DR Barometer
Shifting the needle

The Diabetic Retinopathy Barometer Report

Spain

Contents

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 Spain.

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 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 three subgroups:

• Without DED: people with diabetes without any reported form of DED

• With DED: people with diabetes with reported DED but not DME

• With DME: people with diabetes with reported DED and DME

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

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

Introduction
Spain Study

Demographic Characteristics

Spain is the fifth most populous country in the European Union[1]. In 2016, there were almost 46.5 million inhabitants[2].

Low fertility rates will continue to be a feature in the next two decades leading to a population decline. Currently Spain's population is already leaning towards an ageing population with only ~20% of its population falling under the age of 20 while 23% are 60 or older. This gap will severely and drastically increase by 2050 as it is projected that approximately 42% of the population will be at least 60 years old and only 16.5% of the population will be under the age of 20[3].

The ageing process will be particularly reflected by an increase in the number of those aged 65 years and over. In 2016, the number of people aged 65 years and over was ~ 8.5 million, which is a share of 18.5% of the country's population3. That number is anticipated to almost double by 2050 (an increase of 96%) and reach an all-time high of 15.2 million people3. Hence, about 36% of the population – that is about every third person – can be expected to be 65 years or older in thirty years' time.

Diabetes Profile[4]

There are 415 million people with diabetes in the world and more than 59.8 million people 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.

Spain has the fourth highest number of people living with diabetes in the European region at ~3.5 million (2,815.7-5,045.8‡), which accounts to ~6% of people living with diabetes in the region. Spain's diabetes national prevalence (20-79 years) is 10.4% (8.2-14.7‡) and the diabetes age-adjusted comparative prevalence is 7.7% (6.1-11.3‡).

Deaths attributed to diabetes in Spain in 2015 were 22,308, which accounts to ~4% of the diabetes related deaths experienced in this region. The estimated number of undiagnosed cases was ~1.3 million (1,459.1-2,614.7‡).

Study Populations: Spain

As reported by 97 respondents with diabetes in Spain, 17% were diagnosed with DED and a further 7.2% with DME.

One hundred and fifty-two health care professionals completed the survey in Spain. Of these, four were diabetes specialists (2.6%), 61 were ophthalmologists (40%), and 78 were primary care providers (51%). The remaining respondents were either nurses, health educators or other types of professionals.

The DR Barometer Study:
Spain Overview

The DR Barometer study was conducted in 41 countries. In Spain, 97 adults with diabetes and 152 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

52%

of patients said that **long wait times for an appointment** were a barrier to eye exams
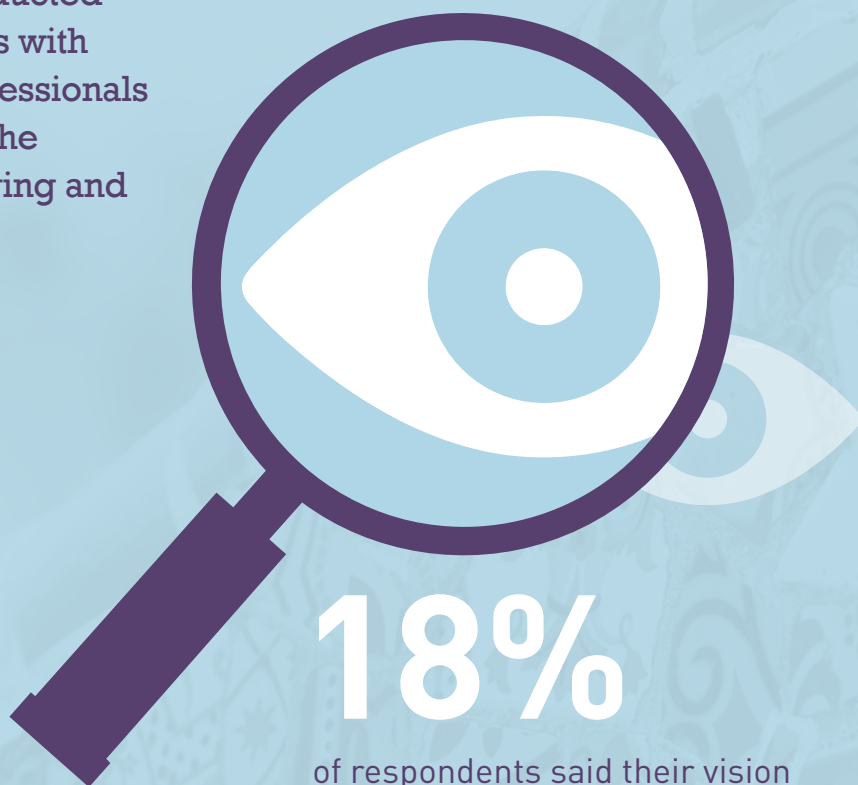
18%

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

20%

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

DR: Diabetic Retinopathy
DME: Diabetic Macular Edema

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80%

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

80%

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

20%

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

16%

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

Spain
DR Barometer Findings:
Adults with Diabetes

Key Demographic Characteristics

Ninety-seven adults with diabetes completed the patients' survey in Spain: 55% were female and 45% were male (see Table 1). Eighty-nine percent lived in an urban setting and 11% in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents were as follows: 1.3% did not complete primary school, 11% were educated to a primary school level, 27% to a secondary school level, 32% to a college or university level, and 29% to a graduate or post-graduate level (see Appendix Table 4.3).

Sixty-three percent of all respondents were in paid employment, 11% were retired, and 12% were not working (see Appendix Table 4.4).

Most respondents (39%) were aged between 40 and 59 years (33% were 18-39 years, 25% were 60-79 years and 3.1% were 80 years and over). Seventy-two percent were of traditional working age (18- 59 years).

Of the respondents in Spain, 56% had been diagnosed with type 1 diabetes and 37% with type 2 diabetes. A further 7.2% of respondents were either unsure of or did not know their type of diabetes (see Appendix Table 2.1).

Seventeen percent of respondents (n=16) had been diagnosed with DED and a further 7.2% (n=7) with DME.

Six percent of those surveyed were diagnosed with diabetes within the last year, 1 - 5 years ago (26%), 6 - 10 years ago (11%), 11 - 15 years ago (17%), 16 - 20 years ago (8.6%), and 21 years ago or more (31%) (see Appendix Table 2.2).

A younger population was more likely to be associated with type 1 diabetes, which was the opposite for those with type 2 diabetes, which tended to be an older population. Amongst 18 to 39-year-olds, 84% had type 1 and 9.4% had type 2 diabetes. In the 40-59 age group, 58% had type 1 and 40% had type 2 diabetes, 21% of the 60-79 year age group had type 1 diabetes and 67% had type 2.

In people aged 18-39 years, 6.3% had DED and 3.1% had DME. This increased to 21% for DED and 7.9% for DME in those aged 40-59 years and for people aged 60-79 years, 21% had DED and 8.3% had DME.

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

In the first 5 years since diagnosis of diabetes, 8.3% had DED and 4.2% had DME. This increased for those diagnosed between 11-15 years ago to 13% for DED and 6.3% for DED. These proportions increased to 25% for DED and 13% for DME (16-20 years since diagnosis) and even further to 31% for DED and 14% for DME in respondents diagnosed more than 21 years ago.

While most (66%) respondents reported that their diabetes was well controlled, almost one in three felt that this was not the case. For those who felt their diabetes was controlled, 18% had DED, 5.3% had DME, and for those, whose condition was not well controlled, 22% had DED and 15% 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		97 (100.0%)	54 (55.7%)	36 (37.1%)	16 (16.5%)	7 (7.2%)
Gender	Male	34 (45.3%)	15 (44.1%)	18 (52.9%)	8 (23.5%)	2 (5.9%)
	Female	41 (54.7%)	29 (70.7%)	10 (24.4%)	8 (19.5%)	5 (12.2%)
	Total Missing	22	10	8	0	0
Age	18-39 yrs.	32 (33.0%)	27 (84.4%)	3 (9.4%)	2 (6.3%)	1 (3.1%)
	40-59 yrs.	38 (39.2%)	22 (57.9%)	15 (39.5%)	8 (21.1%)	3 (7.9%)
	60-79 yrs.	24 (24.7%)	5 (20.8%)	16 (66.7%)	5 (20.8%)	2 (8.3%)
	80 yrs. plus	3 (3.1%)	0 (0.0%)	2 (66.7%)	1 (33.3%)	1 (33.3%)
Time since diagnosis	Within the last year	6 (6.5%)	2 (33.3%)	2 (33.3%)	0 (0.0%)	0 (0.0%)
	1 - 5 yrs.	24 (25.8%)	11 (45.8%)	10 (41.7%)	2 (8.3%)	1 (4.2%)
	6 - 10 yrs.	10 (10.8%)	4 (40.0%)	6 (60.0%)	1 (10.0%)	0 (0.0%)
	11 - 15 yrs.	16 (17.2%)	8 (50.0%)	7 (43.8%)	2 (12.5%)	1 (6.3%)
	16 - 20 yrs.	8 (8.6%)	6 (75.0%)	2 (25.0%)	2 (25.0%)	1 (12.5%)
	21 yrs. plus	29 (31.2%)	21 (72.4%)	7 (24.1%)	9 (31.0%)	4 (13.8%)
	Total Missing	4	2	2	0	0
Control of Diabetes	Controlled	57 (66.3%)	33 (57.9%)	19 (33.3%)	10 (17.5%)	3 (5.3%)
	Not controlled	27 (31.4%)	14 (51.9%)	11 (40.7%)	6 (22.2%)	4 (14.8%)
	Don't know/ Not sure	2 (2.3%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	11	6	5	0	0
	Total Missing	25	12	12	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.

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Knowledge and Management of Diabetes

Ninety-six percent of those surveyed saw a health care professional for their diabetes, with 72% seeing a diabetes specialist (average number of visits was 2.8 times per year) and 24% seeing a general or family doctor (average number of visits was 5.6 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 percent received information from their doctor or nurse, 52% from the internet and 39% from a diabetes or other health organisation. An interesting finding to note, a third of respondents received information via social media. (see Table 2 and Appendix Table 2.4).

Table 2: Source of information regarding diabetes

Information Source	All Respondents (n=92)
Doctor or nurse	74 (80.4%)
Internet	48 (52.2%)
Diabetes organisation or other health organisation	36 (39.1%)
Social media (e.g. Facebook, Twitter, blogs)	30 (32.6%)
Health educator	24 (26.1%)
TV/Radio/Newspaper/Magazines	20 (21.7%)
Nutritionist or dietician	18 (19.6%)
Family/Friends/Neighbours	15 (16.3%)
Pharmacist	4 (4.3%)
None of the above	1 (1.1%)

A range of strategies was used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 80% managed their diabetes with diet, 66% with exercise, and 12% with oral medicine. Of the respondents with type 2 diabetes, 80% reported that they managed their condition with diet, 74% with oral medicine, 66% with exercise, and 46% with insulin.

Twenty percent of respondents were currently enrolled in diabetes management programmes and of these, 83% 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 (88%), these occurred at the following intervals: less than 6 months (42%), 6 - 12 months (30%), and greater than 12 months (14%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: it was too hard to eat the right things (45%), the long wait times to schedule an appointment to see their doctor or specialist (29%), competing priorities (24%), the person did not know enough about their diabetes condition (15%), and the high cost of care (14%) (see Appendix Table 2.9).

Free or low cost medicines or monitoring materials (65%), health education and information (51%), support from family or friends (34%), coordination of healthcare and services by a professional (28%), and support groups (13%) were identified as important to improving the management of their diabetes (see Appendix Table 2.10).

Nature and Information about Complications

Eighty-nine percent of respondents were aware of vision loss and other complications, such as: neuropathy (82%), amputation (80%), foot ulcers (80%) and cardiovascular disease or stroke (77%) were associated with diabetes (see Appendix Table 2.11).

Respondents were most concerned about vision loss (42%), cardiovascular disease or stroke (28%), amputation (11%), kidney disease (8.6%), and foot ulcers (3.7%) (see Appendix Table 2.12).

Fifty-seven percent of respondents reported that they had no complications of diabetes. However, of those who did have complications 27% had vision loss, neuropathy (17%), cardiovascular disease or stroke (8.6%), kidney disease (7.4%), and foot ulcers (6.2%) (see Figure 1 and Appendix Table 2.13).

Figure 1: Presence of complications
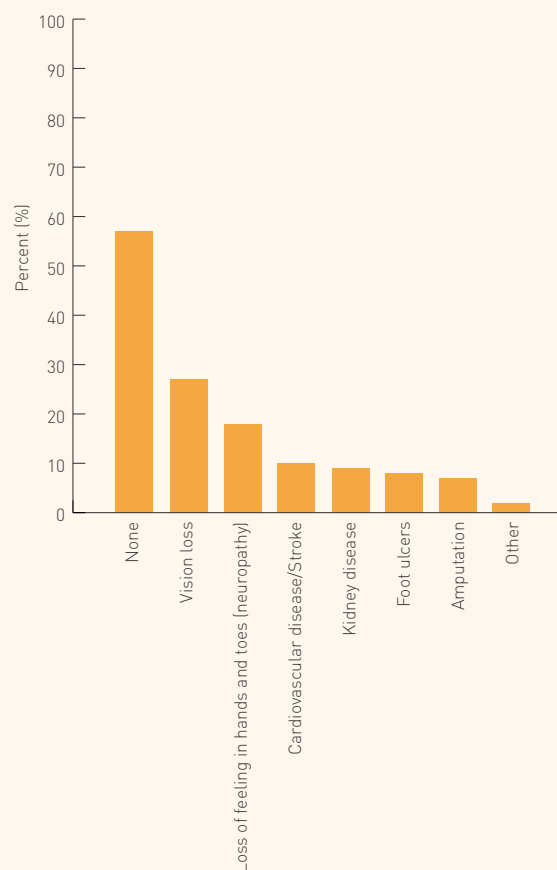
Aside from vision loss, there was an increase in the frequency of people with DED and DME experiencing complications compared to people without DED. The frequency of neuropathy increased from 12% in those without DED to 31% with DED and 33% in those with DME.

The frequency of other complications also increased significantly but the number of respondents was small (see Table 3 and Appendix EXP 1).

