	14 (38.9%)	27 (49.1%)
	Other	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.8%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	55 (100.0%)
	Total missing	2	0	7	25

PT 2.11

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is there written information about	Yes, and information on eye	0 (0.0%)	1 (16.7%)	7 (20.0%)	9

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
diabetes available for patients in your main practice?	complications is sufficient				(16.4%)
	Yes, but information on eye complications is not sufficient	1 (16.7%)	4 (66.7%)	6 (17.1%)	15 (27.3%)
	Yes, but no information on eye complications is included	2 (33.3%)	0 (0.0%)	0 (0.0%)	2 (3.6%)
	No written information is available for patients	2 (33.3%)	1 (16.7%)	15 (42.9%)	19 (34.5%)
	Don't know/Not sure	1 (16.7%)	0 (0.0%)	7 (20.0%)	10 (18.2%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	35 (100.0%)	55 (100.0%)
	Total missing	2	0	8	25

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	5 (83.3%)	4 (66.7%)	20 (55.6%)	35 (62.5%)
	Yes, available but not used by staff	0 (0.0%)	1 (16.7%)	3 (8.3%)	4 (7.1%)
	Not available	0 (0.0%)	1 (16.7%)	10 (27.8%)	13 (23.2%)
	Don't know/Not sure	1 (16.7%)	0 (0.0%)	3 (8.3%)	4 (7.1%)
	Total Valid	6	6 (100.0%)	36 (100.0%)	56

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Response	(100.0%)			(100.0%)
	Total missing	2	0	7	24

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	2 (33.3%)	2 (33.3%)	24 (66.7%)	32 (57.1%)
	Yes, available but not used by staff	1 (16.7%)	1 (16.7%)	3 (8.3%)	5 (8.9%)
	Not available	1 (16.7%)	2 (33.3%)	7 (19.4%)	12 (21.4%)
	Don't know/Not sure	2 (33.3%)	1 (16.7%)	2 (5.6%)	7 (12.5%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	36 (100.0%)	56 (100.0%)
	Total missing	2	0	7	24

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)	1 (16.7%)	2 (40.0%)	16 (44.4%)	20 (37.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Mean	5.0	5.0	4.8	4.8
	SD		0.0	1.7	1.5
	Median	5.0	5.0	5.0	5.0
	Min	5	5	2	2
	Max	5	5	10	10
	After a predetermined age (numeric response) (n)	0 (0.0%)	1 (20.0%)	2 (5.6%)	3 (5.6%)
	Mean		14.0	15.5	15.0
	SD			3.5	2.6
	Median		14.0	15.5	14.0
	Min		14	13	13
	Max		14	18	18
	As soon as they are diagnosed	4 (66.7%)	2 (40.0%)	15 (41.7%)	24 (44.4%)
	When a patient reports eye/vision problems	1 (16.7%)			1 (1.9%)
	No standard practice, timing varies case by case			2 (5.6%)	4 (7.4%)
	Don't know/Not sure				1 (1.9%)
	Other			1 (2.8%)	1 (1.9%)
	Total valid response	6 (100.0%)	5 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2	1	7	26
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)	0 (0.0%)	0 (0.0%)	1 (2.8%)	1 (1.8%)
	Mean			2.0	2.0
	SD				

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Median			2.0	2.0
	Min			2	2
	Max			2	2
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mean				
	SD				
	Median				
	Min				
	Max				
	As soon as they are diagnosed	4 (66.7%)	6 (100.0%)	32 (88.9%)	45 (81.8%)
	When a patient reports eye/vision problems				2 (3.6%)
	No standard practice, timing varies case by case	2 (33.3%)			6 (10.9%)
	Other			1 (2.8%)	1 (1.8%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	55 (100.0%)
	Total missing	2		7	25

