DR Barometer
Shifting the needle

The Diabetic Retinopathy Barometer Report

Japan

IFA   IAPB   International Diabetes Federation   BAYER

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 Japan.

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

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

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

Goal

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

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

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

Background

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

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

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

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

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

Study Populations

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

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

The results from this survey provide new evidence reflecting concerns from the voices of thousands of adults with diabetes and health care professionals around the world. This study provides a rich resource for generating unique insights into real-life experiences, and as such is a powerful tool to help improve the lives of current and future generations of people with diabetes. For the purpose of understanding the impact of the progression of DED, responses to the patient survey, beyond "all respondents", are reported by three subgroups:

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

- With DED: people with diabetes with reported (DED) but not DME

- With DME: people with diabetes with reported (DED) and (DME)

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

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

Introduction
Japan Study

Demographic Characteristics[1]

Japan is estimated to be the fourth most populous country in East Asia and seventh most populous country of Asia with an estimated population of approximately 126 million.

Currently, it is estimated that 13% of Japan's population is under the age of 15 (~16 million) while 27% is over the age of 65 (~34 million). This is not surprising as Japan has one of the oldest populations worldwide, with the third highest life expectancy at birth and the largest percentage of people who have reached their 100th birthday.

Due to Japan's low fertility rates, by 2050, Japan's population is expected to decrease by ~15% (~107 million) and the current population distribution will continue, and in fact become more extreme. In just over 34 years, it is expected that the population aged 65 or older will increase by ~15% and the population under 15 will decrease by ~17.5%. This means that those younger than 15 will only make up ~12% of the country's population (~13.1 million) while those aged 65 or older will make up ~36% of Japan's total population (~39 million).

Diabetes Profile[2]

Globally there are 415 million people living with diabetes and more than 153.2 million people are in the Western Pacific Region. By 2040, this number is expected to rise to 214.8 million.

The IDF Western Pacific Region is the world's most populous region with 39 countries and territories. This region is home to 36.9% (153.2 million) of the total number of people with diabetes in the world and over half (52.1%) of this region's population living with diabetes are undiagnosed. It is important to note that of the 153.2 million people living with diabetes, 61.6% live in cities and 90.2% live in low or middle-income countries.

Japan has the third highest number of people living with diabetes in the Western Pacific Region at ~7.2 million (6,105.2-9,555.9‡), which accounts to ~5% of people living with diabetes in this region. Japan is the fourth top country in the world for the number of people (20 – 79 years) with impaired glucose tolerance at ~11.9 million and will continue to be in 2040 with ~10.7 million people with impaired glucose tolerance. It is important to note that Japan is also the fourth top country in the world for diabetes-related health expenditures at 29 billion USD and will continue to be in 2040 at an estimated 27 billion USD.

Japan's diabetes national prevalence (20 – 79 years) is 7.6% (6.5-10.1‡) and the diabetes age-adjusted comparative prevalence is 5.7% (4.7-8.7‡). Deaths attributed to diabetes in Japan, in 2015, were 61,076, which accounts to ~3% of the diabetes-related deaths experienced in this region. The estimated number of undiagnosed cases was ~3.4 million (3,163.7-4,951.8‡).

Study Populations

As reported by 77 adults with diabetes in Japan, 14% of respondents have been diagnosed with diabetic eye disease and a further 3.9% with diabetic macular edema.

Forty-four health care professionals completed the survey in Japan. Of these, three were diabetes specialist providers (6.8%), 30 were ophthalmologists (68%), and four were primary care providers (9.1%). The remaining respondents were optometrists, nurses, health educators or other types of professionals.

The DR Barometer Study:
Japan Overview

The DR Barometer study was conducted in 41 countries. In Japan, 77 adults with diabetes and 44 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

34%

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

36%

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

DR: Diabetic Retinopathy
DME: Diabetic Macular Edema

DRBarometer.com

IFA · IAPB · International Diabetes Federation · BAYER

71%

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

67%

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

26%

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

58%

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

Japan
DR Barometer Findings:
Adults with Diabetes

Key Demographic Characteristics

Seventy seven adults with diabetes completed the patients' survey in Japan: 21% were females and 79% were male. Fifty-five percent lived in an urban setting and 45% resided in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents was as follows: 1.4% were educated to a junior high school level, 28% to a high school level, 60% with a college/university level, and 11% with a graduate or post-graduate level. Sixty-two percent of all respondents were working for pay, 18% were retired, and 11% stated they were not working (Appendix Table 4.3 and 4.4).

Most respondents (75%) were aged between 40 and 79 years (43% were 40-59 years and 33% were 60-79 years). Sixty-five percent were of traditional working age (18-59 years) (see Table 1).

Of the respondents in Japan, 23% had been diagnosed with type 1 diabetes and 71% with type 2 diabetes. A further 5.2% of respondents were either unsure or did not know their type of diabetes (see Appendix Table 2.1). Fourteen percent of respondents (n=11) reported they have been diagnosed with DED and a further 3.9% (n=3) with DME.

Twenty-six percent of the adults with diabetes were diagnosed with diabetes 21 years ago or more. Seven percent of respondents were diagnosed with diabetes within the last year, 1 - 5 years ago (25%), 6 - 10 years ago (20%), 11 - 15 years ago (15%), and 16 - 20 years (7.9%) (see Appendix table 2.2).

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. Amongst 18 to 39-year-olds, 59% had type 1 and 41% had type 2 diabetes. In the 40-59 year age group, 24% had type 1 and 73% had type 2 diabetes, no respondents in the 60-79 year age group had type 1 diabetes and 88% had type 2.

In the 18-39 year age group, 24% had DED and 18% had DME. For the 40-59 year age group, 12% had DED and no respondents had DME, in the 60-79 year age group 8% had DED and no respondents had DME.

A particularly important trend noted in the findings was that the longer the times since diabetes was diagnosed, the greater the likelihood for DED to be detected.

In the first five years since diagnosis of diabetes, 5.3% of respondents were diagnosed with DED. In the subgroup of people diagnosed with diabetes more than 21 years ago 45% had DED.

While most (68%) respondents reported that their diabetes was well controlled, 30% felt that their diabetes was not well controlled. For those whose diabetes was controlled, 20% had DED and in those whose diabetes was not controlled 4.5% had DED.

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		290 (100%)	172 (59.3%)	113 (39.0%)	62 (21.4%)	40 (13.8%)
Gender	Male	56 (78.9%)	8 (14.3%)	46 (82.1%)	7 (12.5%)	0 (0.0%)
	Female	15 (21.1%)	8 (53.3%)	6 (40.0%)	4 (26.7%)	2 (13.3%)
	Total Missing	6	2	3	0	1
Age	18-39 yrs.	17 (22.1%)	10 (58.8%)	7 (41.2%)	4 (23.5%)	3 (17.6%)
	40-59 yrs.	33 (42.9%)	8 (24.2%)	24 (72.7%)	4 (12.1%)	0 (0.0%)
	60-79 yrs.	25 (32.5%)	0 (0.0%)	22 (88.0%)	2 (8.0%)	0 (0.0%)
	80 yrs. plus	2 (2.6%)	0 (0.0%)	2 (100.0%)	1 (50.0%)	0 (0.0%)
Time since diagnosis	Within the last year	5 (6.6%)	0 (0.0%)	4 (80.0%)	0 (0.0%)	1 (20.0%)
	1 - 5 yrs.	19 (25.0%)	1 (5.3%)	18 (94.7%)	1 (5.3%)	2 (10.5%)
	6 - 10 yrs.	15 (19.7%)	2 (13.3%)	11 (73.3%)	1 (6.7%)	0 (0.0%)
	11 - 15 yrs.	11 (14.5%)	3 (27.3%)	8 (72.7%)	0 (0.0%)	0 (0.0%)
	16 - 20 yrs.	6 (7.9%)	1 (16.7%)	5 (83.3%)	0 (0.0%)	0 (0.0%)
	21 yrs. plus	20 (26.3%)	11 (55.0%)	8 (40.0%)	9 (45.0%)	0 (0.0%)
	Total Missing	1	0	1	0	0
Control of Diabetes	Controlled	50 (67.6%)	16 (32.0%)	33 (66.0%)	10 (20.0%)	1 (2.0%)
	Not controlled	22 (29.7%)	1 (4.5%)	19 (86.4%)	1 (4.5%)	2 (9.1%)
	Don't know/ Not sure	2 (2.7%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	3	1	1	0	0

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

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

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

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

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

Knowledge and Management of Diabetes

Eighty-eight percent of those surveyed saw a health care professional for their diabetes, with 49% seeing a diabetes specialist (average number of visits was 8.2 times per year) and 48% seeing a general/family doctor (average number of visits was 9.5 times per year) (see Appendix Table 2.3.1 and 2.3.2).

Adults with diabetes were informed about their condition through a variety of channels. Eighty-nine percent received information from a doctor or nurse, 67% from the internet, and 40% from traditional media such as TV or radio (see Table 2 and Appendix Table 2.4).

Table 2: Source of information regarding diabetes

Information Source	All Respondents (n=75)
Doctor or nurse	67 (89.3%)
Internet	50 (66.7%)
TV/Radio/Newspaper/Magazines	30 (40.0%)
Diabetes organisation or other health organisation	20 (26.7%)
Nutritionist or dietician	17 (22.7%)
Pharmacist	17 (22.7%)
Social media (e.g. Facebook, Twitter, blogs)	14 (18.7%)
Family/Friends/Neighbours	12 (16.0%)
Health educator	3 (4.0%)
None of the above	1 (1.3%)

A range of strategies was used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 59% managed their diabetes with diet, and 29% with exercise. Of the respondents with type 2 diabetes, 70% managed their condition with diet, 67% with oral medicine, 48% with exercise, and 28% with insulin.

Twenty-eight percent of respondents were currently enrolled in diabetes management programmes. Sixty-two percent of those said the programme included education on the importance of screening for diabetic eye complications (see Appendix Table 2.6).

The nature and frequency of tests that people with diabetes experienced included blood glucose checks and undilated eye checks. Of the respondents that had eye checks (81%), these occurred at the following intervals: less than 6 months (49%), 6 - 12 months (19%), and greater than 12 months (14%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: the high cost of care (57%), it was too hard to eat the right things (45%), there were too many other things to do (14%), and did not want to think about having diabetes (12%) (see Appendix Table 2.9).

Support from family or friends (40%), free or low cost medicines or monitoring materials (29%), and support groups (25%) were identified as important to improving the management of a person's diabetes. Twenty-three percent of respondents stated that none of the services listed helped them to better manage their diabetes (see Appendix Table 2.10).

Sixty-nine percent of respondents reported that they have no complications of diabetes. However, of those who did report complications: 11% had neuropathy, cardiovascular disease or stroke (6.8%), kidney disease (5.5%), vision loss (2.7%), and amputation (1.4%) (see Figure 1, Table 3, and Appendix Table 2.13 and EXP 1).

Nature and Information about Complications

Eighty two percent of respondents were aware of vision loss and other complications such as: foot ulcers (77%), amputation (76%), kidney disease (66%), neuropathy (65%), and cardiovascular disease or stroke (61%) were also associated with diabetes (see Appendix Table 2.11).

Respondents were most concerned about: vision loss (44%), kidney disease (16%), cardiovascular disease or stroke (12%), amputation (8.2%), and neuropathy (8.2%) (see Appendix Table 2.12).

Sixty-nine percent of respondents reported that they have no complications of diabetes. However, of those who did report complications: 11% had neuropathy, cardiovascular disease or stroke (6.8%), kidney disease (5.5%), vision loss (2.7%), and amputation (1.4%) (see Figure 1, Table 3, and Appendix Table 2.13).

Figure 1: Presence of complications
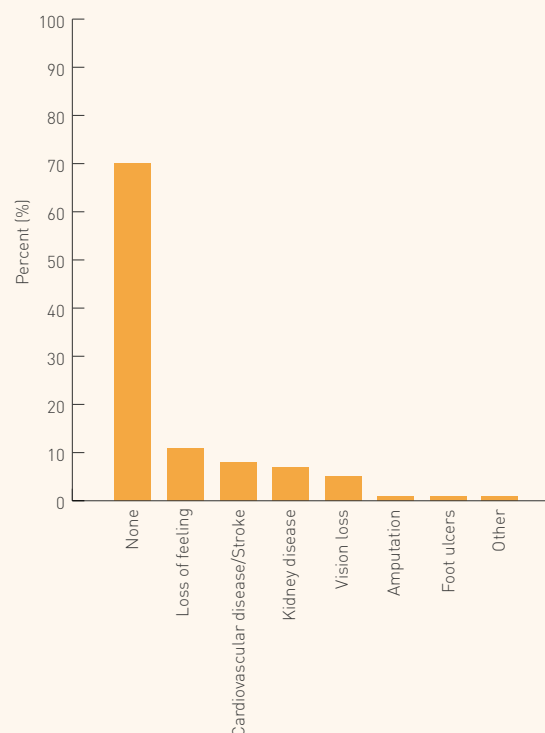
Table 3: Presence of complications without DED, with DED or DME

Complication	Without DED	With DED	With DME
Any	15 (25.4%)	5 (45.5%)	3 (100%)
Vision loss	0 (0.0%)	1 (9.1%)	1 (33.3%)
Loss of feeling in hands or toes (neuropathy)	6 (10.2%)	1 (9.1%)	1 (33.3%)
Cardiovascular disease/Stroke	4 (6.8%)	1 (9.1%)	0 (0.0%)
Kidney disease	1 (1.7%)	3 (27.3%)	0 (0.0%)
Amputation	0 (0.0%)	0 (0.0%)	1 (33.3%)
Foot ulcers	1 (1.7%)	0 (0.0%)	0 (0.0%)
Other	1 (1.7%)	0 (0.0%)	0 (0.0%)
None	44 (74.6%)	6 (54.5%)	0 (0.0%)

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

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

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

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

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

Information about Diabetic Eye Disease and Diabetic Macular Edema

Eighty-one percent of all respondents received Information about DR and DME with the doctor or nurse being the most common source (64%). A surprising finding was that almost one in five respondents did not receive such information from any of the sources listed (see Table 4 and Appendix Table 3.9).