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

Complication	Without DED (n=59)	With DED (n=16)	With DME (n=6)
Any	18 (30.5%)	12 (75.0%)	5 (83.3%)
Vision loss	9 (15.3%)	9 (56.3%)	4 (66.7%)
Loss of feeling in hands or toes (neuropathy)	7 (11.9%)	5 (31.3%)	2 (33.3%)
Foot ulcers	1 (1.7%)	3 (18.8%)	1 (16.7%)
Kidney disease	3 (5.1%)	2 (12.5%)	1 (16.7%)
Cardiovascular disease/Stroke	4 (6.8%)	2 (12.5%)	1 (16.7%)
Amputation	3 (5.1%)	1 (6.3%)	0 (0.0%)
Other	1 (1.7%)	0 (0.0%)	0 (0.0%)
None	41 (69.5%)	4 (25.0%)	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]: 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-two percent of respondents stated that eye complications were discussed with their health care professionals. Notwithstanding this, nearly one in five (19.5%) either had never discussed eye complications with their provider (17%) or discussions took place only once symptoms arose (2.4%). The frequency of regular discussions varied from every visit (21%), multiple times a year (9.8%), and for almost half (49%) they took place only once a year (see Appendix Table 2.14).

Eighty-five percent of respondents reported that they did what they could to prevent vision problems (e.g. get routine screenings, visit specialists). Yet myths and perceptions around vision changes and prevention strategies were evident as 17% thought that visions problems were a normal part of ageing and 6.1% made no special effort to have a preventative approach to their eye health (see Appendix Table 2.15).

Eighty-one percent of all respondents had received information about DR and DME with the doctor or nurse being the most common source (60%). An important finding to note, one in six respondents did not receive such information from any of the traditional sources listed, including their doctor or nurse (40%) (see Appendix Table 3.9).

Table 4: Source of information about DR and DME

Source	All respondents (n=75)
Doctor/Nurse	45 (60.0%)
Internet	27 (36.0%)
Diabetes organisation or other health organisation	20 (26.7%)
Health educator	10 (13.3%)
TV/Radio/Newspaper/Magazines	10 (13.3%)
Family/Friends/Neighbours	1 (1.3%)
None of the above	14 (18.7%)
None of the above	50 (21.4%)

NB [1]: Not all respondents answered all questions in the survey; percentages are calculated from non-missing responses to the survey question are calculated from non-missing responses to the survey question.

Screening for Diabetic Eye Disease

Most (90%) respondents reported having an eye exam for DED, with 79% having the exam within the last year and a further 13% between one and two years ago. Two-thirds of respondents were aware of government sponsored screening programmes for DED (see Appendix Table 3.1 and 3.2).

While 86% of those surveyed through they should have their eyes examined for DED once a year there were varied small number of respondents who reported that testing should happen every two years (see Appendix Table 3.4).

The biggest barriers to eye exams were long wait times to schedule an appointment (52%), the cost of an eye exam (23%), and for some the long wait time on the day of the visit (14%) (see Table 5 and Appendix Table 3.5).

Table 5: Barriers to eye examinations

Identified Barriers	All Respondents (n=64)
Long wait time for appointment	33 (51.6%)
They are expensive	15 (23.4%)
Long wait time on the day of the visit	9 (14.1%)
Eye exams are not available near my home	8 (12.5%)
Referral process is complicated or takes too long	8 (12.5%)
Fear of treatment/results	6 (9.4%)
Limited access to diabetes specialists	5 (7.8%)
Don't know much about my condition	4 (6.3%)
Burden on my family/friends	4 (6.3%)
Recommended treatments for eye problems are not available	2 (3.1%)
Too many other things to do or worry about	2 (3.1%)
Clinics are too small or lack necessary equipment/staff	2 (3.1%)
I'm not likely to have eye complications	1 (1.6%)
Other	12 (18.8%)

Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME.

Of those with DED who had received treatment (31%), the most common treatments received were laser (80%) and anti-VEGF therapy (20%). For one respondent treatment was still ongoing, but the remaining respondents reported to have had completed their treatment. All felt that treatment had been successful and either their vision had improved (60%) or had stayed the same (40%) (see Table 6).

For the eleven respondents (69%) with DED who had not received treatment, the most common reason reported was that their doctor did not recommend treatment (82%).

Eighty-six percent of patients with DME (n=6) had received treatment and the most common treatments were laser (83%) and anti-VEGF therapy (33%). All respondents felt that treatment had been successful and either their vision had improved (67%) or had stayed the same (33%).

There was a strong preference by 85% of those with DME to have a proactive treatment approach 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=16)	With DME (n=7)
Have you had any treatment for diabetic eye disease?	Yes	5 (31.3%)	6 (85.7%)
	No	11 (68.8%)	1 (14.3%)
What treatment did you receive?	Laser	4 (80.0%)	5 (83.3%)
	Anti-VEGF	1 (20.0%)	2 (33.3%)
	Surgery	0 (0.0%)	1 (16.7%)
	Other	0 (0.0%)	1 (16.7%)
Did you complete the treatment?	Yes	4 (80.0%)	6 (100.0%)
	Still receiving treatment	1 (20.0%)	0 (0.0%)
Do you feel that the treatment worked?	Yes, and vision improved	3 (60.0%)	4 (66.7%)
	Yes, but vision stayed the same	2 (40.0%)	2 (33.3%)
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	9 (81.8%)	1 (100.0%)
	Still waiting for treatment	1 (9.1%)	0 (0.0%)
	Other	1 (9.1%)	0 (0.0%)
	No	17 (38.6%)	7 (23.3%)
	Still waiting to know	0 (0.0%)	3 (10.0%)
	Don't know/ Not sure	0 (0.0%)	2 (6.7%)

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

Almost two-thirds (65%) of those diagnosed with DED or DME said that their vision was affected (26% significantly, 39% slightly) (see Appendix Table 3.6).

Eighty percent of these respondents reported vision issues impacted their daily lives in various ways such as: driving a vehicle (40%), leisure activities or exercise (33%), working or keeping a job (33%), conducting household responsibilities, such as cooking or cleaning (27%), social interactions with family or friends (20%), managing their underlying diabetes (13%), and for some travelling (6.7%) (see Table 7).

Table 7: Activities affected through vision impairment and loss

	All Respondents (n=15)
Driving (a car/vehicle)	6 (40.0%)
Leisure activities/exercise	5 (33.3%)
Work or keeping a job	5 (33.3%)
Household responsibilities, such as cooking or cleaning	4 (26.7%)
Social interactions with family/ friends	3 (20.0%)
Managing my diabetes	2 (13.3%)
Travelling	1 (6.7%)
Other	3 (20.0%)
None	3 (20.0%)

Fifty percent of those with DED and 57% with DME were in paid employment compared with 67% of respondents without DED (see Table 8 and EXP 5.1). Patients with vision complications reported difficulties with work or keeping a job (33%) and 13% of those with DED (n=2) were not working.

Sixty-four percent of all those surveyed did not receive assistance from the government while 24% received medical assistance (see Appendix Table 4.5). Twenty-eight percent of those without DED received assistance from the government, which increased to 58% for those with DED and 57% for those with DME.

Ninety-two percent of respondents said they had no trouble paying for food at any time during the past year. Although small in number those who did experience trouble at some point in the last year did vary depending on having DME (29%), or DED (13%), compared with those without DED (4%) (see Appendix Table 4.6).

The majority of respondents (80%) stated that they did not feel their access to health care was affected by any factors, however, 6.8% reported that it was affected by either one's income or the place where one lives (see Appendix Table 4.7).

Sixty-seven percent of respondents said they worried about their health and 24% about family (see Appendix Table 4.8).

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

Question	Response	Without DED (n=52)	With DED (n=16)	With DME (n=7)
Are you currently working?	Working for pay	35 (67.3%)	8 (50.0%)	4 (57.1%)
	Working without pay at home (e.g. housework, farming)	4 (7.7%)	2 (12.5%)	0 (0.0%)
	Volunteering	0 (0.0%)	0 (0.0%)	1 (14.3%)
	Retired	3 (5.8%)	4 (25.0%)	1 (14.3%)
	Student	4 (7.7%)	0 (0.0%)	0 (0.0%)
	Not working	6 (11.5%)	2 (12.5%)	1 (14.3%)
Question	**Response**	**Without DED (n=51)**	**With DED (n=12)**	**With DME (n=7)**
Do you receive assistance from the government?	Income assistance	2 (3.9%)	1 (8.3%)	2 (28.6%)
	Medical assistance	11 (21.6%)	4 (33.3%)	2 (28.6%)
	Food assistance	0 (0.0%)	1 (8.3%)	0 (0.0%)
	Pension assistance	3 (5.9%)	4 (33.3%)	2 (28.6%)
	None of the above	37 (72.5%)	5 (41.7%)	3 (42.9%)
	None of the above	45 (76.3%)	27 (65.9%)	5 (100.0%)
Question	**Response**	**Without DED (n=52)**	**With DED (n=15)**	**With DME (n=7)**
Did you have trouble paying for food at any time during the past year?	Yes	2 (3.8%)	2 (13.3%)	2 (28.6%)
	No	50 (96.2%)	13 (86.7%)	5 (71.4%)

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).

Eighty-six percent of people with DME and half of those with DED reported self-rated health as poor compared with 22% of people without DED. People with DED and DME also experienced a greater impact on their physical and mental health.

Eighty percent of those with DME, and a third of people with DED, experienced a series of physically unhealthy days compared to 29% of those without DED. Sixty-seven percent of those with DME, and 36% of those with DED, had a series of mentally unhealthy days compared to 28% of those without DED.

Compared with 18% of those without DED, 75% of people with DED and 86% of people with DME experienced limitations to their daily activities due to poor health (see Appendix EXP 2).

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

Health Status	Without DED	With DED	With DME
Self-rated health: Good	40 (78.4%)	8 (50.0%)	1 (14.3%)
Self-rated health: Poor	11 (21.6%)	8 (50.0%)	6 (85.7%)
Physically unhealthy days	11 (28.9%)	4 (33.3%)	4 (80.0%)
Mentally unhealthy days	11 (27.5%)	4 (36.4%)	4 (66.7%)
Unhealthy days	16 (44.4%)	6 (54.5%)	4 (80.0%)
Activity limitation days	4 (16.0%)	3 (37.5%)	3 (60.0%)

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

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

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

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

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

Spain
DR Barometer Findings:
Health Care Professionals

Key Demographic Characteristics

There were 152 health care professionals who answered at least one of the survey questions in Spain. Of these, 78 were primary care providers (51%), four were diabetes specialist providers (2.6%), and 61 were ophthalmologists (40%). The remaining respondents were nurses, health educators or other types of 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 19 years, with the ophthalmologists group practicing for an average of 17 years (see Appendix PT 1.5).

Health care professionals were well-educated (86% with graduate or advanced degree); 56% were female and 44% male, and varied in age categories with 44% being between 50 - 59 years of age (see Table 10 and Appendix PT 3.1).

Table 10: Summary of key characteristics of health care professionals

Group	Subgroup	All Respondents	Primary Care Provider	Diabetes Specialist	Ophthalmologist
All respondents		152 (100.0%)	78 (51.3%)	4 (2.6%)	61 (40.1%)
Age group	18 - 29 yrs.	5 (4.8%)	3 (5.6%)	0 (0.0%)	2 (4.7%)
	30 - 39 yrs.	18 (17.1%)	3 (5.6%)	2 (66.7%)	12 (27.9%)
	40 - 49 yrs.	31 (29.5%)	11 (20.4%)	1 (33.3%)	16 (37.2%)
	50 - 59 yrs.	46 (43.8%)	34 (63.0%)	0 (0.0%)	11 (25.6%)
	60 - 69 yrs.	5 (4.8%)	3 (5.6%)	0 (0.0%)	2 (4.7%)
Gender	Female	58 (56.3%)	30 (56.6%)	2 (66.7%)	21 (50.0%)
	Male	45 (43.7%)	23 (43.4%)	1 (33.3%)	21 (50.0%)
Education	College/University	15 (14.3%)	10 (18.5%)	1 (33.3%)	2 (4.7%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	90 (85.7%)	44 (81.5%)	2 (66.7%)	41 (95.3%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	34 (70.8%)	4 (100.0%)	20 (76.9%)	6 (85.7%)

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

Clinical Practice Characteristics

Forty-eight percent of all providers had their main practice setting in a general medical clinic (48%) and for ophthalmologists only it was a hospital (90%) or an eye clinic (8.3%) (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 (77%). Ophthalmologists worked mainly in the government (71%), combined or mixed (15%), and private (10%) sector (see Appendix PT 2.3).

The health care professionals reported that 84% of patients do not pay for services, 14% pay through insurance for services, and 7.3% of patients pay out-of-pocket (full fees) for services. The pattern was similar for ophthalmologists, where 79% of patients do not pay for services, 23% of patients pay through insurance for services, and 12% of patients pay out-of-pocket (full fees) for services (see Appendix PT 2.7).

On average, all providers see 138 patients per week and on average 26% of these patients had diabetes. Similarly, ophthalmologists saw an average of 114 patients per week and on average 25% had diabetes (see Appendix PT 2.6).

For all health care professionals, the average waiting time for an appointment was most commonly less than one week (47%), or between one week and a month (16%) (see Appendix PT 2.5).

For an appointment with an ophthalmologist, it was usually between one week and a month or between one and two months in 27% of practices respectively.

Table 11: Average wait times to schedule an appointment

Wait Time Intervals	All Respondents (n=125)	Ophthalmologist (n=52)
Less than 1 week	59 (47.2%)	4 (7.7%)
More than 1 week but less than 1 month	20 (16.0%)	14 (26.9%)
More than 1 month but less than 2 months	16 (12.8%)	14 (26.9%)
More than 2 months but less than 3 months	13 (10.4%)	7 (13.5%)
More than 3 months but less than 6 months	5 (4.0%)	5 (9.6%)
Six or more months	6 (4.8%)	5 (9.6%)
Other	3 (2.4%)	0 (0.0%)
Don't know/Not sure	3 (2.4%)	3 (5.8%)

Patient Education Information

A wide range of topics related to diabetes, and its management, are 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
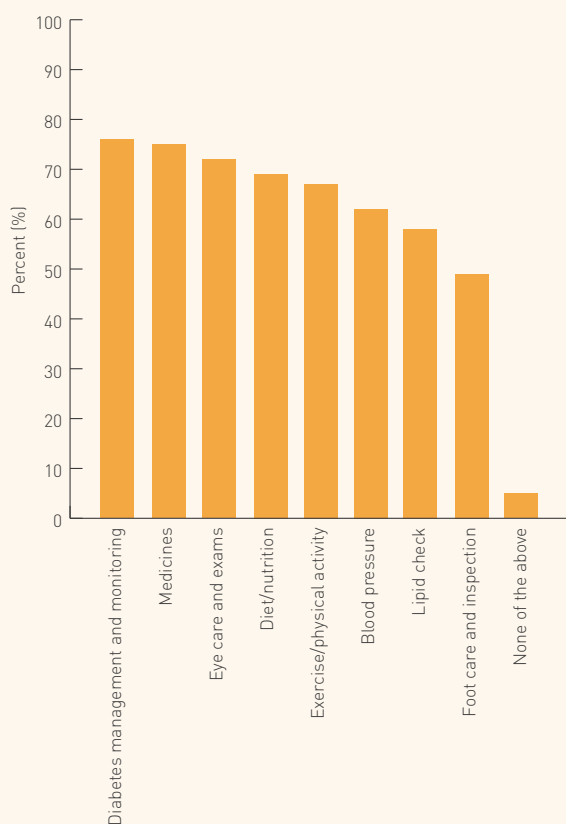
Health care professionals stated that written information about diabetes is available yet the adequacy of that related to eye complications varies.