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	3 (50.0%)	6 (100.0%)	34 (94.4%)	49 (89.1%)
	Every two years	1 (16.7%)	0 (0.0%)	0 (0.0%)	2 (3.6%)
	Other	0 (0.0%)	0 (0.0%)	2 (5.6%)	2 (3.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Don't know/Not sure	2 (33.3%)	0 (0.0%)	0 (0.0%)	2 (3.6%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	36 (100.0%)	55 (100.0%)
	Total missing	2	0	7	25

PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes	2 (33.3%)	6 (100.0%)	37 (100.0%)	48 (85.7%)
	No	4 (66.7%)			8 (14.3%)
	Total valid response	6 (100.0%)	6 (100.0%)	37 (100.0%)	56 (100.0%)
	Total missing	2		6	24
Where do you screen patients?	In clinic	1 (50.0%)	5 (83.3%)	30 (83.3%)	39 (83.0%)
	Outreach		3 (50.0%)	6 (16.7%)	10 (21.3%)
	Other	1 (50.0%)	1 (16.7%)	3 (8.3%)	6 (12.8%)
	Total valid response	2 (100.0%)	6 (100.0%)	36 (100.0%)	47 (100.0%)
	Total missing	6		7	33

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	4 (66.7%)	3 (50.0%)	27 (75.0%)	38 (70.4%)
	Patient's age	4 (66.7%)	2 (33.3%)	15 (41.7%)	23 (42.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Patient's gender	1 (16.7%)	0 (0.0%)	1 (2.8%)	2 (3.7%)
	Presence of comorbidities such as hypertension, etc.	3 (50.0%)	3 (50.0%)	24 (66.7%)	34 (63.0%)
	High glucose levels	3 (50.0%)	2 (33.3%)	27 (75.0%)	35 (64.8%)
	Ability or inability to pay	1 (16.7%)	0 (0.0%)	1 (2.8%)	2 (3.7%)
	Insurance restrictions	0 (0.0%)	0 (0.0%)	2 (5.6%)	3 (5.6%)
	Patient educational level	0 (0.0%)	0 (0.0%)	3 (8.3%)	3 (5.6%)
	Patient adherence to recommendations	1 (16.7%)	0 (0.0%)	13 (36.1%)	15 (27.8%)
	None of the above	1 (16.7%)	1 (16.7%)	1 (2.8%)	5 (9.3%)
	Not applicable	1 (16.7%)	2 (33.3%)	8 (22.2%)	11 (20.4%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2	0	7	26

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	1 (16.7%)	0 (0.0%)	14 (38.9%)	16 (29.6%)
	Proximity to care	2 (33.3%)	3 (50.0%)	13 (36.1%)	20 (37.0%)
	Long wait time for appointment	4 (66.7%)	2 (33.3%)	19 (52.8%)	28 (51.9%)
	Long wait time on the day of visit	0 (0.0%)	1 (16.7%)	6 (16.7%)	7 (13.0%)
	Referral process	3 (50.0%)	1 (16.7%)	15 (41.7%)	20

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
					(37.0%)
	Recommended treatments are not available	2 (33.3%)	0 (0.0%)	3 (8.3%)	5 (9.3%)
	Lack of knowledge and/or awareness	1 (16.7%)	1 (16.7%)	9 (25.0%)	12 (22.2%)
	Patients fear of treatment/results	1 (16.7%)	2 (33.3%)	9 (25.0%)	14 (25.9%)
	Patients they are a burden on family/friends	1 (16.7%)	0 (0.0%)	0 (0.0%)	3 (5.6%)
	Limited access to diabetes specialists	1 (16.7%)	0 (0.0%)	8 (22.2%)	10 (18.5%)
	Limited access to eye specialists	5 (83.3%)	1 (16.7%)	10 (27.8%)	18 (33.3%)
	Patients feel eye complications are unlikely	1 (16.7%)	2 (33.3%)	5 (13.9%)	9 (16.7%)
	Patients feel eye exams are not important	0 (0.0%)	1 (16.7%)	6 (16.7%)	8 (14.8%)
	Patients have competing responsibilities and priorities	0 (0.0%)	2 (33.3%)	3 (8.3%)	5 (9.3%)
	Clinic too small or lack necessary equipment/staff	0 (0.0%)	0 (0.0%)	2 (5.6%)	3 (5.6%)
	Other	0 (0.0%)	0 (0.0%)	4 (11.1%)	5 (9.3%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2	0	7	26