While eighty-one percent of respondents stated that eye complications were discussed with their health care professional, for a quarter of respondents they had either never discussed eye complications with their doctor (16%), did so only after the onset of symptoms (9.6%). The frequency of regular discussions varied from every visit (11%), multiple times a year (38%), and once a year (22%) (see Appendix Table 2.14).

Sixty-seven percent of respondents said that they do what they can to prevent vision problems (e.g. get routine screenings, visit specialists), yet myths and perceptions around vision changes and preventions were evident with 19% who did not make any special effort to prevent vision problems, and 18% thought vision problems were a normal part of ageing (see Appendix Table 2.15).

Table 4: Source of information about DR and DME

Source	All respondents (n=73)
Doctor/Nurse	47 (64.4%)
Internet	29 (39.7%)
TV/Radio/Newspaper/ Magazines	14 (19.2%)
Diabetes organisation or other health organisation	11 (15.1%)
Family/Friends/ Neighbours	3 (4.1%)
None of the above	14 (19.2%)

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

Screening for Diabetic Eye Disease

Only fifty-nine percent of the respondents reported having an eye exam for DED, with 86% reporting to have had an eye exam within the last year and a further 7% more than one year ago but less than two years ago. Twenty-six percent of respondents were aware of a government sponsored screening programme for DED (see Appendix Table 3.1 and 3.2).

Seventy-seven percent of those surveyed thought they should have their eyes examined for DED once a year, whereas three respondents thought they should be tested less often than every two years, and one said that testing should only happen when symptoms occur (see Appendix Table 3.4).

The biggest barriers to eye exams were: the long wait times on the day of the visit (34%), the expense of the eye exam (31%), and eye exams were not available near place of residence (15%) (see Table 5 and Appendix Table 3.5).

Table 5: Barriers to eye examinations

Identified Barriers	All Respondents (n=67)
Long wait time on the day of the visit	23 (34.3%)
They are expensive	21 (31.3%)
Eye exams are not available near my home	10 (14.9%)
I'm not likely to have eye complications	10 (14.9%)
Don't know much about my condition	9 (13.4%)
Fear of treatment/results	5 (7.5%)
Too many other things to do or worry about	5 (7.5%)
Long wait time for appointment	4 (6.0%)
Referral process is complicated or takes too long	3 (4.5%)
Burden on my family/friends	2 (3.0%)
Eye exams are not important	2 (3.0%)
Limited access to diabetes specialists	1 (1.5%)
Clinics are too small or lack necessary equipment/staff	1 (1.5%)
Other	9 (13.4%)

Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME. For those with DED 46% (n=5) had received treatment and the most common was laser treatment (80%). Of those who received treatment, 60% (n=3) completed their treatment and 40% (n=2) were still receiving treatment. Eighty percent felt that treatment had been successful and either their vision had improved (40%) or their vision had stayed the same (40%) (see Table 6).

For the five respondents (46%) with DED who had not received treatment, the most common reason reported was that their doctor did not recommend any treatment (60%).

Although small in number, two of the three respondents with DME would prefer proactive treatment to prevent further vision loss rather than reactive treatment once further vision loss occurred.

Table 6: Treatment characteristics of patients with DED and DME

Question	Response	With DED (n=11)	With DME (n=2)
Have you had any treatment for diabetic eye disease?	Yes	5 (45.5%)	2 (100.0%)
	No	5 (45.5%)	0 (0.0%)
	Don't know/ Not sure	1 (9.1%)	0 (0.0%)
What treatment did you receive?	Laser	4 (80.0%)	1 (50.0%)
	Anti-VEGF	0 (0.0%)	1 (50.0%)
	Other	1 (20.0%)	0 (0.0%)
	Other	9 (20.0%)	1 (3.1%)
Did you complete the treatment?	Yes	3 (60.0%)	1 (50.0%)
	Still receiving treatment	2 (40.0%)	0 (0.0%)
	Don't know/ Not sure	0 (0.0%)	1 (50.0%)
Do you feel that the treatment worked?	Yes, and vision improved	2 (40.0%)	1 (50.0%)
	Yes, but vision stayed the same	2 (40.0%)	0 (0.0%)
	No	0 (0.0%)	1 (50.0%)
	Don't know/ Not sure	1 (20.0%)	0 (0.0%)
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)	0 (0.0%)
	Other	2 (40.0%)	0 (0.0%)

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

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

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

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

Impact of Diabetic Eye Disease and Diabetic Macular Edema

Fifty-four percent of those diagnosed with DED or DME reported that their vision was affected (46% slightly, 7.7% significantly) (see Appendix Table 3.6).

Seventy-one percent of these respondents reported vision issues impacted their daily lives. Ways in which their lives were affected included: driving a vehicle (29%), working or keeping a job (14%), and social interactions with family or friends (14%) (see Table 7).

Table 7: Activities affected through vision impairment and loss

	All Respondents (n=7)
Driving (a car/vehicle)	2 (28.6%)
Work or keeping a job	1 (14.3%)
Social interactions with family/friends	1 (14.3%)
Other	2 (28.6%)
None	2 (28.6%)

Sixty-four percent of respondents with DED, and 63% without DED, were in paid employment compared to only a third of those with DME (see Table 8 and EXP 5.1). Fourteen percent of those with vision complications, due to DED or DME, reported difficulties with working or keeping a job.

Sixty-one percent of all respondents did not receive assistance from the government, while small in numbers, all of the respondents with DME received assistance and a little less than half of those with DED (45%) compared to only a third of those without DED (36%) (see Appendix Table 4.5).

Ninety-two percent of respondents said they had no trouble paying for food at any time during the past year. This rose from 5.2% (n=3) in those without DED to 18% (n=2) in those with DED, and 50% (n=1) in those with DME (see Appendix Table 4.6).

The majority of respondents (74%) said that they did not feel their access to healthcare was affected by any factors, yet two in five felt it was affected by their income (20%) (see Appendix Table 4.7).

Health (48%), money (32%), and family (9.6%) were the top three 'worries' on the mind of the respondents surveyed (see Appendix Table 4.8).

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

Question	Response	Without DED (n=59)	With DED (n=11)	With DME (n=3)
Are you currently working?	Working for pay	37 (62.7%)	7 (63.6%)	1 (33.3%)
	Working without pay at home (e.g. housework, farming)	3 (5.1%)	0 (0.0%)	1 (33.3%)
	Volunteering	1 (1.7%)	1 (9.1%)	1 (33.3%)
	Retired	12 (20.3%)	1 (9.1%)	0 (0.0%)
	Not working	6 (10.2%)	2 (18.2%)	0 (0.0%)

Question	Response	Without DED (n=59)	With DED (n=11)	With DME (n=2)
Do you receive assistance from the government?	Income assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Medical assistance	5 (8.5%)	3 (27.3%)	2 (100.0%)
	Food assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Housing assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Pension assistance	17 (28.8%)	2 (18.2%)	0 (0.0%)
	None of the above	38 (64.4%)	6 (54.5%)	0 (0.0%)

Question	Response	Without DED (n=58)	With DED (n=11)	With DME (n=2)
Did you have trouble paying for food at any time during the past year?	Yes	3 (5.2%)	2 (18.2%)	1 (50.0%)
	No	55 (94.8%)	9 (81.8%)	1 (50.0%)

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

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

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

NB [4]: 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.

Over a third of respondents with DED, half of those with DME, and just over two-thirds of those without DED reported their overall health as poor. Half of the respondents with DME experienced physically unhealthy days compared to a quarter of those with DED. Similarly, half of those with DME were limited in their daily activities due to an impairment or health problem compared to a quarter of the respondents without DED (29%) experienced this (see Table 9).

Compared with 15% of those without DED, 46% of people with DED and 67% of people with DME experienced limitations to their daily activities as a result of poor health. Although small in numbers, where health, or an associated condition, impacted daily activities, the primary limitations were: back or neck problems, hypertension or high blood pressure, and mental or emotional health (see Appendix Table 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	19 (32.8%)	7 (63.6%)	1 (50.0%)
Self-rated health: Poor	39 (67.2%)	4 (36.4%)	1 (50.0%)
Physically unhealthy days	14 (30.4%)	2 (25.0%)	1 (50.0%)
Mentally unhealthy days	8 (16.0%)	0 (0.0%)	2 (66.7%)
Unhealthy days	15 (33.3%)	2 (33.3%)	2 (66.7%)
Activity limitation days	6 (28.6%)	0 (0.0%)	1 (50.0%)

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

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

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

NB [4]: 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.

Japan
DR Barometer Findings:
Health Care Professionals

Key Demographic Characteristics

There were 44 health care professionals who answered at least one of the survey questions in Japan. Of these, four were primary care providers (9.1%), three were diabetes specialist providers (6.8%) and 30 were ophthalmologists (68%). The remaining respondents were health educators or other types of professional (see Appendix PT 1.3).

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

All health care professionals, as a group, had been practicing for an average of 18 years (see Appendix PT 1.5).

All were well educated (94% with graduate or advanced degree), 9.7% were female and 90% male, and varied in age with 36% between 30 – 39 years (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 Provider	Ophthalmologist
All respondents		44 (100.0%)	4 (9.1%)	3 (6.8%)	30 (68.2%)
Age group	18 – 29 yrs.	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	30 - 39 yrs.	11 (35.5%)	1 (33.3%)	0 (0.0%)	10 (37.0%)
	40 - 49 yrs.	7 (22.6%)	0 (0.0%)	0 (0.0%)	7 (25.9%)
	50 - 59 yrs.	6 (19.4%)	0 (0.0%)	0 (0.0%)	5 (18.5%)
	60 - 69 yrs.	7 (22.6%)	2 (66.7%)	0 (0.0%)	5 (18.5%)
Gender	Female	3 (9.7%)	1 (33.3%)	0 (0.0%)	2 (7.4%)
	Male	28 (90.3%)	2 (66.7%)	0 (0.0%)	25 (92.6%)
Education	Secondary School	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	College/ University	2 (6.5%)	0 (0.0%)	0 (0.0%)	2 (7.4%)
	Graduate or advanced degree (e.g. PhD, MD, etc)	29 (93.5%)	3 (100.0%)	0 (0.0%)	25 (92.6%)

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

Seventy-four percent of all health care professionals have their main practice setting at a hospital and for ophthalmologists alone, it was also in a hospital (82%). Seventy-six percent of health care professionals work in an urban setting (see Appendix PT 2.1 and 2.2).

Most health care professionals worked in the private sector (63%) and ophthalmologists worked mainly in the private (64%) and government sector (25%) (see Appendix PT 2.3).

The health care professionals reported that for 47% of patients' insurance partly pays for services, 28% pay through insurance, and 28% pay at a reduced or subsidised rate. The situation was similar for ophthalmologists: 39% of patients insurance partly pays for services, 36% pay at a reduced or subsidised rate and 32% of patients pay through insurance for services (Appendix PT 2.7).

Health care professionals reported, on average, seeing 83 patients per week, of which an estimated 27% of these patients had diabetes. Ophthalmologists saw an average of 78 patients per week and 26% of their patient population had diabetes (Appendix PT 2.6).

For all providers, the average waiting time for an appointment was either less than one week (35%) or more than one week but less than one month (32%).

The average wait time for an appointment with an ophthalmologist was more than one week but less than one month in 43% of practices. In a further 29% of practices, the average wait time was less than one week (see Table 11 and Appendix PT 2.5).