Thirty-two percent of all providers reported that they had sufficient information about eye complications, 24% said the information on eye complications and diabetes was available but insufficient, and 12% reported that information on eye complications was not included. Overall, 22% of health care professionals had no written information available for their patients (see Table 12 and Appendix PT 2.11).

Less than a third of ophthalmologists (29%) had written information about diabetes and potential eye complications, while 24% had information but that which was on eye complications was insufficient. Twenty-nine percent of ophthalmologists said there was no written information available at all.

Guidelines and Protocols

Sixty-three percent of providers, including 55% of ophthalmologists, had written protocols for the management of diabetes, which were used by staff. However, 11% had no protocols available (see Appendix PT 2.12).

With respect to the management of diabetes-related vision issues, 57% of all health care professionals had written protocols, which were used by staff but for 16% the available protocols were not used by staff. Twenty 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).

For ophthalmologists, 59% had written protocols for detection and management of diabetes-related vision issues available, which were used by staff. Twenty-three percent of ophthalmologists did not have protocols on the management of diabetes-related vision issues available.

Table 12: Availability and use of information and protocols

Question	Response	All Respondents (n=113)	Ophthalmologist (n=45)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	36 (31.9%)	13 (28.9%)
	Yes, but information on eye complications is not sufficient	27 (23.9%)	11 (24.4%)
	Yes, but no information on eye complications is included	14 (12.4%)	1 (2.2%)
	No written information is available for patients	25 (22.1%)	13 (28.9%)
	Don't know/Not sure	11 (9.7%)	7 (15.6%)
Question	**Response**	**All Respondents (n=112)**	**Ophthalmologist (n=44)**
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	64 (57.1%)	26 (59.1%)
	Yes, available but not used by staff	18 (16.1%)	6 (13.6%)
	Not available	22 (19.6%)	10 (22.7%)
	Don't know/Not sure	8 (7.1%)	2 (4.5%)

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

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

Most of the providers, for patients with either type 1 diabetes (60%) or type 2 diabetes (84%) recommended an initial eye exam at time of diagnosis of diabetes (see Appendix PT 2.14).

Overall, 68 % of health care professionals, including 84% of ophthalmologists, stated that follow-up eye examinations should be conducted every year. Most health care professionals (94%) screened patients for DR (see Appendix PT 2.15 and PT 2.16).

Across all health care professionals only 47% reported to send their patients a reminder to schedule a follow-up appointment (see Appendix PT 2.19).

Eighty-nine percent of the health care professionals reported that they share patient relevant information with other providers to optimise patient care management (see Appendix PT 2.20).

The most common patient characteristics influencing the referral process for eye complications were: the duration of diabetes (88%), the presence of comorbidities such as hypertension (81%), high glucose levels (73%), a patient's age (66%), and a patient's ability to adhere to recommendations (25%) (see Appendix PT 2.17).

As reported by all health care professionals, the major barriers to optimising eye health faced by patients with diabetes were: long wait times to schedule an appointment (36%), the perception that patients feel that eye exams are not important (39%), or that eye complications are unlikely (37%), and the referral process (38%). Ophthalmologists, like all 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=101)	Ophthalmologists (n=41)
Long wait time for appointment	36 (35.6%)	19 (46.3%)
Patients feel eye complications are unlikely	37 (36.6%)	19 (46.3%)
Patients feel eye exams are not important	39 (38.6%)	17 (41.5%)
Referral process	38 (37.6%)	16 (39.0%)
Lack of knowledge and/or awareness	25 (24.8%)	15 (36.6%)
Patients fear of treatment/results	18 (17.8%)	10 (24.4%)
Long wait time on the day of visit	13 (12.9%)	6 (14.6%)
Cost of care	15 (14.9%)	5 (12.2%)
Limited access to eye specialists	16 (15.8%)	5 (12.2%)
Patients have competing responsibilities and priorities	7 (6.9%)	5 (12.2%)
Proximity to care	13 (12.9%)	4 (9.8%)
Limited access to diabetes specialists	9 (8.9%)	4 (9.8%)
Patients feel they are a burden on family/friends	2 (2.0%)	2 (4.9%)
Clinic too small or lack necessary equipment/staff	4 (4.0%)	2 (4.9%)
Recommended treatments are not available	4 (4.0%)	0 (0.0%)
Other	4 (4.0%)	1 (2.4%)

Spain
DR Barometer Findings:
Ophthalmologists

Screening

There were thirty-seven ophthalmologists who answered at least one of the supplementary questions (see Appendix PT 4.1 to PT 4.14). On average 23% of patients seen by ophthalmologists had DR and 12% DME (see Appendix PT 4.1 and PT 4.2).

The most common waiting time for a patient for screening for DED was between one week and under a month (32%) with more than a quarter (27%) stating between one and two months (see Appendix PT 4.3).

Fifty-one percent of ophthalmologists reported that there was a wait time from screening to diagnosis of less than one week, 15% (n=6) reported a wait time between one week and under a month (see Appendix PT 4.4).

Treatment and Challenges

Ninety-seven percent of 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 (58%), a patient's age (58%), and the presence of comorbidities such as hypertension etc. (58%) (see Appendix PT 4.7).

The most common outreach venues for screening for DED were vision centres (38%), health fairs for people with diabetes (27%), mobile screening centres (16%), and health fairs for all (8.1%) (see Appendix PT 4.13).

Ninety-five percent ophthalmologists reported that they screen their patients for DR based on fundoscopy through dilated pupils. Additionally 92% use optical coherence tomography, 71% use fluorescein angiography and 63% use a retinal photo (see Appendix PT 4.9).

Fifty-three percent of ophthalmologists said that most patients present when visual problems have already occurred, while 45% reported that patients present in time for screening and 2.6% (n=1) said that patients present too late for effective treatment although the sample is notably very small (see Appendix PT 4.10).

Eighty-four percent of ophthalmologists had received specific training on the treatment and diagnosis of DR and or DME. Sixty-six percent had training within the past year and a quarter received training between one and five years ago (see Appendix PT 4.11).

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

Ophthalmologists perceived the greatest challenge for improving patient outcomes in DED was late diagnosis (57%) as well as the referral pathways, limited access to patient education on DR and DME, and poor multi-disciplinary integration of care all equally considered as significant by 46% of respondents. Reimbursement restrictions on approved therapy were also noted by 38% of ophthalmologists (see Table 14 and Appendix PT 4.14).

Table 14: Challenges for improving outcomes in DED

Question		Ophthalmologist (n=37)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Late diagnosis	21 (56.8%)
	Referral pathways	17 (45.9%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	17 (45.9%)
	Multi-disciplinary team integration is poor	17 (45.9%)
	Reimbursement/restrictions on approved therapy	14 (37.8%)
	Government/insurance not able to cover patient costs	9 (24.3%)
	No universal guidelines on referral/ screening	4 (10.8%)
	No universal guidelines on how to treat	3 (8.1%)
	Ineffective screening services	3 (8.1%)
	No universal guideline on when to treat	2 (5.4%)
	Current available therapies not effective	2 (5.4%)
	Other	2 (5.4%)

Spain
DR Barometer Summary

In Spain, 97 adults with diabetes and 152 health care professionals have provided insight about their experiences of living with, managing and treating diabetes, DR and DME. The results help to improve awareness, management, and services available in Spain.

Spain is the fifth most populous country in the European Union[5]. In 2016, there were almost 46.5 million inhabitants[6] and Spain has the fourth highest number of people living with diabetes in the European region at ~3.5 million (2,815.7-5,045.8‡), which accounts to ~6% of people living with diabetes in the region[7].

Low fertility rates will continue to be a feature in the next two decades leading to a population decline. Currently Spain's population is already leaning towards an ageing population with only ~20% of its population falling under the age of 20 while 23% are 60 or older. This gap will severely and drastically increase by 2050 as it is projected that approximately 42% of the population will be at least 60 years old and only 16.5% of the population will be under the age of 20[8].

The DR Barometer findings indicate that a younger population was more likely to be associated with type 1 diabetes, which was the opposite of those with type 2 diabetes, which tended to be an older population. This is an important, and well-known, finding in the context of Spain's rapidly ageing population.

The study also showed that the longer the time since diabetes was diagnosed, the greater the likelihood for DED and DME to be detected. Seventeen percent of respondents (n=16) reported to be diagnosed with DED and 7.2% (n=7) had been diagnosed with DME.

People were most often informed about their diabetes condition from their providers, such as their doctor, nurse, or health educator. Other important sources of information included diabetes or other health organisations along with a high reliance on social media (33%). A trend globally, and reflected in the Spain study, was the increasing usage of the internet by over half (52%) of the respondents.

Many of those surveyed struggled with the management of their diabetic condition with some issues that were within their personal control such as eating the right things, balancing their health with other priorities, and seeking additional information to learn more of their diabetic condition.

There was not only a relatively high awareness of complications but vision loss was feared more than cardiovascular disease, loss of limb, and kidney disease. Aside from vision loss, there was also a significant increase in the frequency of people with DED and DME experiencing additional complications compared to people without DED although it should be noted the number of respondents was small.

The relationship between the patient and their provider is critical to realistic and optimal patient outcomes. Indeed, health education and information was reported by 51% of respondents, as an important tool to improve the management of one's diabetes yet 40% of respondents did not receive any information on eye complications from their doctor or nurse.

Likewise, almost half (46%) of ophthalmologists, reported the lack of knowledge or awareness on behalf of the patient as a major challenge for improving patient outcomes in DED and DME yet less than a third (29%) had sufficient information regarding eye complications available for their patients.

It is also important to note that almost one in five respondents either had never discussed eye complications with their provider or discussions only taken place once symptoms arose. For almost half of respondents, discussions regarding potential eye complications took place only once a year.

Equally concerning is the myths and perceptions around vision changes and prevention strategies was evident as some respondents thought that visions problems were a normal part of ageing and or made no special effort to have a preventative approach to their eye health.

Knowledge and guidance was not only an issue for patients, as one in five providers did not have written protocols or guidelines available for the management of diabetes-related vision issues.

Eighty percent of those with vision impairment due to DED or DME whose vision was affected experienced an impact to their health, lifestyles, and life choices. Two in five reported their vision impairment made it difficult to drive a vehicle and a third had difficulty in working or keeping a job.

People with DED and DME also experience more physical and mentally unhealthy days compared to those without DED. Eighty-six percent of people with DME and half of those with DED reported self-rated health as poor compared with 22% of people without DED. People with DED and DME also experienced a greater impact on their physical and mental health.

Eighty percent of those with DME, and a third of people with DED, experienced a series of physically unhealthy days compared to 29% of those without DED. Sixty-seven percent of those with DME, and 36% of those with DED, had a series of mentally unhealthy days compared to 28% of those without DED.

A proactive treatment approach to prevent further vision loss was preferred by 85% of those with DME rather than a reactive approach once further vision loss occurred.

Knowing that diabetes-related vision loss is preventable, addressing barriers to eye screening is an important policy issue. While most respondents 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 times both to schedule an appointment and on the day of the visit.

In addition, given the majority of ophthalmologists recommended annual screenings, it was a surprise finding that less than half (47%) of providers send reminders to their patients to schedule an appointment.

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

Fifty-three percent of ophthalmologists reported that the majority of their patients present only when visual problems have already occurred. Furthermore, over half (57%) of ophthalmologists cite late diagnosis as the greatest challenge for improving patient outcomes in DED and DME, along with the referral pathways, limited access to patient education on DR and DME, and poor multi-disciplinary integration of care all equally considered as significant by 46% of respondents.