PT 2.19

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, are patients contacted with reminders for general	Yes	2 (33.3%)	4 (66.7%)	21 (58.3%)	31 (57.4%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
follow-up appointments?					
	No	4 (66.7%)	1 (16.7%)	12 (33.3%)	19 (35.2%)
	Don't know/Not sure	0 (0.0%)	1 (16.7%)	3 (8.3%)	4 (7.4%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2	0	7	26

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	3 (50.0%)	6 (100.0%)	32 (88.9%)	47 (87.0%)
	No	3 (50.0%)	0 (0.0%)	4 (11.1%)	7 (13.0%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2	0	7	26

PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	18 - 29	3 (50.0%)		1 (2.8%)	4 (7.4%)
	30 - 39	1 (16.7%)		9 (25.0%)	14 (25.9%)
	40 - 49		1 (16.7%)	9 (25.0%)	11 (20.4%)
	50 - 59	2 (33.3%)	3 (50.0%)	14 (38.9%)	20

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
					(37.0%)
	60 - 69		2 (33.3%)	3 (8.3%)	5 (9.3%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2		7	26
What is your gender?	Female	5 (83.3%)	3 (50.0%)	15 (41.7%)	26 (48.1%)
	Male	1 (16.7%)	3 (50.0%)	21 (58.3%)	28 (51.9%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2		7	26
What is your highest level of education completed?	College/University	5 (83.3%)		2 (5.6%)	10 (18.5%)
	Graduate or advanced degree (e.g. PhD, MD, etc)	1 (16.7%)	6 (100.0%)	34 (94.4%)	44 (81.5%)
	Total valid response	6 (100.0%)	6 (100.0%)	36 (100.0%)	54 (100.0%)
	Total missing	2		7	26

PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	36
	Mean	24.0
	SD	21.4
	Median	17.5
	Min	0
	Max	80
	Total missing	7

PT 4.2

Question	Response	Ophthalmologist
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Question	Response	Ophthalmologist
What percentage of your patients have diabetic macular edema?	Total valid numeric response (n)	35
	Mean	14.3
	SD	13.7
	Median	10.0
	Min	0
	Max	60
	Total missing	8

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	2 (5.7%)
	More than 1 week but less than 1 month	12 (34.3%)
	More than 1 month but less than 2 months	4 (11.4%)
	More than 2 months but less than 3 months	1 (2.9%)
	More than 3 months but less than 6 months	4 (11.4%)
	Six or more months	5 (14.3%)
	Other	1 (2.9%)
	Don't know/Not sure	6 (17.1%)
	Total Valid Response	35 (100.0%)
	Total missing	8

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	1 (2.9%)
	More than 1 week but less than 1 month	2 (5.7%)

Question	Response	Ophthalmologist
	More than 1 month but less than 2 months	6 (17.1%)
	More than 2 months but less than 3 months	1 (2.9%)
	Don't know/Not sure	2 (5.7%)
	There is not wait, diagnosis is given when screened	23 (65.7%)
	Total Valid Response	35 (100.0%)
	Total missing	8

PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist
Laser photocoagulation	Is the treatment available?	Available within country	14 (40.0%)
		Available locally	16 (45.7%)
		Available in practice	32 (91.4%)
		Total valid response	35 (100.0%)
		Total missing	8
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	23 (76.7%)
		Mean	3.5
		SD	5.1
		Median	2.0
		Min	1
		Max	24
		Don't know/not sure	5 (16.7%)
		Not applicable	2 (6.7%)
		Total valid response	30 (100.0%)
		Total missing	13
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	25 (78.1%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Mean	3.2
		SD	4.2
		Median	2.0
		Min	0
		Max	20
		Don't know/not sure	5 (15.6%)
		Not applicable	2 (6.3%)
		Total valid response	32 (100.0%)
		Total missing	11
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	25 (80.6%)
		Mean	2.8
		SD	1.7
		Median	2.0
		Min	1
		Max	6
		Don't know/not sure	4 (12.9%)
		Not applicable	2 (6.5%)
		Total valid response	31 (100.0%)
		Total missing	12
Anti-VEGF therapies	Is the treatment available?	Available within country	14 (40.0%)
		Available locally	15 (42.9%)
		Available in practice	33 (94.3%)
		Total valid response	35 (100.0%)
		Total missing	8
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	26 (83.9%)
		Mean	2.7

Type of Treatment	Question	Response/time	Ophthalmologist
		SD	2.8
		Median	2.0
		Min	1
		Max	12
		Don't know/not sure	4 (12.9%)
		Not applicable	1 (3.2%)
		Total valid response	31 (100.0%)
		Total missing	12
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	27 (84.4%)
		Mean	2.6
		SD	2.1
		Median	2.0
		Min	0
		Max	10
		Don't know/not sure	4 (12.5%)
		Not applicable	1 (3.1%)
		Total valid response	32 (100.0%)
		Total missing	11
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	25 (86.2%)
		Mean	3.4
		SD	1.2
		Median	4.0
		Min	1
		Max	4
		Don't know/not sure	3 (10.3%)
		Not applicable	1 (3.4%)
		Total valid response	29 (100.0%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total missing	14
Intravitreal steroid	Is the treatment available?	Available within country	15 (42.9%)
		Available locally	15 (42.9%)
		Available in practice	31 (88.6%)
		Total valid response	35 (100.0%)
		Total missing	8
What is the average amount of time your patients wait for a consultation appointment? (weeks)		Total valid numeric response (n)	24 (77.4%)
		Mean	3.3
		SD	4.9
		Median	2.0
		Min	1
		Max	24
		Don't know/not sure	4 (12.9%)
		Not applicable	3 (9.7%)
		Total valid response	31 (100.0%)
		Total missing	12
What is the average amount of time your patients wait for a first treatment?(weeks)		Total valid numeric response (n)	25 (78.1%)
		Mean	2.4
		SD	2.1
		Median	2.0
		Min	0
		Max	10
		Don't know/not sure	4 (12.5%)
		Not applicable	3 (9.4%)
		Total valid response	32 (100.0%)
		Total missing	11

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	25 (78.1%)
		Mean	6.4
		SD	5.1
		Median	4.0
		Min	1
		Max	20
		Don't know/not sure	4 (12.5%)
		Not applicable	3 (9.4%)
		Total valid response	32 (100.0%)
		Total missing	11
Uncomplicated vitrectomy	Is the treatment available?	Available within country	15 (44.1%)
		Available locally	14 (41.2%)
		Available in practice	28 (82.4%)
		Total valid response	34 (100.0%)
		Total missing	9
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	25 (78.1%)
		Mean	6.6
		SD	12.3
		Median	2.0
		Min	1
		Max	60
		Don't know/not sure	6 (18.8%)
		Not applicable	1 (3.1%)
		Total valid response	32 (100.0%)
		Total missing	11
	What is the average amount of time your patients wait for a first	Total valid numeric	25 (78.1%)