Table 11: Average wait times to schedule an appointment

Wait Time Intervals	All Respondents (n=37)	Ophthalmologist (n=28)
Less than 1 week	13 (35.1%)	8 (28.6%)
More than 1 week but less than 1 month	12 (32.4%)	12 (42.9%)
More than 1 month but less than 2 months	3 (8.1%)	2 (7.1%)
More than 2 months but less than 3 months	1 (2.7%)	1 (3.6%)
Do not take appointments	4 (10.8%)	2 (7.1%)
Other	2 (5.4%)	1 (3.6%)
Don't know/Not sure	2 (5.4%)	2 (7.1%)

Patient Education Information

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

Figure 2: Healthcare topics discussed with patients during a routine visit
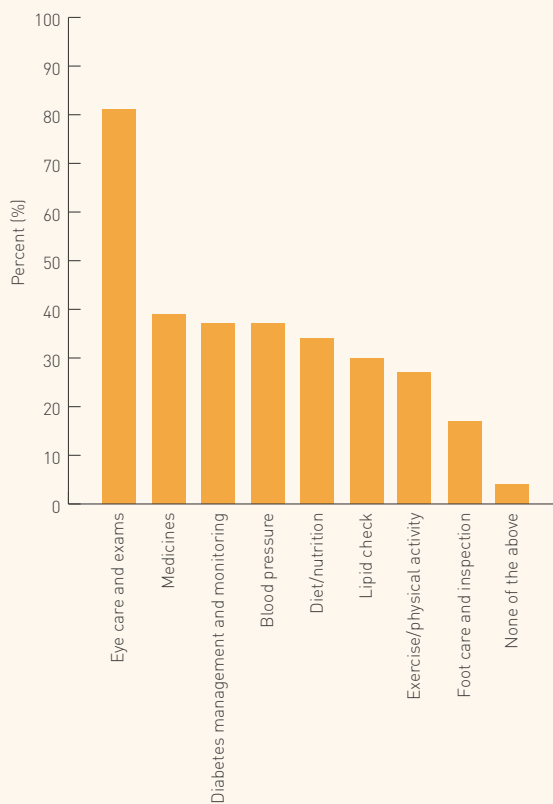
Health care professionals stated that written information about diabetes is available yet the adequacy of that which was related to eye complications varies.

Only half of the providers surveyed (53%) reported that they had sufficient information on eye complications and 28% had information on diabetes, but that which is on eye complications was insufficient. Just over 9% of health care professionals had no written information available at all.

Fifty-nine percent of ophthalmologists had written information about diabetes with sufficient information on eye complications included and 19% had information on diabetes, but that which is on eye complications was insufficient. Eleven percent of ophthalmologists reported that there was no written information available for their patients (see Table 12 and Appendix PT 2.11).

Guidelines and Protocols

Only thirteen percent of all providers, including 15% of ophthalmologists, had written protocols for the management of diabetes available and were used by staff. However, 36% of all providers had no such protocols (see Appendix PT 2.12).

One in three providers (36%) did not have written protocols on the management of diabetes-related vision issues. Twenty-three percent of health care professionals had written protocols available which were used by staff and 9.7% had protocols available but not used by staff.

For ophthalmologists, 26% had written protocols available which were used by staff. Similar to all providers, 30% of ophthalmologists did not have access to protocols on diabetes-related vision issues (see Table 12 and Appendix PT 2.13).

Table 12: Availability and use of information and protocols

Question	Response	All Respondents (n=32)	Ophthalmologist (n=27)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	17 (53.1%)	16 (59.3%)
	Yes, but information on eye complications is not sufficient	9 (28.1%)	5 (18.5%)
	No written information is available for patients	3 (9.4%)	3 (11.1%)
	Don't know/Not sure	3 (9.4%)	3 (11.1%)
Question	**Response**	**All Respondents (n=31)**	**Ophthalmologist (n=27)**
Do you have written protocols/guidelines for detection and management of diabetes-related vision issues available in your main practice?	Yes, available and used by staff	7 (22.6%)	7 (25.9%)
	Yes, available but not used by staff	3 (9.7%)	2 (7.4%)
	Not available	11 (35.5%)	8 (29.6%)
	Don't know/Not sure	10 (32.3%)	10 (37.0%)

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

Screening Protocols and Barriers in the Care Pathway

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

Most providers, for patients with type 1 (39%) or type 2 (61%) diabetes, reported that the initial eye exam should occur at the time of the diagnosis of diabetes. It is important to note though, over a third (36%) of all providers reported no standard practice for those with type 1 diabetes as it varies case-by-case (see Appendix PT 2.14).

Overall, 56% of health care professionals, including 59% of ophthalmologists, reported that follow-up eye examinations should be conducted every year. Seventy-four percent of ophthalmologists stated that they screen patients for DR (see Appendix PT 2.15 and 2.16).

For ophthalmologists, 41% reported to send appointment reminders and 48% do not. Seventy-two percent of the providers shared information to optimise patient care management (see Appendix PT 2.19 and 2.20).

The most common patient characteristics influencing the referral process for eye complications for all providers were: diabetes duration (91%), high glucose levels (78%), and a patient's ability to adhere to recommendations (50%).

The findings were similar for ophthalmologists: diabetes duration (93%), high glucose levels (82%), and a patient's ability to adhere to recommendations (52%), although a patient's age, educational level or the presence of comorbidities such as hypertension (48%) also influenced their recommendations (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: a general lack of knowledge or awareness (66%), patients feel that eye complications are unlikely (59%), and patients having competing responsibilities and priorities (56%). Ophthalmologists, like all health care professionals, reported similar barriers (see Table 13 and Appendix PT 2.18).

Table 13: Major barriers to optimising eye health

Response	All Respondents (n=32)	Ophthalmologists (n=27)
Lack of knowledge and/or awareness	21 (65.6%)	19 (70.4%)
Patients feel eye complications are unlikely	19 (59.4%)	19 (70.4%)
Patients have competing responsibilities and priorities	18 (56.3%)	17 (63.0%)
Patients feel eye exams are not important	16 (50.0%)	14 (51.9%)
Long wait time on the day of visit	14 (43.8%)	14 (51.9%)
Cost of care	13 (40.6%)	12 (44.4%)
Proximity to care	8 (25.0%)	8 (29.6%)
Patients fear of treatment/results	8 (25.0%)	7 (25.9%)
Referral process	6 (18.8%)	6 (22.2%)
Long wait time for appointment	5 (15.6%)	5 (18.5%)
Patients they are a burden on family/ friends	5 (15.6%)	5 (18.5%)
Clinic too small or lack necessary equipment/staff	3 (9.4%)	2 (7.4%)
Limited access to diabetes specialists	2 (6.3%)	2 (7.4%)
Limited access to eye specialists	2 (6.3%)	2 (7.4%)
Recommended treatments are not available	2 (6.3%)	2 (7.4%)
Other	1 (3.1%)	1 (3.7%)

Japan
DR Barometer Findings:
Ophthalmologists

Screening

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

Ophthalmologists reported that an average of 32% of their patients had DR and 16% DME (see Appendix PT 4.1 and PT 4.2).

The most common wait time for a screening appointment for DED was more than one week but less than one month (42%) with 19% stating less than one week. Fifty-eight percent of ophthalmologists reported that there was no wait from the time of screening to diagnosis, 12% (n=3) reported a wait time of more than one week but less than one month (see Appendix PT 4.3 and 4.4).

Treatment and Challenges

Ninety-six percent of ophthalmologists personally administer treatment for diabetic retinopathy. The most common factors influencing how ophthalmologists treat patients with DR or DME were: diabetes duration (88%), high glucose levels (84%), and a patient's ability to adhere to recommendations (76%) (see Appendix PT 4.6 and 4.7).

The most common outreach venues for screening for DED were reported to be at health fairs for people with diabetes (44%), health fairs for all (32%), and at vision centres (12%). However, 30% reported to not perform outreach-screening services (see Appendix PT 4.13).

Eighty-nine percent of ophthalmologists reported that they screen patients for DR based on a fundoscopy through dilated pupils. Additionally, 77% use optical coherence tomography and 77% use fluorescein angiography. Eighty-five percent of ophthalmologists treat DR and DME based on both visual and anatomical outcomes (see Appendix PT 4.8 and 4.9).

Seventy-three percent of ophthalmologists said that majority of patients present when visual problems have already occurred, while 27% reported patients present in time for the screening (see Appendix PT 4.10).

Only forty-two percent of ophthalmologists had received specific training in the treatment and diagnosis of DR and / or clinically significant DME, of which only 36% had received training within the past year and 27% had training between one and five years ago. Sixty-two percent would be interested in online education and certification on DME, angiogenesis and anti-VEGF therapies (see Appendix PT 4.11 and 4.12).

Ophthalmologists reported that the greatest challenges for improving patient outcomes in DED were late diagnosis (68%), limited access to patient education on DR and DME (56%), and poor multi-disciplinary integration and referral pathways (27%) (see Table 14).

Table 14: Challenges for improving outcomes in DED

Question	Response	Ophthalmologist (n=25)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Late diagnosis	17 (68.0%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	14 (56.0%)
	No universal guidelines on referral/screening	10 (40.0%)
	No universal guideline on when to treat	9 (36.0%)
	No universal guidelines on how to treat	8 (32.0%)
	Referral pathways	7 (28.0%)
	Multi-disciplinary team integration is poor	7 (28.0%)
	Reimbursement/restrictions on approved therapy	6 (24.0%)
	Government/insurance not able to cover patient costs	5 (20.0%)
	Ineffective screening services	4 (16.0%)
	Current available therapies not effective	1 (4.0%)
	Other	1 (4.0%)

Japan
DR Barometer Summary

In Japan, 77 adults with diabetes and 44 health care professionals provided insight into the experiences of living with, managing and treating diabetes, DR and DME. The results help to understand the level of awareness, access and barriers to diabetes management, including screening for DR and DME, and timely treatment.

Japan is estimated to be the fourth most populous country in East Asia with an estimated population of approximately 126 million. Currently, it is estimated that 13% of Japan's population is under the age of 15 while 27% is over the age of 65. Due to Japan's low fertility rates, by 2050, Japan's population is expected to decrease by ~15% (~107 million) and the current population distribution will continue, and in fact become more extreme. In just over 34 years, it is expected that the population aged 65 or older will increase by ~15% and the population under 15 will decrease by ~17.5%. This means that those younger than 15 will only make up ~12% of the country's population (~13.1 million) while those aged 65 or older will make up ~36% of Japan's total population (~39 million).

Japan also has the third highest number of people living with diabetes in the Western Pacific Region at ~7.2 million, which accounts to ~5% of people living with diabetes in this region. Japan is the fourth country in the world for the number of people with impaired glucose tolerance at ~11.9 million and for diabetes-related health expenditure at $29 billion. Deaths attributed to diabetes in Japan, in 2015, were 61,076, which accounts to ~3% of the diabetes-related deaths experienced in this region. The estimated number of undiagnosed cases was ~3.4 million (3,163.7-4,951.8‡).

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. The study also showed that the longer the time since diabetes was diagnosed, the greater the likelihood for DED and DME to be detected. This is an important, and well-known, finding in the context of Japan's rapidly ageing population.

People were most often informed about their condition by a doctor or nurse, but it is important to note that respondents valued traditional media and the internet as valuable sources of information. Surprisingly, only a little more than a quarter of patients were currently enrolled in diabetes management programmes, of which only 62% said there was education on the importance of screening for eye complications.

There was a relatively high awareness of the complications associated with diabetes and the proportion of respondents worried about the consequences was mixed, although vision loss was feared almost two times more than kidney disease and three times more than cardiovascular disease and stroke.

Evidence shows that the relationship between the patient and the health care professional is critical to realistic and optimal patient outcomes yet almost one in five respondents did not receive any information on eye complications from any of the traditional sources, such as their doctor or nurse. It is also important to note that a quarter of patients had either never had a conversation about eye complications or only did so after symptoms arose. Equally concerning is the myths and perceptions around vision changes, almost one in five patients either did not make any special effort to prevent vision problems or believed that vision problems were a normal part of ageing.

Likewise, two-thirds of health care professionals reported that the major barrier to optimising eye health was a lack of knowledge or awareness yet only half of all providers reported having sufficient information on diabetes-related eye health available for their patients.

Guidance was not only an issue for patients, one in three providers said that they did not have any written protocols or guidelines available in the management of diabetes-related vision issues. Even more concerning was guidelines and protocols in the management of diabetes itself, where only 13% of all providers report the use of guidelines in their clinics.

It was a surprise finding that over half (58%) of the ophthalmologists reported to have not undergone specific training in the treatment and diagnosis of DR and / or clinically significant DME. Of those who did, 36% had received this training within the past year and 27% had training between one and five years ago. It is encouraging though that sixty-two percent would be interested in online education and certification on DME, angiogenesis, and anti-VEGF therapies.

Additional barriers cited by providers, and supported by patient responses, were associated with clinical capacities resulting in long wait times on the day of the visit. One in three patients confirmed the greatest barrier for completing an eye exam was the long wait time on the day of the visit.

There was a variance between the provider's perceptions of the overall barriers to eye care compared to the perspectives of patient reported barriers. The providers tended to cite personal barriers such as lack of knowledge, patients having competing priorities or the belief that eye exams were not important, while patients found the health system to be a barrier in ways such as the cost of the exam, length of time on the day of the visit, and proximity to care.

Knowing that diabetes-related vision loss is preventable, addressing barriers to eye screening is an important policy issue and reflecting that 80% of respondents in the overall global survey had undergone a diabetic eye exam, it was alarming to see that in Japan only 59% of respondents, within a purposeful sample, had completed an eye exam in their lifetime.