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

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

References and Acknowledgement

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Appendices

The Diabetic Retinopathy Barometer Survey: Appendices for Spain

APPENDIX 1 : National Results

Table 1.1

Survey Information	Number of Respondents (%)
All valid respondents [1]	118 (100.0%)
Respondents aged 18 or over	111 (94.1%)
Respondents with diabetes	97 (82.2%)

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

Table 1.2

Survey Information	Number of Respondents (%)
All valid respondents	118 (100.0%)
Included in Diabetic Analysis Set	97 (82.2%)
Excluded from Diabetic Analysis Set	21 (17.8%)
Reasons for exclusion from diabetic analysis set	.
Under 18 years of age	7
Not diagnosed with diabetes	13
Missing information on diabetes diagnosis	1

Table 1.3

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	97 (100.0%)
World Bank Income Group: High Income	97 (100.0%)
Persons with diabetic eye disease (DED)	16 (16.5%)
Persons with diabetic macular edema (DME)	7 (7.2%)
Persons with Type I diabetes	54 (55.7%)
Persons with Type II diabetes	36 (37.1%)
Persons not seeing health care professional for diabetes	4 (4.1%)
Persons seeing health care professional for diabetes	90 (92.8%)
Persons with eye disease & not received treatment	12 (12.4%)
Persons with eye disease & received treatment	11 (11.3%)

Table 2.1

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	54 (55.7)
	Type II	36 (37.1)
	Don't know/Not sure	7 (7.2)
	Total Valid Response	97 (100.0)

Table 2.2

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	6 (6.5)
	1 - 5 years ago	24 (25.8)
	6 - 10 years ago	10 (10.8)
	11 - 15 years ago	16 (17.2)
	16 - 20 years ago	8 (8.6)
	21 years ago or longer	29 (31.2)
	Total Valid Response	93 (100.0)
	Total missing	4

Table 2.3.1

Question	Response	Number of Respondents (%)
Do you see a health care professional for your diabetes?	Yes	90 (95.7)
	No	4 (4.3)
	Total Valid Response	94 (100.0)
	Total missing	3
What kind of health care professional?	General/Family Doctor	21 (23.9)
	Nurse	3 (3.4)
	Diabetes Specialist	63 (71.6)
	Other	1 (1.1)
	Total Valid Response	88 (100.0)

Question	Response	Number of Respondents (%)
	Total missing	9

Table 2.3.2

Type of health care professional	Times per year seen for diabetes	Value
General/Family Doctor	Total valid numeric response (n)	16
	Mean	5.6
	SD	7.0
	Median	4.0
	Min	1
	Max	30
	Don't know/Not sure	2
	Total missing	3
Nurse	Total valid numeric response (n)	2
	Mean	5.5
	SD	3.5
	Median	5.5
	Min	3
	Max	8
	Don't know/Not sure	1
Diabetes Specialist	Total valid numeric response (n)	50
	Mean	2.8
	SD	1.1
	Median	2.5
	Min	1
	Max	5
	Don't know/Not sure	2
	Total missing	11
Other	Total valid numeric response (n)	1
	Mean	3.0
	SD	
	Median	3.0
	Min	3
	Max	3

Table 2.4

Question	Response	Number of Respondents (%)
How have you received information about diabetes?	Doctor or nurse	74 (80.4%)
	Health educator	24 (26.1%)
	Nutritionist or dietitian	18 (19.6%)
	Diabetes organization or other health organization	36 (39.1%)
	Family/Friends/Neighbors	15 (16.3%)
	TV/Radio/Newspaper/Magazines	20 (21.7%)
	Internet	48 (52.2%)
	Social media (e.g. Facebook, Twitter, blogs)	30 (32.6%)
	Pharmacist	4 (4.3%)
	None of the above	1 (1.1%)
	Total Valid Response	92 (100.0%)
	Total missing	5

Table 2.5

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	74 (80.4%)
	Oral medicine	35 (38.0%)
	Exercise	62 (67.4%)
	Insulin	69 (75.0%)
	Natural/Herbal medicine	2 (2.2%)
	Total Valid Response	92 (100.0%)
	Total missing	5

Table 2.6

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	18 (19.6)
	No	74 (80.4)
	Total Valid Response	92 (100.0)

Question	Response	Number of Respondents (%)
	Total missing	5
Who sponsors the programme?	Hospital support program	7 (38.9)
	Clinic support program	2 (11.1)
	Pharmaceutical support program	1 (5.6)
	Patient organization support program	5 (27.8)
	Don't know/Not sure	3 (16.7)
	Total Valid Response	18 (100.0)
	Total missing	79
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	15 (83.3)
	No	3 (16.7)
	Total Valid Response	18 (100.0)
	Total missing	79

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	85 (96.6%)
	Less than 6 months	76 (86.4%)
	6 - 12 months	6 (6.8%)
	Greater than 12 months	1 (1.1%)
	Total valid response	83 (94.3%)
	Total missing	14
	No	3 (3.4%)
	Total valid response	88 (100.0%)
	Total missing	9
Urine check	Yes	84 (96.6%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	Less than 6 months	62 (71.3%)
	6 - 12 months	16 (18.4%)
	Greater than 12 months	4 (4.6%)
	Total valid response	82 (94.3%)
	Total missing	15
	No	3 (3.4%)
	Total valid response	87 (100.0%)
	Total missing	10
Weight check	Yes	79 (94.0%)
	Less than 6 months	68 (81.0%)
	6 - 12 months	6 (7.1%)
	Greater than 12 months	3 (3.6%)
	Total valid response	77 (91.7%)
	Total missing	20
	No	5 (6.0%)
	Total valid response	84 (100.0%)
	Total missing	13
Blood pressure check	Yes	75 (86.2%)
	Less than 6 months	65 (74.7%)
	6 - 12 months	6 (6.9%)
	Greater than 12 months	2 (2.3%)
	Total valid response	73 (83.9%)
	Total missing	24
	No	10 (11.5%)

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
	Don't know/Not sure	2 (2.3%)
	Total valid response	87 (100.0%)
	Total missing	10
Foot check	Yes	51 (60.7%)
	Less than 6 months	31 (36.9%)
	6 - 12 months	11 (13.1%)
	Greater than 12 months	7 (8.3%)
	Total valid response	49 (58.3%)
	Total missing	48
	No	32 (38.1%)
	Don't know/Not sure	1 (1.2%)
	Total valid response	84 (100.0%)
	Total missing	13
Eye check	Yes	77 (87.5%)
	Less than 6 months	37 (42.0%)
	6 - 12 months	26 (29.5%)
	Greater than 12 months	12 (13.6%)
	Total valid response	75 (85.2%)
	Total missing	22
	No	11 (12.5%)
	Total valid response	88 (100.0%)
	Total missing	9

Table 2.8

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	9 (10.5%)
	Well	48 (55.8%)
	Not very well	16 (18.6%)
	Not well at all	11 (12.8%)
	Don't know/Not sure	2 (2.3%)
	Total Valid Response	86 (100.0%)
	Total missing	11

Table 2.9

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	12 (14.1%)
	No insurance	1 (1.2%)
	Travel to my regular doctor or specialist is difficult	4 (4.7%)
	Long wait time for an appointment to see my doctor or specialist	25 (29.4%)
	Health services needed are not available	12 (14.1%)
	Don't know enough about diabetes	13 (15.3%)
	Too hard to eat the right things	38 (44.7%)
	Too many other things to do	20 (23.5%)
	Stigma or discrimination because of diabetes	10 (11.8%)
	Don't want to think about having diabetes	12 (14.1%)
	Other	14 (16.5%)
	Total Valid Response	85 (100.0%)
	Total missing	12

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	53 (64.6%)
	Support groups	11 (13.4%)
	Support from family or friends	28 (34.1%)
	Health education and information	42 (51.2%)
	Mobile services (services that travel to or near your home)	3 (3.7%)
	Coordination of healthcare and services by a professional	23 (28.0%)
	Emergency helpline	4 (4.9%)
	Other	7 (8.5%)
	None	6 (7.3%)
	Total Valid Response	82 (100.0%)
	Total missing	15

Table 2.11

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	66 (79.5%)
	Foot ulcers	66 (79.5%)
	Increased risk of broken bones or fractures	15 (18.1%)
	Loss of feeling in hands or toes (neuropathy)	68 (81.9%)
	Vision loss	74 (89.2%)
	Irritable bowel disease	9 (10.8%)
	Kidney disease	62 (74.7%)
	Cardiovascular disease/Stroke	64 (77.1%)
	Other	4 (4.8%)
	None	5 (6.0%)
	Total Valid Response	83 (100.0%)
	Total missing	14

Table 2.12

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	9 (11.1)
	Foot ulcers	3 (3.7)
	Loss of feeling in hands or toes (neuropathy)	2 (2.5)
	Vision loss	34 (42.0)
	Irritable bowel disease	2 (2.5)
	Kidney disease	7 (8.6)
	Cardiovascular disease/Stroke	23 (28.4)
	None	1 (1.2)
	Total Valid Response	81 (100.0)
	Total missing	16

Table 2.13

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	4 (4.9%)
	Foot ulcers	5 (6.2%)
	Broken bones or fractures	4 (4.9%)
	Loss of feeling in hands or toes (neuropathy)	14 (17.3%)
	Vision loss	22 (27.2%)
	Irritable bowel disease	2 (2.5%)
	Kidney disease	6 (7.4%)
	Cardiovascular disease/Stroke	7 (8.6%)
	Other	1 (1.2%)
	Don't know/Not sure	3 (3.7%)
	None	46 (56.8%)
	Total Valid Response	81 (100.0%)
	Total missing	16

Table 2.14

Question	Response	Number of Respondents (%)
How often do you discuss the possibility of eye complications with your health care professional?	Every visit	17 (20.7%)
	Multiple times per year	8 (9.8%)
	Once per year	40 (48.8%)
	Only when symptoms arise	2 (2.4%)
	Never	14 (17.1%)
	Don't know/Not sure	1 (1.2%)
	Total Valid Response	82 (100.0%)
	Total missing	15

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	14 (17.1%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit specialists)	70 (85.4%)
	I do not make any special effort to prevent vision problems	5 (6.1%)
	Total Valid Response	82 (100.0%)
	Total missing	15

Table 2.16

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	53 (65.4)
	Public - Private	26 (32.1)
	Private	2 (2.5)
	Total Valid Response	81 (100.0)
	Total missing	16

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	69 (89.6)
	Insurance pays total cost	6 (7.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	1 (1.3)
	Don't know/Not Sure	1 (1.3)
	Total Valid Response	77 (100.0)
	Total missing	20
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	51 (68.0)
	Insurance pays total cost	12 (16.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	7 (9.3)
	Out-of-pocket only (pay cash for all care)	4 (5.3)
	Do not use service	1 (1.3)
	Total Valid Response	75 (100.0)
	Total missing	22
Medicines	Care is free	19 (27.5)
	Insurance pays total cost	3 (4.3)
	Insurance and out-of-pocket/cash (e.g. co-pays)	39 (56.5)
	Out-of-pocket only (pay cash for all care)	8 (11.6)
	Total Valid Response	69 (100.0)
	Total missing	28
Medical supplies (e.g. blood glucose meter/strips)	Care is free	45 (58.4)
	Insurance pays total cost	10 (13.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	18 (23.4)
	Out-of-pocket only (pay cash for all care)	3 (3.9)
	Don't know/Not Sure	1 (1.3)
	Total Valid Response	77 (100.0)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Total missing	20
Procedures	Care is free	53 (71.6)
	Insurance pays total cost	8 (10.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	8 (10.8)
	Out-of-pocket only (pay cash for all care)	2 (2.7)
	Do not use service	1 (1.4)
	Don't know/Not Sure	2 (2.7)
	Total Valid Response	74 (100.0)
	Total missing	23
Tests/screenings	Care is free	59 (78.7)
	Insurance pays total cost	12 (16.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	3 (4.0)
	Out-of-pocket only (pay cash for all care)	1 (1.3)
	Total Valid Response	75 (100.0)
	Total missing	22
Health education	Care is free	51 (67.1)
	Insurance pays total cost	8 (10.5)
	Insurance and out-of-pocket/cash (e.g. co-pays)	2 (2.6)
	Do not use service	14 (18.4)
	Don't know/Not Sure	1 (1.3)
	Total Valid Response	76 (100.0)
	Total missing	21
Counseling	Care is free	49 (64.5)
	Insurance pays total cost	9 (11.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	2 (2.6)
	Out-of-pocket only (pay cash for all care)	1 (1.3)
	Do not use service	12 (15.8)

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
	Don't know/Not Sure	3 (3.9)
	Total Valid Response	76 (100.0)
	Total missing	21

Table 3.1

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	16 (20.5%)
	No	62 (79.5%)
	Total valid response	78 (100.0%)
	Total missing	19

Table 3.2

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	70 (89.7%)
	No	8 (10.3%)
	Total valid response	78 (100.0%)
	Total missing	19
How long ago was your last eye exam?	Within the last year	55 (78.6%)
	More than 1 year ago but less than 2 years	9 (12.9%)
	More than 2 years ago but less than 3 years	4 (5.7%)
	More than 3 years ago but less than 5 years	1 (1.4%)
	Five or more years ago	1 (1.4%)
	Total valid response	70 (100.0%)
	Total missing	27
Who did the last exam?	General/Family practitioner	2 (2.9%)
	Eye doctor/Eye clinic	64 (91.4%)

Question	Response	Number of Respondents (%)
	Other	4 (5.7%)
	Total valid response	70 (100.0%)
	Total missing	27

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	69 (89.6%)
	No	8 (10.4%)
	Total valid response	77 (100.0%)
	Total missing	20

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	67 (85.9%)
	Every two years	7 (9.0%)
	Less often than every two years	1 (1.3%)
	Don't know/Not sure	3 (3.8%)
	Total valid response	78 (100.0%)
	Total missing	19

Table 3.5

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	15 (23.4%)
	Eye exams are not available near my home	8 (12.5%)
	Long wait time for appointment	33 (51.6%)
	Long wait time on the day of the visit	9 (14.1%)

Question	Response	Number of Respondents (%)
	Referral process is complicated or takes too long	8 (12.5%)
	Recommended treatments for eye problems are not available	2 (3.1%)
	Don't know much about my condition	4 (6.3%)
	Fear of treatment/results	6 (9.4%)
	Burden on my family/friends	4 (6.3%)
	Limited access to diabetes specialists	5 (7.8%)
	I'm not likely to have eye complications	1 (1.6%)
	Too many other things to do or worry about	2 (3.1%)
	Clinics are too small or lack necessary equipment/staff	2 (3.1%)
	Other	12 (18.8%)
	Total valid response	64 (100.0%)
	Total missing	33

Table 3.6

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	23 (30.3%)
	No	53 (69.7%)
	Total valid response	76 (100.0%)
	Total missing	21
Has your diabetic eye disease affected your vision?	Yes, slightly	9 (39.1%)
	Yes, significantly	6 (26.1%)
	No	8 (34.8%)
	Total valid response	23 (100.0%)
	Total missing	74
Have vision issues caused you to have difficulty with any of the following?	Traveling	1 (6.7%)
	Household responsibilities, such as cooking or cleaning	4 (26.7%)
	Social interactions with	3 (20.0%)

Question	Response	Number of Respondents (%)
	family/friends	
	Leisure activities/exercise	5 (33.3%)
	Work or keeping a job	5 (33.3%)
	Managing my diabetes	2 (13.3%)
	Other	3 (20.0%)
	None	3 (20.0%)
	Driving (a car/vehicle)	6 (40.0%)
	Total valid response	15 (100.0%)
	Total missing	82

Table 3.7

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	11 (47.8%)
	No	12 (52.2%)
	Total valid response	23 (100.0%)
	Total missing	74
What treatment did you receive?	Laser	9 (81.8%)
	Injection in the eye (Anti-VEGF)	3 (27.3%)
	Surgery	1 (9.1%)
	Other	1 (9.1%)
	Total valid response	11 (100.0%)
	Total missing	86
Did you complete the treatment?	Yes	10 (90.9%)
	Still receiving treatment	1 (9.1%)
	Total valid response	11 (100.0%)
	Total missing	86
Do you feel that the treatment worked?	Yes, and vision improved	7 (63.6%)
	Yes, but vision stayed the same	4 (36.4%)
	Total valid response	11 (100.0%)
	Total missing	86