Type of Treatment	Question	Response/time	Ophthalmologist
	treatment?(weeks)	response (n)	
		Mean	5.2
		SD	10.2
		Median	2.0
		Min	1
		Max	52
		Don't know/not sure	6 (18.8%)
		Not applicable	1 (3.1%)
		Total valid response	32 (100.0%)
		Total missing	11
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	15 (48.4%)
		Mean	2.6
		SD	3.2
		Median	2.0
		Min	0
		Max	12
		Don't know/not sure	10 (32.3%)
		Not applicable	6 (19.4%)
		Total valid response	31 (100.0%)
		Total missing	12
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	15 (42.9%)
		Available locally	14 (40.0%)
		Available in practice	29 (82.9%)
		Total valid response	35 (100.0%)
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total missing	8
		Total valid numeric response (n)	25 (75.8%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Mean	5.4
		SD	12.3
		Median	2.0
		Min	1
		Max	60
		Don't know/not sure	7 (21.2%)
		Not applicable	1 (3.0%)
		Total valid response	33 (100.0%)
		Total missing	10
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	25 (73.5%)
		Mean	5.1
		SD	10.8
		Median	1.0
		Min	1
		Max	52
		Don't know/not sure	8 (23.5%)
		Not applicable	1 (2.9%)
		Total valid response	34 (100.0%)
		Total missing	9
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	15 (45.5%)
		Mean	1.9
		SD	2.9
		Median	1.0
		Min	0
		Max	12
		Don't know/not sure	12 (36.4%)
		Not applicable	6 (18.2%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total valid response	33 (100.0%)
		Total missing	10

PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	36 (100.0%)
	Total valid response	36 (100.0%)
	Total missing	7
Who administer it?	Total missing	43

PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	24 (70.6%)
	Patient's age	20 (58.8%)
	Patient's gender	1 (2.9%)
	Presence of comorbidities such as hypertension, etc.	24 (70.6%)
	High glucose levels	23 (67.6%)
	Ability or inability to pay	10 (29.4%)
	Insurance restrictions	11 (32.4%)
	Patient educational level	7 (20.6%)
	Patient adherence to recommendations	21 (61.8%)
	None of the above	2 (5.9%)
	Total valid response	34 (100.0%)
	Total missing	9

PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Visual outcome	1 (2.9%)

Question	Response	Ophthalmologist
	Anatomical outcomes	1 (2.9%)
	Both	32 (94.1%)
	Total Valid Response	34 (100.0%)
	Total missing	9

PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	6 (17.6%)
	Fundoscopy dilated	21 (61.8%)
	Retinal photo	27 (79.4%)
	Optical Coherence Tomography	8 (23.5%)
	Fluorescein Angiography	9 (26.5%)
	Total valid response	34 (100.0%)
	Total missing	9

PT 4.10

Question	Response	Ophthalmologist
In your opinion, do the majority of your patients present:	In time for screening	14 (41.2%)
	When visual problems have already occurred	18 (52.9%)
	Too late for effective treatment	2 (5.9%)
	Total Valid Response	34 (100.0%)
	Total missing	9

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	32 (91.4%)
	No	3 (8.6%)
	Total valid response	35 (100.0%)

Question	Response	Ophthalmologist
	Total missing	8
If yes, When was your last training?	Don't know/Not sure	1 (3.2%)
	Five or more years ago	1 (3.2%)
	Greater than 1 year ago but less than 5 years	8 (25.8%)
	Within the past year	21 (67.7%)
	Total valid response	31 (100.0%)
	Total missing	12

PT 4.12

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	32 (91.4%)
	No	3 (8.6%)
	Total Valid Response	35 (100.0%)
	Total missing	8

PT 4.13

Question	Response	Ophthalmologist
How is outreach for screening for diabetic eye disease done in your main practice?	Health fairs for all	1 (2.9%)
	Health fairs for people with diabetes	3 (8.8%)
	Mobile screening centers	7 (20.6%)
	At vision centers	14 (41.2%)
	Other	3 (8.8%)
	Not done	5 (14.7%)
	Don't know/Not sure	7 (20.6%)
	Total valid response	34 (100.0%)
	Total missing	9

PT 4.14

Question	Response	Ophthalmologist
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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	14 (41.2%)
	Late diagnosis	22 (64.7%)
	Referral pathways	19 (55.9%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	12 (35.3%)
	No universal guidelines on referral/screening	2 (5.9%)
	No universal guidelines on how to treat	1 (2.9%)
	No universal guideline on when to treat	1 (2.9%)
	Current available therapies not effective	6 (17.6%)
	Government/insurance not able to cover patient costs	9 (26.5%)
	Multi-disciplinary team integration is poor	10 (29.4%)
	Ineffective screening services	4 (11.8%)
	Other	4 (11.8%)
	Total valid response	34 (100.0%)
	Total missing	9

EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Cardiovascular disease/Stroke	3 (7.7%)	2 (10.5%)	1 (12.5%)
	Kidney disease	2 (5.1%)	3 (15.8%)	2 (25.0%)
	Loss of feeling in hands or toes (neuropathy)	3 (7.7%)	4 (21.1%)	1 (12.5%)
	Vision loss	3 (7.7%)	11 (57.9%)	6 (75.0%)
	Amputation	0 (0.0%)	0 (0.0%)	1 (12.5%)
	Broken bones or fractures	1 (2.6%)	1 (5.3%)	0 (0.0%)
	Irritable bowel disease	2 (5.1%)	0 (0.0%)	0 (0.0%)

Question	Response	Without DED (%)	With DED (%)	With DME (%)
	Other	0 (0.0%)	0 (0.0%)	1 (12.5%)
	None	23 (59.0%)	7 (36.8%)	0 (0.0%)
	Don't know/Not sure	5 (12.8%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	39 (100.0%)	19 (100.0%)	8 (100.0%)
	Total missing	5	2	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 2

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Limited in any way in any activities because of impairment or health problem	7 (20.6%)	11 (52.4%)	2 (28.6%)
Impairment or health problem			
Diabetes	7 (87.5%)	10 (100.0%)	2 (100.0%)
Mental or emotional health	5 (83.3%)	4 (50.0%)	1 (50.0%)
Back or neck problem	5 (71.4%)	5 (55.6%)	1 (50.0%)
Walking problem	4 (57.1%)	6 (66.7%)	1 (50.0%)
Fractures, bone/joint injury	3 (50.0%)	5 (62.5%)	1 (50.0%)
Hypertension/high blood pressure	3 (42.9%)	4 (57.1%)	1 (50.0%)
Hearing problem	2 (28.6%)	1 (14.3%)	0 (0.0%)
Cancer	1 (20.0%)	0 (0.0%)	0 (0.0%)
Stroke problem	1 (16.7%)	1 (12.5%)	1 (50.0%)
Arthritis/rheumatism	1 (14.3%)	4 (50.0%)	0 (0.0%)
Eye/vision problem	0 (0.0%)	7 (70.0%)	2 (100.0%)
Heart problem	0 (0.0%)	2 (25.0%)	1 (50.0%)
Lung/breathing problem	0 (0.0%)	1 (12.5%)	1 (50.0%)

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	9 (27.3%)	5 (25.0%)	1 (14.3%)

Health Status	Without DED (%)	With DED (%)	With DME (%)
Self-rated health: Poor	24 (72.7%)	15 (75.0%)	6 (85.7%)
Physically unhealthy days	14 (48.3%)	6 (35.3%)	3 (50.0%)
Mentally unhealthy days	14 (50.0%)	6 (40.0%)	2 (33.3%)
Unhealthy days	23 (82.1%)	9 (56.3%)	5 (83.3%)
Activity limitation days	5 (20.0%)	3 (50.0%)	1 (16.7%)

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
How do you manage your diabetes?	Diet	40 (57.1%)	23 (51.1%)	16 (66.7%)
	Oral medicine	28 (40.0%)	6 (13.3%)	21 (87.5%)
	Exercise	34 (48.6%)	19 (42.2%)	15 (62.5%)
	Insulin	53 (75.7%)	43 (95.6%)	10 (41.7%)
	Natural/Herbal medicine	2 (2.9%)	2 (4.4%)	