Overall, 56% of providers recommend annual screenings, yet only 41% of ophthalmologists sent reminders to their patients to schedule an appointment. Almost three-quarters of ophthalmologists stated that the majority of their patients present for screening when visual problems have already occurred rather than in time for the screening and two-thirds of ophthalmologists cited that late diagnosis was one of the greatest challenges for improving outcomes in DED.

Fourteen percent (n=11) of respondents reported to have been diagnosed with DED and a further 3.9% (n=3) with DME. Half of these respondents reported vision issues, which impacted their daily lives, such as working or keeping a job, driving a vehicle, and sadly, difficulty interacting with family or friends. Although small in number, two of the three respondents with DME would prefer proactive treatment to prevent further vision loss rather than reactive treatment once further vision loss occurred.

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

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

References and Acknowledgement

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

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

Appendices

The Diabetic Retinopathy Barometer Survey: Appendices for Japan

APPENDIX 1 : National Results

Table 1.1

Survey Information	Number of Respondents (%)
All valid respondents [1]	82 (100.0%)
Respondents aged 18 or over	82 (100.0%)
Respondents with diabetes	77 (93.9%)

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

Table 1.2

Survey Information	Number of Respondents (%)
All valid respondents	82 (100.0%)
Included in Diabetic Analysis Set	77 (93.9%)
Excluded from Diabetic Analysis Set	5 (6.1%)
Reasons for exclusion from diabetic analysis set	.
Not diagnosed with diabetes	5

Table 1.3

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	77 (100.0%)
World Bank Income Group: High Income	77 (100.0%)
Persons with diabetic eye disease (DED)	11 (14.3%)
Persons with diabetic macular edema (DME)	3 (3.9%)
Persons with Type I diabetes	18 (23.4%)
Persons with Type II diabetes	55 (71.4%)
Persons not seeing health care professional for diabetes	9 (11.7%)
Persons seeing health care professional for diabetes	67 (87.0%)
Persons with eye disease & not received treatment	5 (6.5%)
Persons with eye disease & received treatment	7 (9.1%)

Table 2.1

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	18 (23.4)
	Type II	55 (71.4)
	Don't know/Not sure	4 (5.2)
	Total Valid Response	77 (100.0)

Table 2.2

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	5 (6.6)
	1 - 5 years ago	19 (25.0)
	6 - 10 years ago	15 (19.7)
	11 - 15 years ago	11 (14.5)
	16 - 20 years ago	6 (7.9)
	21 years ago or longer	20 (26.3)
	Total Valid Response	76 (100.0)
	Total missing	1

Table 2.3.1

Question	Response	Number of Respondents (%)
Do you see a health care professional for your diabetes?	Yes	67 (88.2)
	No	9 (11.8)
	Total Valid Response	76 (100.0)
	Total missing	1
What kind of health care professional?	General/Family Doctor	32 (47.8)
	Nurse	1 (1.5)
	Diabetes Specialist	33 (49.3)
	Other	1 (1.5)
	Total Valid Response	67 (100.0)
	Total missing	10

Table 2.3.2

Type of health care professional	Times per year seen for diabetes	Value
General/Family Doctor	Total valid numeric response (n)	25
	Mean	9.5
	SD	5.5
	Median	12.0
	Min	1
	Max	24
	Don't know/Not sure	3
	Total missing	4
Nurse	Total valid numeric response (n)	1
	Mean	2.0
	SD	
	Median	2.0
	Min	2
	Max	2
Diabetes Specialist	Total valid numeric response (n)	27
	Mean	8.2
	SD	3.9
	Median	6.0
	Min	3
	Max	17
	Total missing	6
Other	Don't know/Not sure	1

Table 2.4

Question	Response	Number of Respondents (%)
How have you received information about diabetes?	Doctor or nurse	67 (89.3%)
	Health educator	3 (4.0%)
	Nutritionist or dietitian	17 (22.7%)
	Diabetes organization or other health organization	20 (26.7%)
	Family/Friends/Neighbors	12 (16.0%)

Question	Response	Number of Respondents (%)
	TV/Radio/Newspaper/Magazines	30 (40.0%)
	Internet	50 (66.7%)
	Social media (e.g. Facebook, Twitter, blogs)	14 (18.7%)
	Pharmacist	17 (22.7%)
	None of the above	1 (1.3%)
	Total Valid Response	75 (100.0%)
	Total missing	2

Table 2.5

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	49 (65.3%)
	Oral medicine	39 (52.0%)
	Exercise	32 (42.7%)
	Insulin	33 (44.0%)
	Natural/Herbal medicine	4 (5.3%)
	None of the above	4 (5.3%)
	Total Valid Response	75 (100.0%)
	Total missing	2

Table 2.6

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	21 (28.0)
	No	54 (72.0)
	Total Valid Response	75 (100.0)
	Total missing	2
Who sponsors the programme?	Hospital support program	12 (57.1)
	Pharmaceutical support program	3 (14.3)
	Patient organization support program	6 (28.6)
	Total Valid Response	21 (100.0)

Question	Response	Number of Respondents (%)
	Total missing	56
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	13 (61.9)
	No	8 (38.1)
	Total Valid Response	21 (100.0)
	Total missing	56

Table 2.7

Test	Response	Number of Respondents (%)
Have you ever had the following tests in a doctors office of clinic? And if yes, how long ago		
Blood glucose test	Yes	71 (95.9%)
	Less than 6 months	62 (83.8%)
	6 - 12 months	5 (6.8%)
	Greater than 12 months	4 (5.4%)
	Total valid response	71 (95.9%)
	Total missing	6
	Don't know/Not sure	3 (4.1%)
	Total valid response	74 (100.0%)
	Total missing	3
Urine check	Yes	67 (90.5%)
	Less than 6 months	52 (70.3%)
	6 - 12 months	8 (10.8%)
	Greater than 12 months	7 (9.5%)
	Total valid response	67 (90.5%)
	Total missing	10

Test	Response	Number of Respondents (%)
	No	4 (5.4%)
	Don't know/Not sure	3 (4.1%)
	Total valid response	74 (100.0%)
	Total missing	3
Weight check	Yes	70 (94.6%)
	Less than 6 months	56 (75.7%)
	6 - 12 months	8 (10.8%)
	Greater than 12 months	6 (8.1%)
	Total valid response	70 (94.6%)
	Total missing	7
	No	2 (2.7%)
	Don't know/Not sure	2 (2.7%)
	Total valid response	74 (100.0%)
	Total missing	3
Blood pressure check	Yes	70 (94.6%)
	Less than 6 months	61 (82.4%)
	6 - 12 months	4 (5.4%)
	Greater than 12 months	5 (6.8%)
	Total valid response	70 (94.6%)
	Total missing	7
	No	1 (1.4%)
	Don't know/Not sure	3 (4.1%)
	Total valid response	74 (100.0%)
	Total missing	3
Foot check	Yes	27 (37.0%)

Test	Response	Number of Respondents (%)
	Less than 6 months	13 (17.8%)
	6 - 12 months	5 (6.8%)
	Greater than 12 months	9 (12.3%)
	Total valid response	27 (37.0%)
	Total missing	50
	No	42 (57.5%)
	Don't know/Not sure	4 (5.5%)
	Total valid response	73 (100.0%)
	Total missing	4
Eye check	Yes	60 (81.1%)
	Less than 6 months	36 (48.6%)
	6 - 12 months	14 (18.9%)
	Greater than 12 months	10 (13.5%)
	Total valid response	60 (81.1%)
	Total missing	17
	No	12 (16.2%)
	Don't know/Not sure	2 (2.7%)
	Total valid response	74 (100.0%)
	Total missing	3

Table 2.8

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	13 (17.6%)
	Well	37 (50.0%)
	Not very well	18 (24.3%)

Question	Response	Number of Respondents (%)
	Not well at all	4 (5.4%)
	Don't know/Not sure	2 (2.7%)
	Total Valid Response	74 (100.0%)
	Total missing	3

Table 2.9

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	42 (56.8%)
	No insurance	8 (10.8%)
	Travel to my regular doctor or specialist is difficult	5 (6.8%)
	Long wait time for an appointment to see my doctor or specialist	3 (4.1%)
	Health services needed are not available	2 (2.7%)
	Don't know enough about diabetes	4 (5.4%)
	Too hard to eat the right things	33 (44.6%)
	Too many other things to do	10 (13.5%)
	Stigma or discrimination because of diabetes	5 (6.8%)
	Don't want to think about having diabetes	9 (12.2%)
	Other	3 (4.1%)
	Total Valid Response	74 (100.0%)
	Total missing	3

Table 2.10

Question	Response	Number of Respondents (%)
Which of the following services currently help you better manage your diabetes?	Free or low cost medicines or monitoring materials	21 (28.8%)
	Support groups	18 (24.7%)

Question	Response	Number of Respondents (%)
	Support from family or friends	29 (39.7%)
	Health education and information	6 (8.2%)
	Mobile services (services that travel to or near your home)	1 (1.4%)
	Coordination of healthcare and services by a professional	13 (17.8%)
	Emergency helpline	5 (6.8%)
	Other	2 (2.7%)
	None	17 (23.3%)
	Total Valid Response	73 (100.0%)
	Total missing	4

Table 2.11

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	56 (75.7%)
	Foot ulcers	57 (77.0%)
	Increased risk of broken bones or fractures	17 (23.0%)
	Loss of feeling in hands or toes (neuropathy)	48 (64.9%)
	Vision loss	61 (82.4%)
	Irritable bowel disease	5 (6.8%)
	Kidney disease	49 (66.2%)
	Cardiovascular disease/Stroke	45 (60.8%)
	Other	9 (12.2%)
	Don't know/Not sure	2 (2.7%)
	None	5 (6.8%)
	Total Valid Response	74 (100.0%)
	Total missing	3

Table 2.12

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	6 (8.2)
	Foot ulcers	3 (4.1)
	Increased risk of broken bones or fractures	1 (1.4)
	Loss of feeling in hands or toes (neuropathy)	6 (8.2)
	Vision loss	32 (43.8)
	Irritable bowel disease	1 (1.4)
	Kidney disease	12 (16.4)
	Cardiovascular disease/Stroke	9 (12.3)
	Other	1 (1.4)
	Don't know/Not sure	2 (2.7)
	Total Valid Response	73 (100.0)
	Total missing	4

Table 2.13

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	1 (1.4%)
	Foot ulcers	1 (1.4%)
	Broken bones or fractures	1 (1.4%)
	Loss of feeling in hands or toes (neuropathy)	8 (11.0%)
	Vision loss	2 (2.7%)
	Irritable bowel disease	2 (2.7%)
	Kidney disease	4 (5.5%)
	Cardiovascular disease/Stroke	5 (6.8%)
	Other	1 (1.4%)
	Don't know/Not sure	5 (6.8%)
	None	50 (68.5%)
	Total Valid Response	73 (100.0%)
	Total missing	4

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	8 (11.0%)
	Multiple times per year	28 (38.4%)
	Once per year	16 (21.9%)
	Only when symptoms arise	7 (9.6%)
	Never	12 (16.4%)
	Don't know/Not sure	2 (2.7%)
	Total Valid Response	73 (100.0%)
	Total missing	4

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	13 (18.1%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit specialists)	48 (66.7%)
	I do not make any special effort to prevent vision problems	14 (19.4%)
	Total Valid Response	72 (100.0%)
	Total missing	5

Table 2.16

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	40 (55.6)
	Public - Private	28 (38.9)
	Private	4 (5.6)
	Total Valid Response	72 (100.0)
	Total missing	5

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	4 (5.6)
	Insurance pays total cost	6 (8.5)
	Insurance and out-of-pocket/cash (e.g. co-pays)	57 (80.3)
	Out-of-pocket only (pay cash for all care)	1 (1.4)
	Do not use service	1 (1.4)
	Don't know/Not Sure	2 (2.8)
	Total Valid Response	71 (100.0)
	Total missing	6
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	4 (5.6)
	Insurance pays total cost	6 (8.3)
	Insurance and out-of-pocket/cash (e.g. co-pays)	56 (77.8)
	Out-of-pocket only (pay cash for all care)	1 (1.4)
	Do not use service	4 (5.6)
	Don't know/Not Sure	1 (1.4)
	Total Valid Response	72 (100.0)
	Total missing	5
Medicines	Care is free	6 (8.5)
	Insurance pays total cost	5 (7.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	57 (80.3)
	Out-of-pocket only (pay cash for all care)	1 (1.4)
	Do not use service	1 (1.4)
	Don't know/Not Sure	1 (1.4)
	Total Valid Response	71 (100.0)
	Total missing	6
Medical supplies (e.g. blood glucose meter/strips)	Care is free	9 (12.5)