Question	Response	Number of Respondents (%)
What is/are the reason(s) that you did not complete the treatment?	Total missing	97
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	10 (83.3%)
	Still waiting for treatment	1 (8.3%)
	Other	1 (8.3%)
	Total valid response	12 (100.0%)
	Total missing	85

Table 3.8

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	7 (9.3%)
	No	61 (81.3%)
	Don't know/Not sure	7 (9.3%)
	Total valid response	75 (100.0%)
	Total missing	22
If Yes, which of the following would you prefer	Treatment to prevent further vision loss	6 (85.7%)
	Only treatment when vision loss has occurred	1 (14.3%)
	Total valid response	7 (100.0%)
	Total missing	90

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	45 (60.0%)
	Health educator	10 (13.3%)
	Diabetes organization or other health organization	20 (26.7%)
	Family/Friends/Neighbors	1 (1.3%)

Question	Response	Number of Respondents (%)
	TV/Radio/Newspaper/Magazines	10 (13.3%)
	Internet	27 (36.0%)
	None of the above	14 (18.7%)
	Total valid response	75 (100.0%)
	Total missing	22

Table 4.1

Question	Response	Number of Respondents (%)
What is your gender?	Female	41 (54.7)
	Male	34 (45.3)
	Total Valid Response	75 (100.0)
	Total missing	22
Please indicate your age	18 - 29	9 (9.3)
	30 - 39	23 (23.7)
	40 - 49	16 (16.5)
	50 - 59	22 (22.7)
	60 - 69	20 (20.6)
	70 - 79	4 (4.1)
	80 - 89	3 (3.1)
	Total Valid Response	97 (100.0)

Table 4.2

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	67 (89.3)
	Non-urban setting	8 (10.7)
	Total Valid Response	75 (100.0)
	Total missing	22

Table 4.3

Question	Response	Number of Respondents (%)
What is the highest level of education you completed?	Did not complete primary school	1 (1.3)

Question	Response	Number of Respondents (%)
	Primary school	8 (10.7)
	Secondary school	20 (26.7)
	College/University	24 (32.0)
	Graduate or post-graduate	22 (29.3)
	Total valid response	75 (100.0)
	Total missing	22

Table 4.4

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	47 (62.7)
	Working without pay at home (e.g. housework, farming)	6 (8.0)
	Volunteering	1 (1.3)
	Retired	8 (10.7)
	Student	4 (5.3)
	Not working	9 (12.0)
	Total Valid Response	75 (100.0)
	Total missing	22

Table 4.5

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Income assistance	5 (7.1%)
	Medical assistance	17 (24.3%)
	Food assistance	1 (1.4%)
	Pension assistance	9 (12.9%)
	None of the above	45 (64.3%)
	Total valid response	70 (100.0%)
	Total missing	27

Table 4.6

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	6 (8.1)
	No	68 (91.9)
	Total Valid Response	74 (100.0)
	Total missing	23

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	2 (2.7)
	Education	1 (1.4)
	Gender	3 (4.1)
	Income	5 (6.8)
	Language you speak	1 (1.4)
	Place of birth	1 (1.4)
	Place where you live	5 (6.8)
	Tribal affiliation	1 (1.4)
	None of the above	58 (79.5)
	Total valid response	73 (100.0)
	Total missing	24

Table 4.8

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Food	1 (1.3)
	Housing	1 (1.3)
	Money	2 (2.7)
	Health	50 (66.7)
	Family	18 (24.0)

Question	Response	Number of Respondents (%)
	None of the above	3 (4.0)
	Total Valid Response	75 (100.0)
	Total missing	22

Table 5.1

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Excellent	1 (1.4%)
	Very good	7 (9.5%)
	Good	41 (55.4%)
	Total good health	49 (66.2%)
	Fair	23 (31.1%)
	Poor	2 (2.7%)
	Fair or poor health	25 (33.8%)
	Total valid response	74 (100.0%)
	Total missing	23

Table 5.2

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	19 (34.5%)
	1-5 unhealthy days	8 (14.5%)
	6-10 unhealthy days	4 (7.3%)
	11-20 unhealthy days	4 (7.3%)
	21-30 unhealthy days	3 (5.5%)
	No unhealthy days	36 (65.5%)
	Total valid response	55 (100.0%)
	Total missing	42

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	19 (33.3%)
	1-5 unhealthy days	5 (8.8%)
	6-10 unhealthy days	3 (5.3%)
	11-20 unhealthy days	7 (12.3%)
	21-30 unhealthy days	4 (7.0%)
	No unhealthy days	38 (66.7%)
	Total valid response	57 (100.0%)
	Total missing	40

Table 5.3.2

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	26 (50.0%)
	1-5 unhealthy days	4 (7.7%)
	6-10 unhealthy days	5 (9.6%)
	11-20 unhealthy days	10 (19.2%)
	21-30 unhealthy days	7 (13.5%)
	No unhealthy days	26 (50.0%)
	Total valid response	52 (100.0%)

Table 5.4

Question	Response	Number of Respondents (%)

Question	Response	Number of Respondents (%)
How many days during last 30 days did poor health limit your usual activities	Any unhealthy days	10 (26.3%)
	1-5 unhealthy days	5 (13.2%)
	11-20 unhealthy days	2 (5.3%)
	21-30 unhealthy days	3 (7.9%)
	No unhealthy days	28 (73.7%)
	Total valid response	38 (100.0%)
	Total missing	59

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	27 (36.5%)
	No	47 (63.5%)
	Total valid response	74 (100.0%)
	Total missing	23
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	8 (44.4%)
	No	9 (50.0%)
	Don't know/Not sure	1 (5.6%)
	Total valid response	18 (100.0%)
	Total missing	79
b) Back or neck problem	Yes	9 (45.0%)
	No	10 (50.0%)
	Refused	1 (5.0%)
	Total valid response	20 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	77
c) Fractures, bone/joint injury	Yes	9 (50.0%)
	No	9 (50.0%)
	Total valid response	18 (100.0%)
	Total missing	79
d) Walking problem	Yes	11 (57.9%)
	No	8 (42.1%)
	Total valid response	19 (100.0%)
	Total missing	78
e) Lung/breathing problem	Yes	1 (6.7%)
	No	13 (86.7%)
	Don't know/Not sure	1 (6.7%)
	Total valid response	15 (100.0%)
	Total missing	82
f) Hearing problem	Yes	1 (6.7%)
	No	12 (80.0%)
	Don't know/Not sure	2 (13.3%)
	Total valid response	15 (100.0%)
	Total missing	82
g) Eye/vision problem	Yes	10 (55.6%)
	No	8 (44.4%)
	Total valid response	18 (100.0%)
	Total missing	79
h) Heart problem	Yes	1 (6.7%)
	No	12 (80.0%)
	Don't know/Not sure	2 (13.3%)
	Total valid response	15 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	82
i) Stroke problem	Yes	2 (13.3%)
	No	13 (86.7%)
	Total valid response	15 (100.0%)
	Total missing	82
j) Hypertension/high blood pressure	Yes	6 (33.3%)
	No	12 (66.7%)
	Total valid response	18 (100.0%)
	Total missing	79
k) Diabetes	Yes	23 (100.0%)
	Total valid response	23 (100.0%)
	Total missing	74
l) Cancer	No	15 (100.0%)
	Total valid response	15 (100.0%)
	Total missing	82
m) Mental or emotional health	Yes	9 (50.0%)
	No	8 (44.4%)
	Don't know/Not sure	1 (5.6%)
	Total valid response	18 (100.0%)
	Total missing	79

PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	152 (100.0%)
Included in Provider Analysis Set (PAS)	152 (100.0%)
Excluded in Provider Analysis Set (PAS)	0 (0.0%)
Reasons for exclusion from Provider Analysis Set:	

Analysis Sets	Number of Respondents (%)
No other valid survey data	0
Provider Analysis Set	152
Included in the Eye Care Professional Set (Eye Specialist)	61 (40.1%)
Excluded in the Eye Care Professional Set (Eye Specialist)	91 (59.9%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	91
No valid (non-missing) response for the supplemental eye questionnaire	0

PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	152 (100.0%)
Primary Care Provider	78 (51.3%)
Diabetes Specialist Provider	4 (2.6%)
Eye Care Professional	61 (40.1%)
Ophthalmologist	61 (40.1%)

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	78 (100.0%)	1 (25.0%)	1 (1.6%)	80 (52.6%)
	Diabetes specialist	0 (0.0%)	4 (100.0%)	1 (1.6%)	5 (3.3%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	30 (49.2%)	30 (19.7%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	37 (60.7%)	37 (24.3%)
	Nurse	1 (1.3%)	1 (25.0%)	0 (0.0%)	7 (4.6%)
	Health educator	1 (1.3%)	0 (0.0%)	0 (0.0%)	2 (1.3%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	4 (2.6%)

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total valid response	78 (100.0%)	4 (100.0%)	61 (100.0%)	152 (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)	78	4	61	152
	Mean	20.7	13.0	17.3	19.1
	SD	9.7	16.1	12.2	11.1
	Median	22.0	6.0	15.0	20.0
	Min.	0	3	3	0
	Max.	42	37	80	80
	Total missing	0	0	0	0

PT 2.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your main practice setting?	Diabetes clinic/practice	0 (0.0%)	1 (25.0%)	0 (0.0%)	1 (0.7%)
	Eye clinic/practice	0 (0.0%)	0 (0.0%)	5 (8.3%)	6 (4.1%)
	General medical clinic/practice	67 (91.8%)	0 (0.0%)	1 (1.7%)	69 (47.6%)
	Hospital	5 (6.8%)	3 (75.0%)	54 (90.0%)	63 (43.4%)
	Other	1 (1.4%)	0 (0.0%)	0 (0.0%)	6 (4.1%)
	Total Valid Response	73 (100.0%)	4 (100.0%)	60 (100.0%)	145 (100.0%)
	Total missing	5	0	1	7

PT 2.2

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	60 (83.3%)	3 (75.0%)	57 (95.0%)	126 (87.5%)
	Non-urban setting	12 (16.7%)	1 (25.0%)	3 (5.0%)	18 (12.5%)
	Total Valid Response	72 (100.0%)	4 (100.0%)	60 (100.0%)	144 (100.0%)
	Total missing	6	0	1	8

PT 2.3

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In which sector is your main practice?	Government	60 (83.3%)	2 (50.0%)	42 (71.2%)	110 (76.9%)
	Private	3 (4.2%)	0 (0.0%)	6 (10.2%)	10 (7.0%)
	Non profit	1 (1.4%)	1 (25.0%)	2 (3.4%)	5 (3.5%)
	Combined/mixed	8 (11.1%)	1 (25.0%)	9 (15.3%)	18 (12.6%)
	Total Valid Response	72 (100.0%)	4 (100.0%)	59 (100.0%)	143 (100.0%)
	Total missing	6	0	2	9

PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	55 (75.3%)	4 (100.0%)	57 (95.0%)	123 (84.8%)
	Yes, limited by age	13 (17.8%)	0 (0.0%)	0 (0.0%)	14 (9.7%)
	Yes, limited to persons in the military or veterans	1 (1.4%)	0 (0.0%)	0 (0.0%)	1 (0.7%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Yes, limited to persons with health insurance	3 (4.1%)	0 (0.0%)	3 (5.0%)	6 (4.1%)
	Yes, other	1 (1.4%)	0 (0.0%)	0 (0.0%)	1 (0.7%)
	Total valid response	73 (100.0%)	4 (100.0%)	60 (100.0%)	145 (100.0%)
	Total missing	5	0	1	7

PT 2.5

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the average wait time for an appointment in your main practice?	Less than 1 week	52 (82.5%)	0 (0.0%)	4 (7.7%)	59 (47.2%)
	More than 1 week but less than 1 month	5 (7.9%)	1 (33.3%)	14 (26.9%)	20 (16.0%)
	More than 1 month but less than 2 months	2 (3.2%)	0 (0.0%)	14 (26.9%)	16 (12.8%)
	More than 2 months but less than 3 months	3 (4.8%)	2 (66.7%)	7 (13.5%)	13 (10.4%)
	More than 3 months but less than 6 months	0 (0.0%)	0 (0.0%)	5 (9.6%)	5 (4.0%)
	Six or more months	0 (0.0%)	0 (0.0%)	5 (9.6%)	6 (4.8%)
	Other	1 (1.6%)	0 (0.0%)	0 (0.0%)	3 (2.4%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	3 (5.8%)	3 (2.4%)
	Total Valid Response	63 (100.0%)	3 (100.0%)	52 (100.0%)	125 (100.0%)
	Total missing	15	1	9	27

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)	62	3	52	121
	Mean	167.1	63.3	114.4	138.1
	SD	74.8	15.3	67.2	76.7
	Median	150	60	100	120
	Min.	30	50	30	6
	Max.	350	80	400	400
	Total missing	16	1	9	31
What percentage of the patients in your main practice have diabetes [% patients]	Total valid response (n)	59	3	51	116
	Mean	24.9	75	25	26.1
	SD	23.2	13.2	12.3	20.1
	Median	20	80	20	20
	Min.	5	60	7	5
	Max.	100	85	60	100
	Total missing	19	1	10	36

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	57 (90.5%)	1 (33.3%)	41 (78.8%)	104 (83.9%)
	Pay a reduced/subsidized rate	2 (3.2%)	0 (0.0%)	1 (1.9%)	3 (2.4%)
	Pay out-of-pocket	3 (4.8%)	0 (0.0%)	6 (11.5%)	9 (7.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	(full fees)				
	Pay through insurance	3 (4.8%)	2 (66.7%)	12 (23.1%)	17 (13.7%)
	Patient pays some, insurance pays some	2 (3.2%)	0 (0.0%)	3 (5.8%)	5 (4.0%)
	Other	3 (4.8%)	0 (0.0%)	1 (1.9%)	5 (4.0%)
	Total valid response	63 (100.0%)	3 (100.0%)	52 (100.0%)	124 (100.0%)
	Total missing	15	1	9	28