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	20 (60.6%)	14 (66.7%)	4 (50.0%)
	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (4.8%)	0 (0.0%)
	Retired	5 (15.2%)	3 (14.3%)	1 (12.5%)
	Student	4 (12.1%)	1 (4.8%)	1 (12.5%)
	Not working	4 (12.1%)	2 (9.5%)	2 (25.0%)
	Total Valid Response	33 (100.0%)	21 (100.0%)	8 (100.0%)
	Total missing	11	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	0 (0.0%)	1 (12.5%)
	Medical assistance	6 (20.0%)	6 (28.6%)	2 (25.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Food assistance	0 (0.0%)	0 (0.0%)	1 (12.5%)
	Pension assistance	4 (13.3%)	1 (4.8%)	0 (0.0%)
	None of the above	21 (70.0%)	15 (71.4%)	6 (75.0%)
	Total valid response	30 (100.0%)	21 (100.0%)	8 (100.0%)
	Total missing	14	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	10 (30.3%)	6 (28.6%)	3 (37.5%)
	No	23 (69.7%)	15 (71.4%)	5 (62.5%)
	Total Valid Response	33 (100.0%)	21 (100.0%)	8 (100.0%)
	Total missing	11	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 5.2: Age group 18-39 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	10 (62.5%)	7 (77.8%)	2 (66.7%)
	Student	4 (25.0%)	1 (11.1%)	1 (33.3%)
	Not working	2 (12.5%)	1 (11.1%)	0 (0.0%)
	Total Valid Response	16 (100.0%)	9 (100.0%)	3 (100.0%)
	Total missing	4	0	0
Do you receive assistance from the government?	Medical assistance	2 (14.3%)	3 (33.3%)	0 (0.0%)
	None of the above	12 (85.7%)	6 (66.7%)	3 (100.0%)
	Total valid response	14 (100.0%)	9 (100.0%)	3 (100.0%)
	Total missing	6	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	6 (37.5%)	2 (22.2%)	1 (33.3%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	No	10 (62.5%)	7 (77.8%)	2 (66.7%)
	Total Valid Response	16 (100.0%)	9 (100.0%)	3 (100.0%)
	Total missing	4	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	9 (90.0%)	5 (83.3%)	2 (50.0%)
	Not working	1 (10.0%)	1 (16.7%)	2 (50.0%)
	Total Valid Response	10 (100.0%)	6 (100.0%)	4 (100.0%)
	Total missing	6	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	0 (0.0%)	1 (25.0%)
	Medical assistance	2 (22.2%)	1 (16.7%)	1 (25.0%)
	Food assistance	0 (0.0%)	0 (0.0%)	1 (25.0%)
	None of the above	7 (77.8%)	5 (83.3%)	3 (75.0%)
	Total valid response	9 (100.0%)	6 (100.0%)	4 (100.0%)
	Total missing	7	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	3 (30.0%)	2 (33.3%)	2 (50.0%)
	No	7 (70.0%)	4 (66.7%)	2 (50.0%)
	Total Valid Response	10 (100.0%)	6 (100.0%)	4 (100.0%)
	Total missing	6	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 (16.7%)	2 (33.3%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (16.7%)	0 (0.0%)
	Retired	4 (66.7%)	3 (50.0%)	1 (100.0%)
	Not working	1 (16.7%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	1 (100.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	Medical assistance	2 (33.3%)	2 (33.3%)	1 (100.0%)
	Pension assistance	4 (66.7%)	1 (16.7%)	0 (0.0%)
	None of the above	1 (16.7%)	4 (66.7%)	0 (0.0%)
	Total valid response	6 (100.0%)	6 (100.0%)	1 (100.0%)
	Total missing	1	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	1 (16.7%)	2 (33.3%)	0 (0.0%)
	No	5 (83.3%)	4 (66.7%)	1 (100.0%)
	Total Valid Response	6 (100.0%)	6 (100.0%)	1 (100.0%)
	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 5.5: Age group 80+ years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Retired	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	1 (100.0%)	0 (0.0%)	0 (0.0%)
Do you receive assistance from the government?	None of the above	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Total valid response	1 (100.0%)	0	0
	Total missing	0	0	0

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Did you have trouble paying for food at anytime during the past year?	No	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	1 (100.0%)	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".