Question	Response	Number of Respondents (%)
	Insurance pays total cost	3 (4.2)
	Insurance and out-of-pocket/cash (e.g. co-pays)	41 (56.9)
	Out-of-pocket only (pay cash for all care)	5 (6.9)
	Do not use service	12 (16.7)
	Don't know/Not Sure	2 (2.8)
	Total Valid Response	72 (100.0)
	Total missing	5
Procedures	Care is free	5 (6.9)
	Insurance pays total cost	5 (6.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	57 (79.2)
	Out-of-pocket only (pay cash for all care)	1 (1.4)
	Do not use service	2 (2.8)
	Don't know/Not Sure	2 (2.8)
	Total Valid Response	72 (100.0)
	Total missing	5
Tests/screenings	Care is free	5 (6.9)
	Insurance pays total cost	4 (5.6)
	Insurance and out-of-pocket/cash (e.g. co-pays)	60 (83.3)
	Out-of-pocket only (pay cash for all care)	2 (2.8)
	Don't know/Not Sure	1 (1.4)
	Total Valid Response	72 (100.0)
	Total missing	5
Health education	Care is free	1 (1.4)
	Insurance pays total cost	2 (2.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	21 (30.0)
	Out-of-pocket only (pay cash for all care)	4 (5.7)
	Do not use service	37 (52.9)

Question	Response	Number of Respondents (%)
	Don't know/Not Sure	5 (7.1)
	Total Valid Response	70 (100.0)
	Total missing	7
Counseling	Care is free	3 (4.3)
	Insurance pays total cost	2 (2.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	16 (23.2)
	Out-of-pocket only (pay cash for all care)	3 (4.3)
	Do not use service	37 (53.6)
	Don't know/Not Sure	8 (11.6)
	Total Valid Response	69 (100.0)
	Total missing	8

Table 3.1

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	19 (26.0%)
	No	54 (74.0%)
	Total valid response	73 (100.0%)
	Total missing	4

Table 3.2

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	43 (58.9%)
	No	30 (41.1%)
	Total valid response	73 (100.0%)
	Total missing	4
How long ago was your last eye exam?	Within the last year	37 (86.0%)
	More than 1 year ago but less than 2 years	3 (7.0%)

Question	Response	Number of Respondents (%)
	More than 2 years ago but less than 3 years	1 (2.3%)
	Five or more years ago	2 (4.7%)
	Total valid response	43 (100.0%)
	Total missing	34
Who did the last exam?	General/Family practitioner	11 (25.6%)
	Eye doctor/Eye clinic	30 (69.8%)
	Other	2 (4.7%)
	Total valid response	43 (100.0%)
	Total missing	34

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	57 (78.1%)
	No	12 (16.4%)
	Don't know/Not sure	4 (5.5%)
	Total valid response	73 (100.0%)
	Total missing	4

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	56 (76.7%)
	Less often than every two years	3 (4.1%)
	Only when symptoms occur	1 (1.4%)
	Don't know/Not sure	13 (17.8%)
	Total valid response	73 (100.0%)
	Total missing	4

Table 3.5

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	21 (31.3%)
	Eye exams are not available near my home	10 (14.9%)
	Long wait time for appointment	4 (6.0%)
	Long wait time on the day of the visit	23 (34.3%)
	Referral process is complicated or takes too long	3 (4.5%)
	Don't know much about my condition	9 (13.4%)
	Fear of treatment/results	5 (7.5%)
	Burden on my family/friends	2 (3.0%)
	Limited access to diabetes specialists	1 (1.5%)
	I'm not likely to have eye complications	10 (14.9%)
	Eye exams are not important	2 (3.0%)
	Too many other things to do or worry about	5 (7.5%)
	Clinics are too small or lack necessary equipment/staff	1 (1.5%)
	Other	9 (13.4%)
	Total valid response	67 (100.0%)
	Total missing	10

Table 3.6

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	13 (17.8%)
	No	60 (82.2%)
	Total valid response	73 (100.0%)
	Total missing	4
Has your diabetic eye disease affected your vision?	Yes, slightly	6 (46.2%)
	Yes, significantly	1 (7.7%)
	No	6 (46.2%)

Question	Response	Number of Respondents (%)
	Total valid response	13 (100.0%)
	Total missing	64
Have vision issues caused you to have difficulty with any of the following?	Social interactions with family/friends	1 (14.3%)
	Work or keeping a job	1 (14.3%)
	Other	2 (28.6%)
	None	2 (28.6%)
	Driving (a car/vehicle)	2 (28.6%)
	Total valid response	7 (100.0%)
	Total missing	70

Table 3.7

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	7 (53.8%)
	No	5 (38.5%)
	Don't know/Not sure	1 (7.7%)
	Total valid response	13 (100.0%)
	Total missing	64
What treatment did you receive?	Laser	5 (71.4%)
	Injection in the eye (Anti-VEGF)	1 (14.3%)
	Other	1 (14.3%)
	Total valid response	7 (100.0%)
	Total missing	70
Did you complete the treatment?	Yes	4 (57.1%)
	Still receiving treatment	2 (28.6%)
	Don't know/Not sure	1 (14.3%)
	Total valid response	7 (100.0%)
	Total missing	70
Do you feel that the treatment worked?	Yes, and vision improved	3 (42.9%)
	Yes, but vision stayed the same	2 (28.6%)

Question	Response	Number of Respondents (%)
	No	1 (14.3%)
	Don't know/Not sure	1 (14.3%)
	Total valid response	7 (100.0%)
	Total missing	70
What is/are the reason(s) that you did not complete the treatment?	Total missing	77
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)
	Other	2 (40.0%)
	Total valid response	5 (100.0%)
	Total missing	72

Table 3.8

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	3 (4.1%)
	No	68 (93.2%)
	Don't know/Not sure	2 (2.7%)
	Total valid response	73 (100.0%)
	Total missing	4
If Yes, which of the following would you prefer	Only treatment when vision loss has occurred	2 (100.0%)
	Total valid response	2 (100.0%)
	Total missing	75

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	47 (64.4%)
	Diabetes organization or other health organization	11 (15.1%)
	Family/Friends/Neighbors	3 (4.1%)

Question	Response	Number of Respondents (%)
	TV/Radio/Newspaper/Magazines	14 (19.2%)
	Internet	29 (39.7%)
	None of the above	14 (19.2%)
	Total valid response	73 (100.0%)
	Total missing	4

Table 4.1

Question	Response	Number of Respondents (%)
What is your gender?	Female	15 (21.1)
	Male	56 (78.9)
	Total Valid Response	71 (100.0)
	Total missing	6
Please indicate your age	18 - 29	3 (3.9)
	30 - 39	14 (18.2)
	40 - 49	14 (18.2)
	50 - 59	19 (24.7)
	60 - 69	19 (24.7)
	70 - 79	6 (7.8)
	80 - 89	2 (2.6)
	Total Valid Response	77 (100.0)

Table 4.2

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	40 (54.8)
	Non-urban setting	33 (45.2)
	Total Valid Response	73 (100.0)
	Total missing	4

Table 4.3

Question	Response	Number of Respondents (%)
What is the highest level of education you completed?	Junior high school	1 (1.4)

Question	Response	Number of Respondents (%)
	High school	20 (27.8)
	College/University	43 (59.7)
	Graduate or post-graduate	8 (11.1)
	Total valid response	72 (100.0)
	Total missing	5

Table 4.4

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	45 (61.6)
	Working without pay at home (e.g. housework, farming)	4 (5.5)
	Volunteering	3 (4.1)
	Retired	13 (17.8)
	Not working	8 (11.0)
	Total Valid Response	73 (100.0)
	Total missing	4

Table 4.5

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Income assistance	2 (2.8%)
	Medical assistance	10 (13.9%)
	Food assistance	2 (2.8%)
	Housing assistance	2 (2.8%)
	Pension assistance	19 (26.4%)
	None of the above	44 (61.1%)
	Total valid response	72 (100.0%)
	Total missing	5

Table 4.6

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	6 (8.5)
	No	65 (91.5)
	Total Valid Response	71 (100.0)
	Total missing	6

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	3 (4.3)
	Education	1 (1.4)
	Ethnicity	1 (1.4)
	Gender	1 (1.4)
	Income	14 (20.0)
	Place where you live	3 (4.3)
	Religion	1 (1.4)
	None of the above	52 (74.3)
	Total valid response	70 (100.0)
	Total missing	7

Table 4.8

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Housing	3 (4.1)
	Money	23 (31.5)
	Health	35 (47.9)
	Family	7 (9.6)
	None of the above	5 (6.8)
	Total Valid Response	73 (100.0)

Question	Response	Number of Respondents (%)
	Total missing	4

Table 5.1

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Excellent	1 (1.4%)
	Very good	8 (11.3%)
	Good	18 (25.4%)
	Total good health	27 (38.0%)
	Fair	33 (46.5%)
	Poor	11 (15.5%)
	Fair or poor health	44 (62.0%)
	Total valid response	71 (100.0%)
	Total missing	6

Table 5.2

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	17 (30.4%)
	1-5 unhealthy days	9 (16.1%)
	6-10 unhealthy days	1 (1.8%)
	11-20 unhealthy days	5 (8.9%)
	21-30 unhealthy days	2 (3.6%)
	No unhealthy days	39 (69.6%)
	Total valid response	56 (100.0%)
	Total missing	21

Table 5.3.1

Question	Response	Number of Respondents (%)

Question	Response	Number of Respondents (%)
How many days during last 30 days was your mental health not good	Any unhealthy days	10 (17.2%)
	1-5 unhealthy days	6 (10.3%)
	6-10 unhealthy days	2 (3.4%)
	11-20 unhealthy days	1 (1.7%)
	21-30 unhealthy days	1 (1.7%)
	No unhealthy days	48 (82.8%)
	Total valid response	58 (100.0%)
	Total missing	19

Table 5.3.2

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	19 (35.2%)
	1-5 unhealthy days	5 (9.3%)
	6-10 unhealthy days	5 (9.3%)
	11-20 unhealthy days	6 (11.1%)
	21-30 unhealthy days	3 (5.6%)
	No unhealthy days	35 (64.8%)
	Total valid response	54 (100.0%)

Table 5.4

Question	Response	Number of Respondents (%)
How many days during last 30 days did poor health limit your usual activities	Any unhealthy days	7 (24.1%)

Question	Response	Number of Respondents (%)
	1-5 unhealthy days	6 (20.7%)
	21-30 unhealthy days	1 (3.4%)
	No unhealthy days	22 (75.9%)
	Total valid response	29 (100.0%)
	Total missing	48

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	16 (22.5%)
	No	55 (77.5%)
	Total valid response	71 (100.0%)
	Total missing	6
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	2 (12.5%)
	No	13 (81.3%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	61
b) Back or neck problem	Yes	10 (62.5%)
	No	6 (37.5%)
	Total valid response	16 (100.0%)
	Total missing	61
c) Fractures, bone/joint injury	Yes	2 (12.5%)
	No	14 (87.5%)
	Total valid response	16 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	61
d) Walking problem	Yes	4 (25.0%)
	No	11 (68.8%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	61
e) Lung/breathing problem	Yes	1 (6.3%)
	No	15 (93.8%)
	Total valid response	16 (100.0%)
	Total missing	61
f) Hearing problem	No	16 (100.0%)
	Total valid response	16 (100.0%)
	Total missing	61
g) Eye/vision problem	Yes	2 (12.5%)
	No	12 (75.0%)
	Don't know/Not sure	2 (12.5%)
	Total valid response	16 (100.0%)
	Total missing	61
h) Heart problem	Yes	3 (18.8%)
	No	12 (75.0%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	61
i) Stroke problem	Yes	1 (6.3%)
	No	15 (93.8%)
	Total valid response	16 (100.0%)
	Total missing	61

Question	Response	Number of Respondents (%)
j) Hypertension/high blood pressure	Yes	5 (31.3%)
	No	10 (62.5%)
	Don't know/Not sure	1 (6.3%)
	Total valid response	16 (100.0%)
	Total missing	61
k) Diabetes	Yes	9 (52.9%)
	No	7 (41.2%)
	Don't know/Not sure	1 (5.9%)
	Total valid response	17 (100.0%)
	Total missing	60
l) Cancer	Yes	2 (12.5%)
	No	14 (87.5%)
	Total valid response	16 (100.0%)
	Total missing	61
m) Mental or emotional health	Yes	6 (35.3%)
	No	11 (64.7%)
	Total valid response	17 (100.0%)
	Total missing	60

PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	44 (100.0%)
Included in Provider Analysis Set (PAS)	44 (100.0%)
Excluded in Provider Analysis Set (PAS)	0 (0.0%)
Reasons for exclusion from Provider Analysis Set:	
No other valid survey data	0
Provider Analysis Set	44

Analysis Sets	Number of Respondents (%)
Included in the Eye Care Professional Set (Eye Specialist)	30 (68.2%)
Excluded in the Eye Care Professional Set (Eye Specialist)	14 (31.8%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	14
No valid (non-missing) response for the supplemental eye questionnaire	0

PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	44 (100.0%)
Primary Care Provider	4 (9.1%)
Diabetes Specialist Provider	3 (6.8%)
Eye Care Professional	30 (68.2%)
Ophthalmologist	30 (68.2%)

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	4 (100.0%)	1 (33.3%)	1 (3.3%)	6 (13.6%)
	Diabetes specialist	0 (0.0%)	3 (100.0%)	4 (13.3%)	7 (15.9%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	13 (43.3%)	13 (29.5%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	18 (60.0%)	18 (40.9%)
	Nurse	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Health educator	0 (0.0%)	2 (66.7%)	1 (3.3%)	3 (6.8%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (15.9%)
	Total valid response	4 (100.0%)	3 (100.0%)	30 (100.0%)	44 (100.0%)