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	12 (19.0%)	1 (33.3%)	21 (40.4%)	34 (27.2%)
	No	51 (81.0%)	2 (66.7%)	31 (59.6%)	91 (72.8%)
	Total valid response	63 (100.0%)	3 (100.0%)	52 (100.0%)	125 (100.0%)
	Total missing	15	1	9	27
In which other practice setting(s) do you work?	Hospital	3 (27.3%)		2 (10.0%)	5 (15.6%)
	General medical clinic/practice	5 (45.5%)			5 (15.6%)
	Diabetes clinic/practice			1 (5.0%)	1 (3.1%)
	Eye clinic/practice		1 (100.0%)	15 (75.0%)	16 (50.0%)
	Other	5 (45.5%)		3 (15.0%)	8 (25.0%)
	Total valid response	11 (100.0%)	1 (100.0%)	20 (100.0%)	32 (100.0%)
	Total missing	67	3	41	120
In which sector(s)	Government	3 (27.3%)			3 (9.4%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
is(are) the practice(s)?					
	Private	6 (54.5%)	1 (100.0%)	18 (90.0%)	25 (78.1%)
	Non profit			1 (5.0%)	1 (3.1%)
	Combined/mixed	2 (18.2%)		1 (5.0%)	3 (9.4%)
	Total valid response	11 (100.0%)	1 (100.0%)	20 (100.0%)	32 (100.0%)
	Total missing	67	3	41	120
Is there a major difference between your practices with respect to how diabetic eye disease is screened and managed?	Yes	4 (36.4%)	1 (100.0%)	5 (25.0%)	10 (31.3%)
	No	7 (63.6%)		15 (75.0%)	22 (68.8%)
	Total valid response	11 (100.0%)	1 (100.0%)	20 (100.0%)	32 (100.0%)
	Total missing	67	3	41	120

PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		61 (100.0%)	2 (66.7%)	37 (82.2%)	104 (91.2%)
		Total valid numeric response (n)	59 (96.7%)	2 (66.7%)	35 (77.8%)	100 (87.7%)
		Mean	4.0	4.0	9.4	5.7
		SD	3.6	0.0	22.9	14.0
		Median	2.0	4.0	3.0	2.0
		Min	1	4	0	0
		Max	20	4	100	100
		Total missing	19	2	26	52

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No			1 (33.3%)	8 (17.8%)	10 (8.8%)
	Total valid response		61 (100.0%)	3 (100.0%)	45 (100.0%)	114 (100.0%)
	Total missing		17	1	16	38
HbA1c	Yes		60 (98.4%)	2 (66.7%)	36 (80.0%)	102 (89.5%)
		Total valid numeric response (n)	57 (93.4%)	2 (66.7%)	35 (77.8%)	98 (86.0%)
		Mean	2.3	4.0	2.2	2.2
		SD	0.9	0.0	1.0	1.0
		Median	2.0	4.0	2.0	2.0
		Min	1	4	0	0
		Max	6	4	4	6
		Total missing	21	2	26	54
	No		1 (1.6%)	1 (33.3%)	9 (20.0%)	12 (10.5%)
	Total valid response		61 (100.0%)	3 (100.0%)	45 (100.0%)	114 (100.0%)
	Total missing		17	1	16	38
Urine check	Yes		61 (100.0%)	2 (66.7%)	27 (62.8%)	93 (83.8%)
		Total valid numeric response (n)	59 (96.7%)	2 (66.7%)	26 (60.5%)	90 (81.1%)
		Mean	2.2	2.0	2.2	2.1
		SD	1.8	0.0	1.5	1.7
		Median	2.0	2.0	2.0	2.0
		Min	1	2	0	0
		Max	12	2	6	12
		Total	19	2	35	62

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		missing				
	No			1 (33.3%)	16 (37.2%)	18 (16.2%)
	Total valid response		61 (100.0%)	3 (100.0%)	43 (100.0%)	111 (100.0%)
	Total missing		17	1	18	41
Weight check	Yes		60 (98.4%)	2 (66.7%)	27 (64.3%)	93 (83.8%)
		Total valid numeric response (n)	58 (95.1%)	2 (66.7%)	27 (64.3%)	91 (82.0%)
		Mean	3.7	3.0	3.6	3.5
		SD	2.7	1.4	2.3	2.6
		Median	3.5	3.0	3.0	3.0
		Min	0	2	0	0
		Max	12	4	12	12
		Total missing	20	2	34	61
	No		1 (1.6%)	1 (33.3%)	15 (35.7%)	18 (16.2%)
	Total valid response		61 (100.0%)	3 (100.0%)	42 (100.0%)	111 (100.0%)
	Total missing		17	1	19	41
Blood pressure check	Yes		61 (100.0%)	2 (66.7%)	31 (70.5%)	98 (86.7%)
		Total valid numeric response (n)	59 (96.7%)	2 (66.7%)	31 (70.5%)	96 (85.0%)
		Mean	5.4	4.0	5.0	5.1
		SD	4.4	0.0	3.8	4.1
		Median	4.0	4.0	4.0	4.0
		Min	1	4	0	0
		Max	31	4	12	31

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Total missing	19	2	30	56
	No			1 (33.3%)	13 (29.5%)	15 (13.3%)
	Total valid response		61 (100.0%)	3 (100.0%)	44 (100.0%)	113 (100.0%)
	Total missing		17	1	17	39
Foot check	Yes		56 (93.3%)	2 (66.7%)	20 (48.8%)	82 (75.2%)
		Total valid numeric response (n)	53 (88.3%)	2 (66.7%)	19 (46.3%)	78 (71.6%)
		Mean	2.1	1.0	1.9	1.9
		SD	2.3	0.0	1.6	2.1
		Median	1.0	1.0	1.0	1.0
		Min	0	1	0	0
		Max	12	1	5	12
		Total missing	25	2	42	74
	No		4 (6.7%)	1 (33.3%)	21 (51.2%)	27 (24.8%)
	Total valid response		60 (100.0%)	3 (100.0%)	41 (100.0%)	109 (100.0%)
	Total missing		18	1	20	43
Eye examination - Un-dilated	Yes		55 (90.2%)	3 (100.0%)	39 (84.8%)	99 (87.6%)
		Total valid numeric response (n)	53 (86.9%)	3 (100.0%)	37 (80.4%)	95 (84.1%)
		Mean	1.4	2.7	1.3	1.4
		SD	0.9	2.9	1.0	1.1
		Median	1.0	1.0	1.0	1.0
		Min	0	1	0	0

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Max	5	6	5	6
		Total missing	25	1	24	57
	No		6 (9.8%)		7 (15.2%)	14 (12.4%)
	Total valid response		61 (100.0%)	3 (100.0%)	46 (100.0%)	113 (100.0%)
	Total missing		17	1	15	39
Eye examination - Optical Coherence Tomography	Yes		13 (23.6%)	1 (33.3%)	45 (95.7%)	61 (56.5%)
		Total valid numeric response (n)	13 (23.6%)	1 (33.3%)	42 (89.4%)	58 (53.7%)
		Mean	1.3	6.0	17.2	12.9
		SD	1.9		71.7	61.3
		Median	1.0	6.0	1.0	1.0
		Min	0	6	0	0
		Max	6	6	365	365
		Total missing	65	3	19	94
	No		42 (76.4%)	2 (66.7%)	2 (4.3%)	47 (43.5%)
	Total valid response		55 (100.0%)	3 (100.0%)	47 (100.0%)	108 (100.0%)
	Total missing		23	1	14	44
Eye examination - Fundoscopy	Yes		24 (42.1%)	1 (33.3%)	46 (97.9%)	74 (67.3%)
		Total valid numeric response (n)	24 (42.1%)	1 (33.3%)	44 (93.6%)	72 (65.5%)
		Mean	1.6	6.0	18.1	11.7

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		SD	1.5		76.6	60.2
		Median	1.0	6.0	1.0	1.0
		Min	0	6	0	0
		Max	6	6	365	365
		Total missing	54	3	17	80
	No		33 (57.9%)	2 (66.7%)	1 (2.1%)	36 (32.7%)
	Total valid response		57 (100.0%)	3 (100.0%)	47 (100.0%)	110 (100.0%)
	Total missing		21	1	14	42
Eye examination - Fluorescein Angiography	Yes		11 (19.6%)	1 (33.3%)	43 (93.5%)	57 (52.8%)
		Total valid numeric response (n)	11 (19.6%)	1 (33.3%)	38 (82.6%)	52 (48.1%)
		Mean	1.3	25.0	1.9	2.2
		SD	2.1		6.5	6.5
		Median	0.0	25.0	1.0	1.0
		Min	0	25	0	0
		Max	6	25	40	40
		Total missing	67	3	23	100
	No		45 (80.4%)	2 (66.7%)	3 (6.5%)	51 (47.2%)
	Total valid response		56 (100.0%)	3 (100.0%)	46 (100.0%)	108 (100.0%)
	Total missing		22	1	15	44
Eye examination - Lipid check	Yes		40 (67.8%)	2 (66.7%)	31 (72.1%)	75 (69.4%)
		Total valid	38	2 (66.7%)	31 (72.1%)	73

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		numeric response (n)	(64.4%)			(67.6%)
		Mean	1.9	2.5	1.6	1.7
		SD	1.1	2.1	1.3	1.3
		Median	2.0	2.5	1.0	2.0
		Min	0	1	0	0
		Max	6	4	5	6
		Total missing	40	2	30	79
	No		19 (32.2%)	1 (33.3%)	12 (27.9%)	33 (30.6%)
	Total valid response		59 (100.0%)	3 (100.0%)	43 (100.0%)	108 (100.0%)
	Total missing		19	1	18	44

PT 2.10

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, what topics do you cover during a routine visit with a patient who has diabetes?	Diabetes management and monitoring	58 (96.7%)	2 (66.7%)	21 (46.7%)	85 (75.2%)
	Diet/nutrition	55 (91.7%)	2 (66.7%)	13 (28.9%)	74 (65.5%)
	Exercise/physical activity	54 (90.0%)	2 (66.7%)	13 (28.9%)	73 (64.6%)
	Medicines	58 (96.7%)	2 (66.7%)	18 (40.0%)	81 (71.7%)
	Foot care and inspection	40 (66.7%)	2 (66.7%)	5 (11.1%)	50 (44.2%)
	Blood pressure	53 (88.3%)	2 (66.7%)	9 (20.0%)	67 (59.3%)
	Eye care and	31	3 (100.0%)	42 (93.3%)	79

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	exams	(51.7%)			(69.9%)
	Lipid check	48 (80.0%)	2 (66.7%)	9 (20.0%)	61 (54.0%)
	None of the above	1 (1.7%)	0 (0.0%)	3 (6.7%)	4 (3.5%)
	Total valid response	60 (100.0%)	3 (100.0%)	45 (100.0%)	113 (100.0%)
	Total missing	18	1	16	39

PT 2.11

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	20 (33.3%)	0 (0.0%)	13 (28.9%)	36 (31.9%)
	Yes, but information on eye complications is not sufficient	13 (21.7%)	2 (66.7%)	11 (24.4%)	27 (23.9%)
	Yes, but no information on eye complications is included	13 (21.7%)	0 (0.0%)	1 (2.2%)	14 (12.4%)
	No written information is available for patients	11 (18.3%)	0 (0.0%)	13 (28.9%)	25 (22.1%)
	Don't know/Not sure	3 (5.0%)	1 (33.3%)	7 (15.6%)	11 (9.7%)
	Total Valid Response	60 (100.0%)	3 (100.0%)	45 (100.0%)	113 (100.0%)
	Total missing	18	1	16	39

PT 2.12

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS

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	43 (71.7%)	0 (0.0%)	24 (54.5%)	70 (62.5%)
	Yes, available but not used by staff	11 (18.3%)	2 (66.7%)	7 (15.9%)	20 (17.9%)
	Not available	4 (6.7%)	1 (33.3%)	7 (15.9%)	12 (10.7%)
	Don't know/Not sure	2 (3.3%)	0 (0.0%)	6 (13.6%)	10 (8.9%)
	Total Valid Response	60 (100.0%)	3 (100.0%)	44 (100.0%)	112 (100.0%)
	Total missing	18	1	17	40

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	36 (60.0%)	0 (0.0%)	26 (59.1%)	64 (57.1%)
	Yes, available but not used by staff	8 (13.3%)	3 (100.0%)	6 (13.6%)	18 (16.1%)
	Not available	11 (18.3%)	0 (0.0%)	10 (22.7%)	22 (19.6%)
	Don't know/Not sure	5 (8.3%)	0 (0.0%)	2 (4.5%)	8 (7.1%)
	Total Valid	60	3 (100.0%)	44 (100.0%)	112

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Response	(100.0%)			(100.0%)
	Total missing	18	1	17	40

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)	15 (27.8%)	0 (0.0%)	17 (39.5%)	32 (30.8%)
	Mean	3.8		4.8	4.3
	SD	2.4		0.7	1.8
	Median	5.0		5.0	5.0
	Min	1		2	1
	Max	10		5	10
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	1 (2.3%)	1 (1.0%)
	Mean			14.0	14.0
	SD				
	Median			14.0	14.0
	Min			14	14
	Max			14	14
	As soon as they are diagnosed	33 (61.1%)	3 (100.0%)	23 (53.5%)	62 (59.6%)
	No standard practice, timing varies case by case	5 (9.3%)		1 (2.3%)	7 (6.7%)
	Don't know/Not sure	1 (1.9%)		1 (2.3%)	2 (1.9%)
	Total valid response	54 (100.0%)	3 (100.0%)	43 (100.0%)	104 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	24	1	18	48
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)	5 (8.9%)	0 (0.0%)	1 (2.4%)	6 (5.7%)
	Mean	2.2		1.0	2.0
	SD	1.6			1.5
	Median	2.0		1.0	1.5
	Min	1		1	1
	Max	5		1	5
	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	44 (78.6%)	3 (100.0%)	39 (92.9%)	88 (83.8%)
	When a patient reports eye/vision problems	1 (1.8%)			2 (1.9%)
	No standard practice, timing varies case by case	5 (8.9%)		1 (2.4%)	7 (6.7%)
	Other	1 (1.8%)		1 (2.4%)	2 (1.9%)
	Total valid response	56 (100.0%)	3 (100.0%)	42 (100.0%)	105 (100.0%)
	Total missing	22	1	19	47

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	32 (57.1%)	1 (33.3%)	37 (84.1%)	73 (68.2%)
	Every two years	23 (41.1%)	2 (66.7%)	1 (2.3%)	27 (25.2%)
	Only when symptoms are present	1 (1.8%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
	Other	0 (0.0%)	0 (0.0%)	4 (9.1%)	4 (3.7%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	2 (4.5%)	2 (1.9%)
	Total Valid Response	56 (100.0%)	3 (100.0%)	44 (100.0%)	107 (100.0%)
	Total missing	22	1	17	45

PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes	51 (89.5%)	3 (100.0%)	43 (97.7%)	102 (93.6%)
	No	6 (10.5%)		1 (2.3%)	7 (6.4%)
	Total valid response	57 (100.0%)	3 (100.0%)	44 (100.0%)	109 (100.0%)
	Total missing	21	1	17	43
Where do you screen patients?	In clinic	28 (54.9%)	2 (100.0%)	24 (55.8%)	58 (57.4%)
	Outreach	13 (25.5%)		17 (39.5%)	30 (29.7%)
	Other	13 (25.5%)		9 (20.9%)	23 (22.8%)
	Total valid response	51 (100.0%)	2 (100.0%)	43 (100.0%)	101 (100.0%)
	Total missing	27	2	18	51

PT 2.17

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What patient characteristics influence your vision care and/or vision referrals?	Diabetes duration	46 (82.1%)	3 (100.0%)	40 (95.2%)	93 (87.7%)
	Patient's age	32 (57.1%)	2 (66.7%)	31 (73.8%)	70 (66.0%)
	Patient's gender	7 (12.5%)	0 (0.0%)	6 (14.3%)	13 (12.3%)
	Presence of comorbidities such as hypertension, etc.	43 (76.8%)	2 (66.7%)	36 (85.7%)	86 (81.1%)
	High glucose levels	35 (62.5%)	3 (100.0%)	35 (83.3%)	77 (72.6%)
	Ability or inability to pay	2 (3.6%)	0 (0.0%)	0 (0.0%)	2 (1.9%)
	Insurance restrictions	1 (1.8%)	0 (0.0%)	0 (0.0%)	1 (0.9%)
	Patient educational level	6 (10.7%)	0 (0.0%)	7 (16.7%)	13 (12.3%)
	Patient adherence to recommendations	12 (21.4%)	0 (0.0%)	12 (28.6%)	26 (24.5%)
	None of the above	3 (5.4%)	0 (0.0%)	0 (0.0%)	3 (2.8%)
	Not applicable	3 (5.4%)	0 (0.0%)	1 (2.4%)	4 (3.8%)
	Total valid response	56 (100.0%)	3 (100.0%)	42 (100.0%)	106 (100.0%)
	Total missing	22	1	19	46

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	Cost of care	10 (18.9%)	0 (0.0%)	5 (12.2%)	15 (14.9%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
main practice?					
	Proximity to care	8 (15.1%)	1 (33.3%)	4 (9.8%)	13 (12.9%)
	Long wait time for appointment	15 (28.3%)	1 (33.3%)	19 (46.3%)	36 (35.6%)
	Long wait time on the day of visit	4 (7.5%)	3 (100.0%)	6 (14.6%)	13 (12.9%)
	Referral process	19 (35.8%)	3 (100.0%)	16 (39.0%)	38 (37.6%)
	Recommended treatments are not available	4 (7.5%)	0 (0.0%)	0 (0.0%)	4 (4.0%)
	Lack of knowledge and/or awareness	10 (18.9%)	0 (0.0%)	15 (36.6%)	25 (24.8%)
	Patients fear of treatment/results	6 (11.3%)	2 (66.7%)	10 (24.4%)	18 (17.8%)
	Patients they are a burden on family/friends	0 (0.0%)	0 (0.0%)	2 (4.9%)	2 (2.0%)
	Limited access to diabetes specialists	5 (9.4%)	0 (0.0%)	4 (9.8%)	9 (8.9%)
	Limited access to eye specialists	9 (17.0%)	2 (66.7%)	5 (12.2%)	16 (15.8%)
	Patients feel eye complications are unlikely	16 (30.2%)	0 (0.0%)	19 (46.3%)	37 (36.6%)
	Patients feel eye exams are not important	18 (34.0%)	2 (66.7%)	17 (41.5%)	39 (38.6%)
	Patients have competing responsibilities and priorities	2 (3.8%)	0 (0.0%)	5 (12.2%)	7 (6.9%)
	Clinic too small or lack necessary equipment/staff	2 (3.8%)	0 (0.0%)	2 (4.9%)	4 (4.0%)
	Other	3 (5.7%)	0 (0.0%)	1 (2.4%)	4 (4.0%)
	Total valid response	53 (100.0%)	3 (100.0%)	41 (100.0%)	101 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	25	1	20	51

PT 2.19

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In your main practice, are patients contacted with reminders for general follow-up appointments?	Yes	25 (46.3%)	3 (100.0%)	19 (44.2%)	49 (46.7%)
	No	28 (51.9%)	0 (0.0%)	18 (41.9%)	49 (46.7%)
	Don't know/Not sure	1 (1.9%)	0 (0.0%)	6 (14.0%)	7 (6.7%)
	Total Valid Response	54 (100.0%)	3 (100.0%)	43 (100.0%)	105 (100.0%)
	Total missing	24	1	18	47

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, podiastrist?	Yes	47 (87.0%)	3 (100.0%)	39 (90.7%)	93 (88.6%)
	No	7 (13.0%)	0 (0.0%)	3 (7.0%)	10 (9.5%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	1 (2.3%)	2 (1.9%)
	Total Valid Response	54 (100.0%)	3 (100.0%)	43 (100.0%)	105 (100.0%)
	Total missing	24	1	18	47

PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	18 - 29	3 (5.6%)		2 (4.7%)	5 (4.8%)
	30 - 39	3 (5.6%)	2 (66.7%)	12 (27.9%)	18 (17.1%)
	40 - 49	11 (20.4%)	1 (33.3%)	16 (37.2%)	31 (29.5%)
	50 - 59	34 (63.0%)		11 (25.6%)	46 (43.8%)
	60 - 69	3 (5.6%)		2 (4.7%)	5 (4.8%)
	Total valid response	54 (100.0%)	3 (100.0%)	43 (100.0%)	105 (100.0%)
	Total missing	24	1	18	47
What is your gender?	Female	30 (56.6%)	2 (66.7%)	21 (50.0%)	58 (56.3%)
	Male	23 (43.4%)	1 (33.3%)	21 (50.0%)	45 (43.7%)
	Total valid response	53 (100.0%)	3 (100.0%)	42 (100.0%)	103 (100.0%)
	Total missing	25	1	19	49
What is your highest level of education completed?	College/University	10 (18.5%)	1 (33.3%)	2 (4.7%)	15 (14.3%)
	Graduate or advanced degree (e.g. PhD, MD, etc)	44 (81.5%)	2 (66.7%)	41 (95.3%)	90 (85.7%)
	Total valid response	54 (100.0%)	3 (100.0%)	43 (100.0%)	105 (100.0%)
	Total missing	24	1	18	47

PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	41
	Mean	22.7
	SD	19.8

Question	Response	Ophthalmologist
	Median	20.0
	Min	0
	Max	100
	Total missing	20

PT 4.2

Question	Response	Ophthalmologist
What percentage of your patients have diabetic macular edema?	Total valid numeric response (n)	41
	Mean	11.7
	SD	12.4
	Median	9.0
	Min	0
	Max	50
	Total missing	20

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	4 (9.8%)
	More than 1 week but less than 1 month	13 (31.7%)
	More than 1 month but less than 2 months	11 (26.8%)
	More than 2 months but less than 3 months	5 (12.2%)
	More than 3 months but less than 6 months	4 (9.8%)
	Six or more months	2 (4.9%)
	Don't know/Not sure	2 (4.9%)
	Total Valid Response	41 (100.0%)
	Total missing	20

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	21 (51.2%)
	More than 1 week but less than 1 month	6 (14.6%)
	More than 1 month but less than 2 months	6 (14.6%)
	More than 2 months but less than 3 months	4 (9.8%)
	There is not wait, diagnosis is given when screened	4 (9.8%)
	Total Valid Response	41 (100.0%)
	Total missing	20

PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist
Laser photocoagulation	Is the treatment available?	Available within country	14 (34.1%)
		Available locally	11 (26.8%)
		Available in practice	35 (85.4%)
		Total valid response	41 (100.0%)
		Total missing	20
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	33 (91.7%)
		Mean	2.2
		SD	1.9
		Median	2.0
		Min	0
		Max	8
		Don't know/not sure	2 (5.6%)
		Not applicable	1 (2.8%)
		Total valid response	36 (100.0%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total missing	25
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	34 (91.9%)
		Mean	2.2
		SD	1.9
		Median	2.0
		Min	0
		Max	8
		Don't know/not sure	1 (2.7%)
		Not applicable	2 (5.4%)
		Total valid response	37 (100.0%)
		Total missing	24
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	31 (88.6%)
		Mean	2.6
		SD	1.9
		Median	2.0
		Min	0
		Max	8
		Don't know/not sure	2 (5.7%)
		Not applicable	2 (5.7%)
		Total valid response	35 (100.0%)
		Total missing	26
Anti-VEGF therapies	Is the treatment available?	Available within country	14 (34.1%)
		Available locally	11 (26.8%)
		Available in practice	35 (85.4%)
		Total valid response	41 (100.0%)
		Total missing	20

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	33 (94.3%)
		Mean	1.9
		SD	1.6
		Median	1.0
		Min	0
		Max	8
		Don't know/not sure	1 (2.9%)
		Not applicable	1 (2.9%)
		Total valid response	35 (100.0%)
		Total missing	26
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	31 (91.2%)
		Mean	2.1
		SD	1.6
		Median	2.0
		Min	0
		Max	8
		Don't know/not sure	1 (2.9%)
		Not applicable	2 (5.9%)
		Total valid response	34 (100.0%)
		Total missing	27
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	31 (88.6%)
		Mean	3.2
		SD	2.0
		Median	4.0
		Min	0
		Max	8
		Don't know/not	1 (2.9%)

Type of Treatment	Question	Response/time	Ophthalmologist
		sure	
		Not applicable	3 (8.6%)
		Total valid response	35 (100.0%)
		Total missing	26
Intravitreal steroid	Is the treatment available?	Available within country	14 (34.1%)
		Available locally	9 (22.0%)
		Available in practice	36 (87.8%)
		Total valid response	41 (100.0%)
		Total missing	20
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	32 (91.4%)
		Mean	2.3
		SD	1.8
		Median	1.5
		Min	0
		Max	8
		Don't know/not sure	2 (5.7%)
		Not applicable	1 (2.9%)
		Total valid response	35 (100.0%)
		Total missing	26
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	31 (88.6%)
		Mean	2.5
		SD	1.9
		Median	2.0
		Min	0
		Max	8
		Don't know/not sure	2 (5.7%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Not applicable	2 (5.7%)
		Total valid response	35 (100.0%)
		Total missing	26
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	28 (82.4%)
		Mean	9.4
		SD	8.0
		Median	8.0
		Min	0
		Max	24
		Don't know/not sure	2 (5.9%)
		Not applicable	4 (11.8%)
		Total valid response	34 (100.0%)
		Total missing	27
Uncomplicated vitrectomy	Is the treatment available?	Available within country	15 (36.6%)
		Available locally	15 (36.6%)
		Available in practice	29 (70.7%)
		Not available	1 (2.4%)
		Total valid response	41 (100.0%)
		Total missing	20
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	26 (78.8%)
		Mean	5.0
		SD	3.8
		Median	4.0
		Min	1
		Max	16
		Don't know/not sure	7 (21.2%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total valid response	33 (100.0%)
		Total missing	28
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	26 (74.3%)
		Mean	5.1
		SD	3.7
		Median	4.0
		Min	1
		Max	12
		Don't know/not sure	7 (20.0%)
		Not applicable	2 (5.7%)
		Total valid response	35 (100.0%)
		Total missing	26
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	19 (55.9%)
		Mean	6.3
		SD	5.9
		Median	4.0
		Min	1
		Max	20
		Don't know/not sure	7 (20.6%)
		Not applicable	8 (23.5%)
		Total valid response	34 (100.0%)
		Total missing	27
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	15 (37.5%)
		Available locally	15 (37.5%)
		Available in practice	27 (67.5%)
		Not available	1 (2.5%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total valid response	40 (100.0%)
		Total missing	21
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	25 (75.8%)
		Mean	3.6
		SD	2.5
		Median	4.0
		Min	1
		Max	12
		Don't know/not sure	8 (24.2%)
		Total valid response	33 (100.0%)
		Total missing	28
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	24 (72.7%)
		Mean	4.0
		SD	2.7
		Median	4.0
		Min	1
		Max	12
		Don't know/not sure	7 (21.2%)
		Not applicable	2 (6.1%)
		Total valid response	33 (100.0%)
		Total missing	28
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	19 (57.6%)
		Mean	4.3
		SD	5.0
		Median	2.0
		Min	1

Type of Treatment	Question	Response/time	Ophthalmologist
		Max	20
		Don't know/not sure	6 (18.2%)
		Not applicable	8 (24.2%)
		Total valid response	33 (100.0%)
		Total missing	28

PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	38 (97.4%)
	No	1 (2.6%)
	Total valid response	39 (100.0%)
	Total missing	22
Who administer it?	Another provider in your practice	1 (100.0%)
	Total valid response	1 (100.0%)
	Total missing	60

PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	21 (58.3%)
	Patient's age	21 (58.3%)
	Patient's gender	2 (5.6%)
	Presence of comorbidities such as hypertension, etc.	21 (58.3%)
	High glucose levels	20 (55.6%)
	Insurance restrictions	1 (2.8%)
	Patient educational level	11 (30.6%)
	Patient adherence to recommendations	18 (50.0%)
	None of the above	5 (13.9%)
	Total valid response	36 (100.0%)

Question	Response	Ophthalmologist
	Total missing	25

PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Both	38 (100.0%)
	Total Valid Response	38 (100.0%)
	Total missing	23

PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	3 (7.9%)
	Fundoscopy dilated	36 (94.7%)
	Retinal photo	24 (63.2%)
	Optical Coherence Tomography	35 (92.1%)
	Fluorescein Angiography	27 (71.1%)
	Total valid response	38 (100.0%)
	Total missing	23

PT 4.10

Question	Response	Ophthalmologist
In your opinion, do the majority of your patients present:	In time for screening	17 (44.7%)
	When visual problems have already occurred	20 (52.6%)
	Too late for effective treatment	1 (2.6%)
	Total Valid Response	38 (100.0%)
	Total missing	23

PT 4.11

Question	Response	Ophthalmologist
Have you received training specifically on treatment and diagnosis of diabetic retinopathy and/or clinically	Yes	32 (84.2%)

Question	Response	Ophthalmologist
significant diabetic macular edema?		
	No	6 (15.8%)
	Total valid response	38 (100.0%)
	Total missing	23
If yes, When was your last training?	Don't know/Not sure	2 (6.3%)
	Five or more years ago	1 (3.1%)
	Greater than 1 year ago but less than 5 years	8 (25.0%)
	Within the past year	21 (65.6%)
	Total valid response	32 (100.0%)
	Total missing	29