EXP 6

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
All respondents		73 (100%)	46 (63.0%)	25 (34.2%)	21 (28.8%)	8 (11.0%)
Gender	Male	29 (46.8%)	17 (58.6%)	11 (37.9%)	6 (20.7%)	7 (24.1%)
	Female	33 (53.2%)	25 (75.8%)	8 (24.2%)	15 (45.5%)	1 (3.0%)
	Total Missing	11	4	6	0	0
Age	18-39 yrs	32 (43.8%)	30 (93.8%)	1 (3.1%)	9 (28.1%)	3 (9.4%)
	40-59 yrs	26 (35.6%)	14 (53.8%)	12 (46.2%)	6 (23.1%)	4 (15.4%)
	60-79 yrs	14 (19.2%)	2 (14.3%)	12 (85.7%)	6 (42.9%)	1 (7.1%)
	80 yrs and over	1 (1.4%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Time since diagnosis	Within the last year	4 (5.5%)	1 (25.0%)	3 (75.0%)	0 (0.0%)	0 (0.0%)
	1 - 5 years ago	13 (17.8%)	6 (46.2%)	6 (46.2%)	0 (0.0%)	0 (0.0%)
	6 - 10 years ago	11 (15.1%)	6 (54.5%)	5 (45.5%)	1 (9.1%)	0 (0.0%)
	11 - 15 years ago	8 (11.0%)	6 (75.0%)	2 (25.0%)	2 (25.0%)	2 (25.0%)
	16 - 20 years ago	9 (12.3%)	5 (55.6%)	4 (44.4%)	4 (44.4%)	0 (0.0%)
	21 years ago or longer	26 (35.6%)	21 (80.8%)	5 (19.2%)	14 (53.8%)	6 (23.1%)
	Don't know/Not sure	2 (2.7%)	1 (50.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Control of Diabetes	Controlled	28 (41.2%)	19 (67.9%)	9 (32.1%)	5 (17.9%)	5 (17.9%)
	Not controlled	39 (57.4%)	25 (64.1%)	13 (33.3%)	15	3 (7.7%)

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
					(38.5%)	
	Don't know/Not sure	1 (1.5%)	0 (0.0%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	5	2	2	1	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	12 (57.1%)	6 (85.7%)
	No	9 (42.9%)	1 (14.3%)
	Total valid response	21 (100.0%)	7 (100.0%)
	Total missing	0	1
What treatment did you receive?	Laser	12 (100.0%)	6 (100.0%)
	Anti-VEGF	3 (25.0%)	4 (66.7%)
	Surgery	1 (8.3%)	1 (16.7%)
	Total valid response	12 (100.0%)	6 (100.0%)
	Total missing	9	2
Did you complete the treatment?	Yes	6 (50.0%)	4 (66.7%)
	No	1 (8.3%)	0 (0.0%)
	Still receiving treatment	5 (41.7%)	2 (33.3%)
	Total valid response	12 (100.0%)	6 (100.0%)
	Total missing	9	2
Do you feel that the treatment worked?	Yes, and vision improved	6 (54.5%)	2 (33.3%)
	Yes, but vision stayed the same	2 (18.2%)	4 (66.7%)
	No	1 (9.1%)	0 (0.0%)
	Still waiting to know	1 (9.1%)	0 (0.0%)
	Don't know/Not sure	1 (9.1%)	0 (0.0%)

Question	Response	With DED n (%)	With DME n (%)
	Total valid response	11 (100.0%)	6 (100.0%)
	Total missing	10	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	20	8
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	6 (75.0%)	0 (0.0%)
	Treatment would not be effective	1 (12.5%)	0 (0.0%)
	Still waiting for treatment	1 (12.5%)	1 (100.0%)
	Other	1 (12.5%)	0 (0.0%)
	Total valid response	8 (100.0%)	1 (100.0%)
	Total missing	13	7

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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