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	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)	4	3	29	43
	Mean	17.5	12.7	17.6	17.7
	SD	17.6	11.0	12.2	12.5
	Median	17.5	18.0	18.0	18.0
	Min.	0	0	0	0
	Max.	35	20	40	40
	Total missing	0	0	1	1

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%)	0 (0.0%)	0 (0.0%)	1 (2.6%)
	Eye clinic/practice	0 (0.0%)	0 (0.0%)	3 (10.7%)	3 (7.9%)
	General medical clinic/practice	1 (33.3%)	1 (50.0%)	1 (3.6%)	3 (7.9%)
	Hospital	2 (66.7%)	0 (0.0%)	23 (82.1%)	28 (73.7%)
	Other	0 (0.0%)	1 (50.0%)	1 (3.6%)	3 (7.9%)
	Total Valid Response	3 (100.0%)	2 (100.0%)	28 (100.0%)	38 (100.0%)
	Total missing	1	1	2	6

PT 2.2

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	3 (100.0%)	1 (50.0%)	20 (71.4%)	29 (76.3%)
	Non-urban setting	0 (0.0%)	1 (50.0%)	8 (28.6%)	9 (23.7%)
	Total Valid Response	3 (100.0%)	2 (100.0%)	28 (100.0%)	38 (100.0%)
	Total missing	1	1	2	6

PT 2.3

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In which sector is your main practice?	Government	0 (0.0%)	1 (50.0%)	7 (25.0%)	9 (23.7%)
	Private	2 (66.7%)	1 (50.0%)	18 (64.3%)	24 (63.2%)
	Non profit	1 (33.3%)	0 (0.0%)	0 (0.0%)	1 (2.6%)
	Combined/mixed	0 (0.0%)	0 (0.0%)	3 (10.7%)	4 (10.5%)
	Total Valid Response	3 (100.0%)	2 (100.0%)	28 (100.0%)	38 (100.0%)
	Total missing	1	1	2	6

PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	2 (66.7%)	1 (50.0%)	24 (85.7%)	31 (81.6%)
	Yes, limited by age	0 (0.0%)	0 (0.0%)	2 (7.1%)	3 (7.9%)
	Yes, limited by gender	0 (0.0%)	1 (50.0%)	0 (0.0%)	1 (2.6%)
	Yes, limited to persons with health insurance	1 (33.3%)	0 (0.0%)	2 (7.1%)	4 (10.5%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Yes, limited to persons who pay out-of-pocket	0 (0.0%)	0 (0.0%)	1 (3.6%)	1 (2.6%)
	Total valid response	3 (100.0%)	2 (100.0%)	28 (100.0%)	38 (100.0%)
	Total missing	1	1	2	6

PT 2.5

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the average wait time for an appointment in your main practice?	Less than 1 week	2 (66.7%)	0 (0.0%)	8 (28.6%)	13 (35.1%)
	More than 1 week but less than 1 month	0 (0.0%)	0 (0.0%)	12 (42.9%)	12 (32.4%)
	More than 1 month but less than 2 months	0 (0.0%)	1 (100.0%)	2 (7.1%)	3 (8.1%)
	More than 2 months but less than 3 months	0 (0.0%)	0 (0.0%)	1 (3.6%)	1 (2.7%)
	Do not take appointments	0 (0.0%)	0 (0.0%)	2 (7.1%)	4 (10.8%)
	Other	1 (33.3%)	0 (0.0%)	1 (3.6%)	2 (5.4%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	2 (7.1%)	2 (5.4%)
	Total Valid Response	3 (100.0%)	1 (100.0%)	28 (100.0%)	37 (100.0%)
	Total missing	1	2	2	7

PT 2.6

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
On average, how many	Total valid	3	1	27	35

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
patients do you see per week in your main practice [n patients]	response (n)				
	Mean	44	50	78.4	82.9
	SD	50.5	.	61.7	70
	Median	30	50	70	70
	Min.	2	50	1	1
	Max.	100	50	300	300
	Total missing	1	2	3	9
What percentage of the patients in your main practice have diabetes [% patients]	Total valid response (n)	3	1	27	35
	Mean	10	40	25.9	27.4
	SD	8.7	.	20	22.9
	Median	5	40	20	20
	Min.	5	40	1	1
	Max.	20	40	70	100
	Total missing	1	2	3	9

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	0 (0.0%)	1 (100.0%)	2 (7.1%)	3 (8.3%)
	Pay a reduced/subsidized rate	0 (0.0%)	0 (0.0%)	10 (35.7%)	10 (27.8%)
	Pay out-of-pocket (full fees)	0 (0.0%)	0 (0.0%)	1 (3.6%)	2 (5.6%)
	Pay through	0 (0.0%)	0 (0.0%)	9 (32.1%)	10

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	insurance				(27.8%)
	Patient pays some, insurance pays some	3 (100.0%)	0 (0.0%)	11 (39.3%)	17 (47.2%)
	Total valid response	3 (100.0%)	1 (100.0%)	28 (100.0%)	36 (100.0%)
	Total missing	1	2	2	8

PT 2.8

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
In addition to your main practice, do you work in another practice setting?	Yes	1 (33.3%)	1 (50.0%)	23 (82.1%)	26 (68.4%)
	No	2 (66.7%)	1 (50.0%)	5 (17.9%)	12 (31.6%)
	Total valid response	3 (100.0%)	2 (100.0%)	28 (100.0%)	38 (100.0%)
	Total missing	1	1	2	6
In which other practice setting(s) do you work?	Hospital			15 (65.2%)	15 (57.7%)
	General medical clinic/practice	1 (100.0%)	1 (100.0%)	4 (17.4%)	7 (26.9%)
	Diabetes clinic/practice			2 (8.7%)	2 (7.7%)
	Eye clinic/practice			10 (43.5%)	10 (38.5%)
	Other	1 (100.0%)		1 (4.3%)	2 (7.7%)
	Total valid response	1 (100.0%)	1 (100.0%)	23 (100.0%)	26 (100.0%)
	Total missing	3	2	7	18
In which sector(s) is(are) the practice(s)?	Government			4 (17.4%)	4 (15.4%)
	Private		1 (100.0%)	17 (73.9%)	19

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
					(73.1%)
	Non profit	1 (100.0%)			1 (3.8%)
	Combined/mixed			2 (8.7%)	2 (7.7%)
	Total valid response	1 (100.0%)	1 (100.0%)	23 (100.0%)	26 (100.0%)
	Total missing	3	2	7	18
Is there a major difference between your practices with respect to how diabetic eye disease is screened and managed?	Yes	1 (100.0%)	1 (100.0%)	8 (34.8%)	11 (42.3%)
	No			15 (65.2%)	15 (57.7%)
	Total valid response	1 (100.0%)	1 (100.0%)	23 (100.0%)	26 (100.0%)
	Total missing	3	2	7	18

PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		3 (100.0%)	1 (100.0%)	8 (33.3%)	13 (43.3%)
		Total valid numeric response (n)	3 (100.0%)	0 (0.0%)	8 (33.3%)	11 (36.7%)
		Mean	5.7		7.1	6.7
		SD	4.5		7.9	7.0
		Median	6.0		3.5	4.0
		Min	1		2	1
		Max	10		25	25
		Total missing	1	3	22	33
	No				16 (66.7%)	17 (56.7%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total valid response		3 (100.0%)	1 (100.0%)	24 (100.0%)	30 (100.0%)
	Total missing		1	2	6	14
HbA1c	Yes		3 (100.0%)	1 (100.0%)	10 (40.0%)	15 (48.4%)
		Total valid numeric response (n)	2 (66.7%)	0 (0.0%)	10 (40.0%)	12 (38.7%)
		Mean	8.0		5.3	5.8
		SD	2.8		3.3	3.3
		Median	8.0		4.0	5.0
		Min	6		2	2
		Max	10		12	12
		Total missing	2	3	20	32
	No				15 (60.0%)	16 (51.6%)
	Total valid response		3 (100.0%)	1 (100.0%)	25 (100.0%)	31 (100.0%)
	Total missing		1	2	5	13
Urine check	Yes		3 (100.0%)		5 (21.7%)	9 (31.0%)
		Total valid numeric response (n)	3 (100.0%)	0 (0.0%)	5 (21.7%)	8 (27.6%)
		Mean	5.7		8.6	7.5
		SD	4.5		10.2	8.2
		Median	6.0		3.0	4.5
		Min	1		1	1
		Max	10		25	25
		Total missing	1	3	25	36
	No			1 (100.0%)	18 (78.3%)	20

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
						(69.0%)
	Total valid response		3 (100.0%)	1 (100.0%)	23 (100.0%)	29 (100.0%)
	Total missing		1	2	7	15
Weight check	Yes		3 (100.0%)		3 (13.0%)	7 (24.1%)
		Total valid numeric response (n)	3 (100.0%)	0 (0.0%)	3 (13.0%)	6 (20.7%)
		Mean	7.7		13.3	10.5
		SD	5.9		11.1	8.5
		Median	10.0		12.0	11.0
		Min	1		3	1
		Max	12		25	25
		Total missing	1	3	27	38
	No			1 (100.0%)	20 (87.0%)	22 (75.9%)
	Total valid response		3 (100.0%)	1 (100.0%)	23 (100.0%)	29 (100.0%)
	Total missing		1	2	7	15
Blood pressure check	Yes		3 (100.0%)	1 (100.0%)	7 (29.2%)	12 (40.0%)
		Total valid numeric response (n)	3 (100.0%)	0 (0.0%)	7 (29.2%)	10 (33.3%)
		Mean	8.0		7.6	7.7
		SD	5.3		8.5	7.4
		Median	10.0		4.0	5.0
		Min	2		1	1
		Max	12		25	25
		Total missing	1	3	23	34

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No				17 (70.8%)	18 (60.0%)
	Total valid response		3 (100.0%)	1 (100.0%)	24 (100.0%)	30 (100.0%)
	Total missing		1	2	6	14
Foot check	Yes		1 (33.3%)		4 (17.4%)	5 (17.9%)
		Total valid numeric response (n)	1 (33.3%)	0 (0.0%)	4 (17.4%)	5 (17.9%)
		Mean	1.0		7.3	6.0
		SD			11.9	10.7
		Median	1.0		2.0	1.0
		Min	1		0	0
		Max	1		25	25
		Total missing	3	3	26	39
	No		2 (66.7%)	1 (100.0%)	19 (82.6%)	23 (82.1%)
	Total valid response		3 (100.0%)	1 (100.0%)	23 (100.0%)	28 (100.0%)
	Total missing		1	2	7	16
Eye examination - Un-dilated	Yes		1 (33.3%)	1 (100.0%)	13 (54.2%)	16 (55.2%)
		Total valid numeric response (n)	1 (33.3%)	0 (0.0%)	13 (54.2%)	15 (51.7%)
		Mean	1.0		2.7	2.7
		SD			2.6	2.5
		Median	1.0		2.0	2.0
		Min	1		0	0
		Max	1		10	10

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Total missing	3	3	17	29
	No		2 (66.7%)		11 (45.8%)	13 (44.8%)
	Total valid response		3 (100.0%)	1 (100.0%)	24 (100.0%)	29 (100.0%)
	Total missing		1	2	6	15
Eye examination - Optical Coherence Tomography	Yes		1 (33.3%)	1 (100.0%)	25 (92.6%)	28 (87.5%)
		Total valid numeric response (n)	1 (33.3%)	0 (0.0%)	25 (92.6%)	27 (84.4%)
		Mean	1.0		18.8	17.6
		SD			72.2	69.5
		Median	1.0		4.0	4.0
		Min	1		1	1
		Max	1		365	365
		Total missing	3	3	5	17
	No		2 (66.7%)		2 (7.4%)	4 (12.5%)
	Total valid response		3 (100.0%)	1 (100.0%)	27 (100.0%)	32 (100.0%)
	Total missing		1	2	3	12
Eye examination - Fundoscopy	Yes		1 (33.3%)		26 (96.3%)	28 (87.5%)
		Total valid numeric response (n)	1 (33.3%)	0 (0.0%)	26 (96.3%)	28 (87.5%)
		Mean	1.0		17.8	16.7
		SD			70.9	68.3

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Median	1.0		4.0	4.0
		Min	1		0	0
		Max	1		365	365
		Total missing	3	3	4	16
	No		2 (66.7%)	1 (100.0%)	1 (3.7%)	4 (12.5%)
	Total valid response		3 (100.0%)	1 (100.0%)	27 (100.0%)	32 (100.0%)
	Total missing		1	2	3	12
Eye examination - Fluorescein Angiography	Yes		1 (33.3%)	1 (100.0%)	24 (96.0%)	27 (90.0%)
		Total valid numeric response (n)	1 (33.3%)	0 (0.0%)	23 (92.0%)	25 (83.3%)
		Mean	1.0		14.2	13.1
		SD			62.3	59.8
		Median	1.0		1.0	1.0
		Min	1		0	0
		Max	1		300	300
		Total missing	3	3	7	19
	No		2 (66.7%)		1 (4.0%)	3 (10.0%)
	Total valid response		3 (100.0%)	1 (100.0%)	25 (100.0%)	30 (100.0%)
	Total missing		1	2	5	14
Eye examination - Lipid check	Yes				5 (20.8%)	5 (17.2%)
		Total valid numeric	0 (0.0%)	0 (0.0%)	5 (20.8%)	5 (17.2%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		response (n)				
		Mean			2.4	2.4
		SD			2.6	2.6
		Median			2.0	2.0
		Min			0	0
		Max			6	6
		Total missing	4	3	25	39
	No		3 (100.0%)	1 (100.0%)	19 (79.2%)	24 (82.8%)
	Total valid response		3 (100.0%)	1 (100.0%)	24 (100.0%)	29 (100.0%)
	Total missing		1	2	6	15