PT 4.12

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	35 (92.1%)
	No	3 (7.9%)
	Total Valid Response	38 (100.0%)
	Total missing	23

PT 4.13

Question	Response	Ophthalmologist
How is outreach for screening for diabetic eye disease done in your main practice?	Health fairs for all	3 (8.1%)
	Health fairs for people with diabetes	10 (27.0%)
	Mobile screening centers	6 (16.2%)
	At vision centers	14 (37.8%)
	Other	9 (24.3%)
	Not done	5 (13.5%)
	Don't know/Not sure	5 (13.5%)
	Total valid response	37 (100.0%)
	Total missing	24

PT 4.14

Question	Response	Ophthalmologist
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Reimbursement/restrictions on approved therapy	14 (37.8%)
	Late diagnosis	21 (56.8%)
	Referral pathways	17 (45.9%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	17 (45.9%)
	No universal guidelines on referral/screening	4 (10.8%)
	No universal guidelines on how to treat	3 (8.1%)
	No universal guideline on when to treat	2 (5.4%)
	Current available therapies not effective	2 (5.4%)
	Government/insurance not able to cover patient costs	9 (24.3%)
	Multi-disciplinary team integration is poor	17 (45.9%)
	Ineffective screening services	3 (8.1%)
	Other	2 (5.4%)
	Total valid response	37 (100.0%)
	Total missing	24

EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Broken bones or fractures	2 (3.4%)	1 (6.3%)	1 (16.7%)
	Cardiovascular disease/Stroke	4 (6.8%)	2 (12.5%)	1 (16.7%)
	Foot ulcers	1 (1.7%)	3 (18.8%)	1 (16.7%)
	Kidney disease	3 (5.1%)	2 (12.5%)	1 (16.7%)
	Loss of feeling in hands or toes (neuropathy)	7 (11.9%)	5 (31.3%)	2 (33.3%)
	Vision loss	9 (15.3%)	9 (56.3%)	4 (66.7%)

Question	Response	Without DED (%)	With DED (%)	With DME (%)
	Irritable bowel disease	1 (1.7%)	0 (0.0%)	1 (16.7%)
	Amputation	3 (5.1%)	1 (6.3%)	0 (0.0%)
	Other	1 (1.7%)	0 (0.0%)	0 (0.0%)
	None	41 (69.5%)	4 (25.0%)	1 (16.7%)
	Don't know/Not sure	3 (5.1%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	59 (100.0%)	16 (100.0%)	6 (100.0%)
	Total missing	15	0	1

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.
NB [2]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [3]: DME = respondents with DME ="Yes".
NB [4]: Percentages within groups are calculated from non-missing data for that question.

EXP 2

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Limited in any way in any activities because of impairment or health problem	9 (17.6%)	12 (75.0%)	6 (85.7%)
Impairment or health problem			
Diabetes	8 (100.0%)	10 (100.0%)	5 (100.0%)
Back or neck problem	3 (42.9%)	5 (71.4%)	1 (16.7%)
Fractures, bone/joint injury	2 (33.3%)	4 (57.1%)	3 (60.0%)
Eye/vision problem	2 (28.6%)	4 (66.7%)	4 (80.0%)
Mental or emotional health	2 (28.6%)	3 (50.0%)	4 (80.0%)
Arthritis/rheumatism	1 (20.0%)	5 (71.4%)	2 (33.3%)
Walking problem	1 (20.0%)	7 (87.5%)	3 (50.0%)
Hypertension/high blood pressure	0 (0.0%)	5 (71.4%)	1 (16.7%)
Lung/breathing problem	0 (0.0%)	0 (0.0%)	1 (20.0%)
Heart problem	0 (0.0%)	1 (20.0%)	0 (0.0%)
Hearing problem	0 (0.0%)	1 (20.0%)	0 (0.0%)
Stroke problem	0 (0.0%)	2 (40.0%)	0 (0.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.
NB [2]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [3]: DME = respondents with DME ="Yes".
NB [4]: Percentages within groups are calculated from non-missing data for that question.

EXP 3

Health Status	Without DED (%)	With DED (%)	With DME (%)
Self-rated health: Good	40 (78.4%)	8 (50.0%)	1 (14.3%)
Self-rated health: Poor	11 (21.6%)	8 (50.0%)	6 (85.7%)
Physically unhealthy days	11 (28.9%)	4 (33.3%)	4 (80.0%)
Mentally unhealthy days	11 (27.5%)	4 (36.4%)	4 (66.7%)
Unhealthy days	16 (44.4%)	6 (54.5%)	4 (80.0%)
Activity limitation days	4 (16.0%)	3 (37.5%)	3 (60.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.
NB [2]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [3]: DME = respondents with DME ="Yes".

EXP 4

Item	Response	All respondents	Respondents with Type I diabetes	Respondents with Type II diabetes
How do you manage your diabetes?	Diet	74 (80.4%)	40 (80.0%)	28 (80.0%)
	Oral medicine	35 (38.0%)	6 (12.0%)	26 (74.3%)
	Exercise	62 (67.4%)	33 (66.0%)	23 (65.7%)
	Insulin	69 (75.0%)	49 (98.0%)	16 (45.7%)
	Natural/Herbal medicine	2 (2.2%)		2 (5.7%)

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	35 (67.3%)	8 (50.0%)	4 (57.1%)
	Working without pay at home (e.g. housework, farming)	4 (7.7%)	2 (12.5%)	0 (0.0%)
	Volunteering	0 (0.0%)	0 (0.0%)	1 (14.3%)
	Retired	3 (5.8%)	4 (25.0%)	1 (14.3%)
	Student	4 (7.7%)	0 (0.0%)	0 (0.0%)
	Not working	6 (11.5%)	2 (12.5%)	1 (14.3%)
	Total Valid Response	52 (100.0%)	16 (100.0%)	7 (100.0%)
	Total missing	22	0	0
Do you receive assistance from	Income assistance	2 (3.9%)	1 (8.3%)	2 (28.6%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
the government?				
	Medical assistance	11 (21.6%)	4 (33.3%)	2 (28.6%)
	Food assistance	0 (0.0%)	1 (8.3%)	0 (0.0%)
	Pension assistance	3 (5.9%)	4 (33.3%)	2 (28.6%)
	None of the above	37 (72.5%)	5 (41.7%)	3 (42.9%)
	Total valid response	51 (100.0%)	12 (100.0%)	7 (100.0%)
	Total missing	23	4	0
Did you have trouble paying for food at anytime during the past year?	Yes	2 (3.8%)	2 (13.3%)	2 (28.6%)
	No	50 (96.2%)	13 (86.7%)	5 (71.4%)
	Total Valid Response	52 (100.0%)	15 (100.0%)	7 (100.0%)
	Total missing	22	1	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	14 (63.6%)	1 (50.0%)	1 (100.0%)
	Working without pay at home (e.g. housework, farming)	2 (9.1%)	1 (50.0%)	0 (0.0%)
	Student	4 (18.2%)	0 (0.0%)	0 (0.0%)
	Not working	2 (9.1%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	22 (100.0%)	2 (100.0%)	1 (100.0%)
	Total missing	7	0	0
Do you receive assistance from the government?	Income assistance	1 (4.5%)	0 (0.0%)	0 (0.0%)
	Medical assistance	4 (18.2%)	0 (0.0%)	0 (0.0%)
	None of the above	18 (81.8%)	1 (100.0%)	1 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Total valid response	22 (100.0%)	1 (100.0%)	1 (100.0%)
	Total missing	7	1	0
Did you have trouble paying for food at anytime during the past year?	Yes	2 (9.1%)	1 (50.0%)	1 (100.0%)
	No	20 (90.9%)	1 (50.0%)	0 (0.0%)
	Total Valid Response	22 (100.0%)	2 (100.0%)	1 (100.0%)
	Total missing	7	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	18 (81.8%)	6 (75.0%)	2 (66.7%)
	Retired	1 (4.5%)	1 (12.5%)	0 (0.0%)
	Not working	3 (13.6%)	1 (12.5%)	1 (33.3%)
	Total Valid Response	22 (100.0%)	8 (100.0%)	3 (100.0%)
	Total missing	5	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	0 (0.0%)	2 (66.7%)
	Medical assistance	6 (27.3%)	3 (42.9%)	0 (0.0%)
	Pension assistance	0 (0.0%)	2 (28.6%)	1 (33.3%)
	None of the above	16 (72.7%)	3 (42.9%)	1 (33.3%)
	Total valid response	22 (100.0%)	7 (100.0%)	3 (100.0%)
	Total missing	5	1	0
Did you have trouble paying for food at anytime during the past year?	No	22 (100.0%)	7 (100.0%)	3 (100.0%)
	Total Valid Response	22 (100.0%)	7 (100.0%)	3 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Total missing	5	1	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	3 (37.5%)	1 (20.0%)	1 (50.0%)
	Working without pay at home (e.g. housework, farming)	2 (25.0%)	0 (0.0%)	0 (0.0%)
	Retired	2 (25.0%)	3 (60.0%)	1 (50.0%)
	Not working	1 (12.5%)	1 (20.0%)	0 (0.0%)
	Total Valid Response	8 (100.0%)	5 (100.0%)	2 (100.0%)
	Total missing	9	0	0
Do you receive assistance from the government?	Income assistance	1 (14.3%)	1 (25.0%)	0 (0.0%)
	Medical assistance	1 (14.3%)	1 (25.0%)	1 (50.0%)
	Food assistance	0 (0.0%)	1 (25.0%)	0 (0.0%)
	Pension assistance	3 (42.9%)	2 (50.0%)	0 (0.0%)
	None of the above	3 (42.9%)	1 (25.0%)	1 (50.0%)
	Total valid response	7 (100.0%)	4 (100.0%)	2 (100.0%)
	Total missing	10	1	0
Did you have trouble paying for food at anytime during the past year?	Yes	0 (0.0%)	1 (20.0%)	1 (50.0%)
	No	8 (100.0%)	4 (80.0%)	1 (50.0%)
	Total Valid Response	8 (100.0%)	5 (100.0%)	2 (100.0%)
	Total missing	9	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?	Working without pay at home (e.g. housework, farming)	0 (0.0%)	1 (100.0%)	0 (0.0%)
	Volunteering	0 (0.0%)	0 (0.0%)	1 (100.0%)
	Total Valid Response	0	1 (100.0%)	1 (100.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	Medical assistance	0 (0.0%)	0 (0.0%)	1 (100.0%)
	Pension assistance	0 (0.0%)	0 (0.0%)	1 (100.0%)
	Total valid response	0	0	1 (100.0%)
	Total missing	1	1	0
Did you have trouble paying for food at anytime during the past year?	No	0 (0.0%)	1 (100.0%)	1 (100.0%)
	Total Valid Response	0	1 (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 6

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
All respondents		97 (100%)	54 (55.7%)	36 (37.1%)	16 (16.5%)	7 (7.2%)
Gender	Male	34 (45.3%)	15 (44.1%)	18 (52.9%)	8 (23.5%)	2 (5.9%)
	Female	41 (54.7%)	29 (70.7%)	10 (24.4%)	8 (19.5%)	5 (12.2%)
	Total Missing	22	10	8	0	0
Age	18-39 yrs	32 (33.0%)	27 (84.4%)	3 (9.4%)	2 (6.3%)	1 (3.1%)
	40-59 yrs	38 (39.2%)	22 (57.9%)	15 (39.5%)	8 (21.1%)	3 (7.9%)
	60-79 yrs	24 (24.7%)	5 (20.8%)	16 (66.7%)	5 (20.8%)	2 (8.3%)
	80 yrs and over	3 (3.1%)	0 (0.0%)	2 (66.7%)	1 (33.3%)	1 (33.3%)
Time since	Within the	6 (6.5%)	2 (33.3%)	2 (33.3%)	0 (0.0%)	0 (0.0%)

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
diagnosis	last year					
	1 - 5 years ago	24 (25.8%)	11 (45.8%)	10 (41.7%)	2 (8.3%)	1 (4.2%)
	6 - 10 years ago	10 (10.8%)	4 (40.0%)	6 (60.0%)	1 (10.0%)	0 (0.0%)
	11 - 15 years ago	16 (17.2%)	8 (50.0%)	7 (43.8%)	2 (12.5%)	1 (6.3%)
	16 - 20 years ago	8 (8.6%)	6 (75.0%)	2 (25.0%)	2 (25.0%)	1 (12.5%)
	21 years ago or longer	29 (31.2%)	21 (72.4%)	7 (24.1%)	9 (31.0%)	4 (13.8%)
	Total Missing	4	2	2	0	0
Control of Diabetes	Controlled	57 (66.3%)	33 (57.9%)	19 (33.3%)	10 (17.5%)	3 (5.3%)
	Not controlled	27 (31.4%)	14 (51.9%)	11 (40.7%)	6 (22.2%)	4 (14.8%)
	Don't know/Not sure	2 (2.3%)	1 (50.0%)	1 (50.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	11	6	5	0	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	5 (31.3%)	6 (85.7%)
	No	11 (68.8%)	1 (14.3%)
	Total valid response	16 (100.0%)	7 (100.0%)
What treatment did you receive?	Laser	4 (80.0%)	5 (83.3%)
	Anti-VEGF	1 (20.0%)	2 (33.3%)
	Surgery	0 (0.0%)	1 (16.7%)
	Other	0 (0.0%)	1 (16.7%)
	Total valid response	5 (100.0%)	6 (100.0%)
	Total missing	11	1
Did you complete the treatment?	Yes	4 (80.0%)	6 (100.0%)

Question	Response	With DED n (%)	With DME n (%)
	Still receiving treatment	1 (20.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	6 (100.0%)
	Total missing	11	1
Do you feel that the treatment worked?	Yes, and vision improved	3 (60.0%)	4 (66.7%)
	Yes, but vision stayed the same	2 (40.0%)	2 (33.3%)
	Total valid response	5 (100.0%)	6 (100.0%)
	Total missing	11	1
What is/are the reason(s) that you did not complete the treatment?	Total valid response	0 (0.0%)	0 (0.0%)
	Total missing	16	7
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	9 (81.8%)	1 (100.0%)
	Still waiting for treatment	1 (9.1%)	0 (0.0%)
	Other	1 (9.1%)	0 (0.0%)
	Total valid response	11 (100.0%)	1 (100.0%)
	Total missing	5	6

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.

DR
Barometer
Shifting the needle

IFA

IAPB

International Diabetes Federation

BAYER