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	2 (66.7%)	0 (0.0%)	9 (33.3%)	11 (35.5%)
	Diet/nutrition	2 (66.7%)	0 (0.0%)	8 (29.6%)	10 (32.3%)
	Exercise/physical activity	2 (66.7%)	0 (0.0%)	6 (22.2%)	8 (25.8%)
	Medicines	2 (66.7%)	0 (0.0%)	10 (37.0%)	12 (38.7%)
	Foot care and inspection	0 (0.0%)	0 (0.0%)	5 (18.5%)	5 (16.1%)
	Blood pressure	3 (100.0%)	0 (0.0%)	8 (29.6%)	11 (35.5%)
	Eye care and exams	0 (0.0%)	0 (0.0%)	24 (88.9%)	25 (80.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Lipid check	3 (100.0%)	0 (0.0%)	6 (22.2%)	9 (29.0%)
	None of the above	0 (0.0%)	0 (0.0%)	1 (3.7%)	1 (3.2%)
	Total valid response	3 (100.0%)	0	27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13

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	1 (33.3%)	0 (0.0%)	16 (59.3%)	17 (53.1%)
	Yes, but information on eye complications is not sufficient	2 (66.7%)	0 (0.0%)	5 (18.5%)	9 (28.1%)
	No written information is available for patients	0 (0.0%)	0 (0.0%)	3 (11.1%)	3 (9.4%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	3 (11.1%)	3 (9.4%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

PT 2.12

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines available in your main practice for the management of diabetes?	Yes, available and used by staff	0 (0.0%)	0 (0.0%)	4 (14.8%)	4 (12.9%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Yes, available but not used by staff	2 (66.7%)	0 (0.0%)	1 (3.7%)	3 (9.7%)
	Not available	1 (33.3%)	0 (0.0%)	10 (37.0%)	11 (35.5%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	12 (44.4%)	13 (41.9%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13

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	0 (0.0%)	0 (0.0%)	7 (25.9%)	7 (22.6%)
	Yes, available but not used by staff	1 (33.3%)	0 (0.0%)	2 (7.4%)	3 (9.7%)
	Not available	2 (66.7%)	0 (0.0%)	8 (29.6%)	11 (35.5%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	10 (37.0%)	10 (32.3%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13

PT 2.14

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type I?	After a predetermined number of years (numeric response) (n)	1 (33.3%)	0	1 (3.7%)	2 (6.5%)
	Mean	2.0		1.0	1.5
	SD				0.7
	Median	2.0		1.0	1.5
	Min	2		1	1
	Max	2		1	2
	After a predetermined age (numeric response) (n)	0 (0.0%)	0	0 (0.0%)	0 (0.0%)
	Mean				
	SD				
	Median				
	Min				
	Max				
	As soon as they are diagnosed			12 (44.4%)	12 (38.7%)
	When a patient reports eye/vision problems	1 (33.3%)			1 (3.2%)
	No standard practice, timing varies case by case	1 (33.3%)		9 (33.3%)	11 (35.5%)
	Don't know/Not sure			5 (18.5%)	5 (16.1%)
	Total valid response	3 (100.0%)		27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13
What is the protocol in your main practice for timing of initial eye exams for persons	After a predetermined number of years (numeric response) (n)	0 (0.0%)	0	0 (0.0%)	0 (0.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
with diabetes - Type II?					
	Mean				
	SD				
	Median				
	Min				
	Max				
	After a predetermined age (numeric response) (n)	1 (33.3%)	0	0 (0.0%)	1 (3.2%)
	Mean	2.0			2.0
	SD				
	Median	2.0			2.0
	Min	2			2
	Max	2			2
	As soon as they are diagnosed	1 (33.3%)		18 (66.7%)	19 (61.3%)
	When a patient reports eye/vision problems	1 (33.3%)			1 (3.2%)
	No standard practice, timing varies case by case			7 (25.9%)	8 (25.8%)
	Don't know/Not sure			2 (7.4%)	2 (6.5%)
	Total valid response	3 (100.0%)		27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13

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	Once a year	1 (33.3%)	0 (0.0%)	16 (59.3%)	18 (56.3%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
with diabetes?					
	Every two years	0 (0.0%)	0 (0.0%)	1 (3.7%)	2 (6.3%)
	Only when symptoms are present	1 (33.3%)	0 (0.0%)	1 (3.7%)	2 (6.3%)
	Other	0 (0.0%)	0 (0.0%)	7 (25.9%)	7 (21.9%)
	Don't know/Not sure	1 (33.3%)	0 (0.0%)	2 (7.4%)	3 (9.4%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes	1 (33.3%)		20 (74.1%)	23 (69.7%)
	No	2 (66.7%)	1 (100.0%)	7 (25.9%)	10 (30.3%)
	Total valid response	3 (100.0%)	1 (100.0%)	27 (100.0%)	33 (100.0%)
	Total missing	1	2	3	11
Where do you screen patients?	In clinic	1 (100.0%)		18 (90.0%)	21 (91.3%)
	Outreach			2 (10.0%)	2 (8.7%)
	Other			1 (5.0%)	1 (4.3%)
	Total valid response	1 (100.0%)		20 (100.0%)	23 (100.0%)
	Total missing	3	3	10	21

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	3 (100.0%)	0 (0.0%)	25 (92.6%)	29 (90.6%)
	Patient's age	0 (0.0%)	0 (0.0%)	13 (48.1%)	13 (40.6%)
	Patient's gender	0 (0.0%)	0 (0.0%)	1 (3.7%)	1 (3.1%)
	Presence of comorbidities such as hypertension, etc.	2 (66.7%)	0 (0.0%)	13 (48.1%)	15 (46.9%)
	High glucose levels	2 (66.7%)	0 (0.0%)	22 (81.5%)	25 (78.1%)
	Ability or inability to pay	0 (0.0%)	0 (0.0%)	3 (11.1%)	3 (9.4%)
	Patient educational level	1 (33.3%)	0 (0.0%)	13 (48.1%)	15 (46.9%)
	Patient adherence to recommendations	0 (0.0%)	0 (0.0%)	14 (51.9%)	16 (50.0%)
	None of the above	0 (0.0%)	0 (0.0%)	2 (7.4%)	2 (6.3%)
	Total valid response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

PT 2.18

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What are the major barriers to optimizing eye health faced by patients with diabetes in your main practice?	Cost of care	0 (0.0%)	0 (0.0%)	12 (44.4%)	13 (40.6%)
	Proximity to care	0 (0.0%)	0 (0.0%)	8 (29.6%)	8 (25.0%)
	Long wait time for appointment	0 (0.0%)	0 (0.0%)	5 (18.5%)	5 (15.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Long wait time on the day of visit	0 (0.0%)	0 (0.0%)	14 (51.9%)	14 (43.8%)
	Referral process	0 (0.0%)	0 (0.0%)	6 (22.2%)	6 (18.8%)
	Recommended treatments are not available	0 (0.0%)	0 (0.0%)	2 (7.4%)	2 (6.3%)
	Lack of knowledge and/or awareness	2 (66.7%)	0 (0.0%)	19 (70.4%)	21 (65.6%)
	Patients fear of treatment/results	1 (33.3%)	0 (0.0%)	7 (25.9%)	8 (25.0%)
	Patients they are a burden on family/friends	0 (0.0%)	0 (0.0%)	5 (18.5%)	5 (15.6%)
	Limited access to diabetes specialists	0 (0.0%)	0 (0.0%)	2 (7.4%)	2 (6.3%)
	Limited access to eye specialists	0 (0.0%)	0 (0.0%)	2 (7.4%)	2 (6.3%)
	Patients feel eye complications are unlikely	0 (0.0%)	0 (0.0%)	19 (70.4%)	19 (59.4%)
	Patients feel eye exams are not important	1 (33.3%)	0 (0.0%)	14 (51.9%)	16 (50.0%)
	Patients have competing responsibilities and priorities	1 (33.3%)	0 (0.0%)	17 (63.0%)	18 (56.3%)
	Clinic too small or lack necessary equipment/staff	0 (0.0%)	0 (0.0%)	2 (7.4%)	3 (9.4%)
	Other	0 (0.0%)	0 (0.0%)	1 (3.7%)	1 (3.1%)
	Total valid response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

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	2 (66.7%)	0 (0.0%)	11 (40.7%)	13 (40.6%)
	No	1 (33.3%)	0 (0.0%)	13 (48.1%)	16 (50.0%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	3 (11.1%)	3 (9.4%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

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	3 (100.0%)	0 (0.0%)	20 (74.1%)	23 (71.9%)
	No	0 (0.0%)	0 (0.0%)	4 (14.8%)	6 (18.8%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	3 (11.1%)	3 (9.4%)
	Total Valid Response	3 (100.0%)	0	27 (100.0%)	32 (100.0%)
	Total missing	1	3	3	12

PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	30 - 39	1 (33.3%)		10 (37.0%)	11 (35.5%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	40 - 49			7 (25.9%)	7 (22.6%)
	50 - 59			5 (18.5%)	6 (19.4%)
	60 - 69	2 (66.7%)		5 (18.5%)	7 (22.6%)
	Total valid response	3 (100.0%)		27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13
What is your gender?	Female	1 (33.3%)		2 (7.4%)	3 (9.7%)
	Male	2 (66.7%)		25 (92.6%)	28 (90.3%)
	Total valid response	3 (100.0%)		27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13
What is your highest level of education completed?	College/University			2 (7.4%)	2 (6.5%)
	Graduate or advanced degree (e.g. PhD, MD, etc)	3 (100.0%)		25 (92.6%)	29 (93.5%)
	Total valid response	3 (100.0%)		27 (100.0%)	31 (100.0%)
	Total missing	1	3	3	13

PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	26
	Mean	32.0
	SD	30.1
	Median	20.0
	Min	1
	Max	100
	Total missing	4

PT 4.2

Question	Response	Ophthalmologist
What percentage of your patients have diabetic macular edema?	Total valid numeric response (n)	26
	Mean	16.4
	SD	21.1
	Median	10.0
	Min	1
	Max	100
	Total missing	4

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	5 (19.2%)
	More than 1 week but less than 1 month	11 (42.3%)
	More than 1 month but less than 2 months	3 (11.5%)
	Six or more months	1 (3.8%)
	Do not take appointment	2 (7.7%)
	Don't know/Not sure	4 (15.4%)
	Total Valid Response	26 (100.0%)
	Total missing	4

PT 4.4

Question	Response	Ophthalmologist
From the time a patient is screened, what is the average length of time he/she waits for diagnosis?	Less than 1 week	1 (3.8%)
	More than 1 week but less than 1 month	3 (11.5%)
	More than 1 month but less than 2 months	2 (7.7%)
	Don't know/Not sure	5 (19.2%)

Question	Response	Ophthalmologist
	There is not wait, diagnosis is given when screened	15 (57.7%)
	Total Valid Response	26 (100.0%)
	Total missing	4

PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist
Laser photocoagulation	Is the treatment available?	Available within country	16 (61.5%)
		Available locally	8 (30.8%)
		Available in practice	20 (76.9%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	19 (73.1%)
		Mean	1.3
		SD	0.9
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	4 (15.4%)
		Not applicable	3 (11.5%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	20 (76.9%)
		Mean	1.2
		SD	0.5
		Median	1.0
		Min	0
		Max	2

Type of Treatment	Question	Response/time	Ophthalmologist
		Don't know/not sure	4 (15.4%)
		Not applicable	2 (7.7%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	16 (64.0%)
		Mean	1.6
		SD	0.8
		Median	1.5
		Min	0
		Max	3
		Don't know/not sure	8 (32.0%)
		Not applicable	1 (4.0%)
		Total valid response	25 (100.0%)
		Total missing	5
Anti-VEGF therapies	Is the treatment available?	Available within country	16 (61.5%)
		Available locally	7 (26.9%)
		Available in practice	20 (76.9%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	16 (66.7%)
		Mean	1.4
		SD	1.2
		Median	1.0
		Min	0
		Max	4
		Don't know/not	5 (20.8%)

Type of Treatment	Question	Response/time	Ophthalmologist
		sure	
		Not applicable	3 (12.5%)
		Total valid response	24 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	20 (76.9%)
		Mean	1.5
		SD	0.9
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	5 (19.2%)
		Not applicable	1 (3.8%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	15 (62.5%)
		Mean	2.6
		SD	1.6
		Median	2.0
		Min	0
		Max	5
		Don't know/not sure	8 (33.3%)
		Not applicable	1 (4.2%)
		Total valid response	24 (100.0%)
		Total missing	6
Intravitreal steroid	Is the treatment available?	Available within country	16 (61.5%)
		Available locally	7 (26.9%)
		Available in	20 (76.9%)

Type of Treatment	Question	Response/time	Ophthalmologist
		practice	
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	17 (65.4%)
		Mean	1.4
		SD	1.2
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	6 (23.1%)
		Not applicable	3 (11.5%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	19 (73.1%)
		Mean	1.4
		SD	0.9
		Median	1.0
		Min	0
		Max	3
		Don't know/not sure	6 (23.1%)
		Not applicable	1 (3.8%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	13 (54.2%)
		Mean	4.6
		SD	5.3

Type of Treatment	Question	Response/time	Ophthalmologist
		Median	2.0
		Min	0
		Max	16
		Don't know/not sure	10 (41.7%)
		Not applicable	1 (4.2%)
		Total valid response	24 (100.0%)
		Total missing	6
Uncomplicated vitrectomy	Is the treatment available?	Available within country	16 (61.5%)
		Available locally	8 (30.8%)
		Available in practice	19 (73.1%)
		Total valid response	26 (100.0%)
		Total missing	4
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	16 (64.0%)
		Mean	3.4
		SD	1.0
		Median	4.0
		Min	1
		Max	4
		Don't know/not sure	6 (24.0%)
		Not applicable	3 (12.0%)
		Total valid response	25 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	19 (76.0%)
		Mean	3.2
		SD	1.1
		Median	4.0

Type of Treatment	Question	Response/time	Ophthalmologist
		Min	1
		Max	4
		Don't know/not sure	5 (20.0%)
		Not applicable	1 (4.0%)
		Total valid response	25 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	12 (48.0%)
		Mean	3.8
		SD	1.9
		Median	4.0
		Min	1
		Max	8
		Don't know/not sure	9 (36.0%)
		Not applicable	4 (16.0%)
		Total valid response	25 (100.0%)
		Total missing	5
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	15 (60.0%)
		Available locally	7 (28.0%)
		Available in practice	19 (76.0%)
		Total valid response	25 (100.0%)
		Total missing	5
	What is the average amount of time your patients wait for a consultation appointment? (weeks)	Total valid numeric response (n)	16 (66.7%)
		Mean	2.9
		SD	1.5
		Median	3.5
		Min	1

Type of Treatment	Question	Response/time	Ophthalmologist
		Max	6
		Don't know/not sure	5 (20.8%)
		Not applicable	3 (12.5%)
		Total valid response	24 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	19 (79.2%)
		Mean	2.9
		SD	1.6
		Median	2.0
		Min	1
		Max	6
		Don't know/not sure	4 (16.7%)
		Not applicable	1 (4.2%)
		Total valid response	24 (100.0%)
		Total missing	6
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	12 (50.0%)
		Mean	3.3
		SD	2.0
		Median	3.0
		Min	1
		Max	6
		Don't know/not sure	9 (37.5%)
		Not applicable	3 (12.5%)
		Total valid response	24 (100.0%)
		Total missing	6

PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	25 (96.2%)
	No	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	4
Who administer it?	Another provider in your practice	1 (100.0%)
	Total valid response	1 (100.0%)
	Total missing	29

PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	22 (88.0%)
	Patient's age	14 (56.0%)
	Patient's gender	4 (16.0%)
	Presence of comorbidities such as hypertension, etc.	16 (64.0%)
	High glucose levels	21 (84.0%)
	Ability or inability to pay	8 (32.0%)
	Insurance restrictions	7 (28.0%)
	Patient educational level	18 (72.0%)
	Patient adherence to recommendations	19 (76.0%)
	None of the above	1 (4.0%)
	Total valid response	25 (100.0%)
	Total missing	5

PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Visual outcome	2 (7.7%)
	Anatomical outcomes	2 (7.7%)
	Both	22 (84.6%)

Question	Response	Ophthalmologist
	Total Valid Response	26 (100.0%)
	Total missing	4

PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	9 (34.6%)
	Fundoscopy dilated	23 (88.5%)
	Retinal photo	18 (69.2%)
	Optical Coherence Tomography	20 (76.9%)
	Fluorescein Angiography	20 (76.9%)
	Other	1 (3.8%)
	Total valid response	26 (100.0%)
	Total missing	4

PT 4.10

Question	Response	Ophthalmologist
In your opinion, do the majority of your patients present:	In time for screening	7 (26.9%)
	When visual problems have already occurred	19 (73.1%)
	Total Valid Response	26 (100.0%)
	Total missing	4

PT 4.11

Question	Response	Ophthalmologist
Have you received training specifically on treatment and diagnosis of diabetic retinopathy and/or clinically significant diabetic macular edema?	Yes	11 (42.3%)
	No	15 (57.7%)
	Total valid response	26 (100.0%)
	Total missing	4
If yes, When was your last training?	Five or more years ago	4 (36.4%)

Question	Response	Ophthalmologist
	Greater than 1 year ago but less than 5 years	3 (27.3%)
	Within the past year	4 (36.4%)
	Total valid response	11 (100.0%)
	Total missing	19

PT 4.12

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	16 (61.5%)
	No	10 (38.5%)
	Total Valid Response	26 (100.0%)
	Total missing	4

PT 4.13

Question	Response	Ophthalmologist
How is outreach for screening for diabetic eye disease done in your main practice?	Health fairs for all	8 (32.0%)
	Health fairs for people with diabetes	11 (44.0%)
	Mobile screening centers	2 (8.0%)
	At vision centers	3 (12.0%)
	Other	1 (4.0%)
	Not done	9 (36.0%)
	Don't know/Not sure	2 (8.0%)
	Total valid response	25 (100.0%)
	Total missing	5

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	6 (24.0%)

Question	Response	Ophthalmologist
	Late diagnosis	17 (68.0%)
	Referral pathways	7 (28.0%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	14 (56.0%)
	No universal guidelines on referral/screening	10 (40.0%)
	No universal guidelines on how to treat	8 (32.0%)
	No universal guideline on when to treat	9 (36.0%)
	Current available therapies not effective	1 (4.0%)
	Government/insurance not able to cover patient costs	5 (20.0%)
	Multi-disciplinary team integration is poor	7 (28.0%)
	Ineffective screening services	4 (16.0%)
	Other	1 (4.0%)
	Total valid response	25 (100.0%)
	Total missing	5

EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Loss of feeling in hands or toes (neuropathy)	6 (10.2%)	1 (9.1%)	1 (33.3%)
	Vision loss	0 (0.0%)	1 (9.1%)	1 (33.3%)
	Amputation	0 (0.0%)	0 (0.0%)	1 (33.3%)
	Irritable bowel disease	1 (1.7%)	0 (0.0%)	1 (33.3%)
	Broken bones or fractures	0 (0.0%)	0 (0.0%)	1 (33.3%)
	Cardiovascular disease/Stroke	4 (6.8%)	1 (9.1%)	0 (0.0%)
	Kidney disease	1 (1.7%)	3 (27.3%)	0 (0.0%)
	Foot ulcers	1 (1.7%)	0 (0.0%)	0 (0.0%)
	Other	1 (1.7%)	0 (0.0%)	0 (0.0%)
	None	44 (74.6%)	6 (54.5%)	0 (0.0%)
	Don't know/Not sure	4 (6.8%)	1 (9.1%)	0 (0.0%)

	Total Valid Response	59 (100.0%)	11 (100.0%)	3 (100.0%)
	Total missing	4	0	0

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.
NB [2]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [3]: DME = respondents with DME ="Yes".
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 (15.3%)	5 (45.5%)	2 (66.7%)
Impairment or health problem			
Back or neck problem	7 (63.6%)	3 (75.0%)	0 (0.0%)
Diabetes	6 (54.5%)	3 (60.0%)	0 (0.0%)
Walking problem	2 (18.2%)	1 (25.0%)	1 (100.0%)
Mental or emotional health	2 (18.2%)	3 (60.0%)	1 (100.0%)
Hypertension/high blood pressure	2 (18.2%)	3 (75.0%)	0 (0.0%)
Heart problem	2 (18.2%)	1 (25.0%)	0 (0.0%)
Fractures, bone/joint injury	1 (9.1%)	1 (25.0%)	0 (0.0%)
Arthritis/rheumatism	1 (9.1%)	1 (25.0%)	0 (0.0%)
Lung/breathing problem	1 (9.1%)	0 (0.0%)	0 (0.0%)
Eye/vision problem	1 (9.1%)	1 (25.0%)	0 (0.0%)
Cancer	1 (9.1%)	1 (25.0%)	0 (0.0%)
Stroke problem	0 (0.0%)	1 (25.0%)	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	19 (32.8%)	7 (63.6%)	1 (50.0%)
Self-rated health: Poor	39 (67.2%)	4 (36.4%)	1 (50.0%)
Physically unhealthy days	14 (30.4%)	2 (25.0%)	1 (50.0%)

Health Status	Without DED (%)	With DED (%)	With DME (%)
Mentally unhealthy days	8 (16.0%)	0 (0.0%)	2 (66.7%)
Unhealthy days	15 (33.3%)	2 (33.3%)	2 (66.7%)
Activity limitation days	6 (28.6%)	0 (0.0%)	1 (50.0%)

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

EXP 4

Item	Response	All respondents	Respondents with Type I diabetes	Respondents with Type II diabetes
How do you manage your diabetes?	Diet	49 (65.3%)	10 (58.8%)	38 (70.4%)
	Oral medicine	39 (52.0%)	2 (11.8%)	36 (66.7%)
	Exercise	32 (42.7%)	5 (29.4%)	26 (48.1%)
	Insulin	33 (44.0%)	17 (100.0%)	15 (27.8%)
	Natural/Herbal medicine	4 (5.3%)		4 (7.4%)
	None of the above	4 (5.3%)		2 (3.7%)

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	37 (62.7%)	7 (63.6%)	1 (33.3%)
	Working without pay at home (e.g. housework, farming)	3 (5.1%)	0 (0.0%)	1 (33.3%)
	Volunteering	1 (1.7%)	1 (9.1%)	1 (33.3%)
	Retired	12 (20.3%)	1 (9.1%)	0 (0.0%)
	Not working	6 (10.2%)	2 (18.2%)	0 (0.0%)
	Total Valid Response	59 (100.0%)	11 (100.0%)	3 (100.0%)
	Total missing	4	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Medical assistance	5 (8.5%)	3 (27.3%)	2 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Food assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Housing assistance	0 (0.0%)	1 (9.1%)	1 (50.0%)
	Pension assistance	17 (28.8%)	2 (18.2%)	0 (0.0%)
	None of the above	38 (64.4%)	6 (54.5%)	0 (0.0%)
	Total valid response	59 (100.0%)	11 (100.0%)	2 (100.0%)
	Total missing	4	0	1
Did you have trouble paying for food at anytime during the past year?	Yes	3 (5.2%)	2 (18.2%)	1 (50.0%)
	No	55 (94.8%)	9 (81.8%)	1 (50.0%)
	Total Valid Response	58 (100.0%)	11 (100.0%)	2 (100.0%)
	Total missing	5	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 5.2: Age group 18-39 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	6 (75.0%)	4 (100.0%)	1 (33.3%)
	Working without pay at home (e.g. housework, farming)	1 (12.5%)	0 (0.0%)	1 (33.3%)
	Volunteering	0 (0.0%)	0 (0.0%)	1 (33.3%)
	Not working	1 (12.5%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	8 (100.0%)	4 (100.0%)	3 (100.0%)
	Total missing	2	0	0
Do you receive assistance from the government?	Income assistance	0 (0.0%)	0 (0.0%)	1 (50.0%)
	Medical assistance	2 (25.0%)	1 (25.0%)	2 (100.0%)
	Food assistance	0 (0.0%)	0 (0.0%)	1 (50.0%)
	Housing assistance	0 (0.0%)	0 (0.0%)	1 (50.0%)
	None of the above	6 (75.0%)	3 (75.0%)	0 (0.0%)
	Total valid response	8 (100.0%)	4 (100.0%)	2 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Total missing	2	0	1
Did you have trouble paying for food at anytime during the past year?	Yes	0 (0.0%)	1 (25.0%)	1 (50.0%)
	No	8 (100.0%)	3 (75.0%)	1 (50.0%)
	Total Valid Response	8 (100.0%)	4 (100.0%)	2 (100.0%)
	Total missing	2	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".

EXP 5.3: Age group 40-59 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	21 (72.4%)	2 (50.0%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	1 (3.4%)	0 (0.0%)	0 (0.0%)
	Retired	2 (6.9%)	0 (0.0%)	0 (0.0%)
	Not working	5 (17.2%)	2 (50.0%)	0 (0.0%)
	Total Valid Response	29 (100.0%)	4 (100.0%)	0 (0.0%)
Do you receive assistance from the government?	Income assistance	0 (0.0%)	1 (25.0%)	0 (0.0%)
	Medical assistance	3 (10.3%)	1 (25.0%)	0 (0.0%)
	Food assistance	0 (0.0%)	1 (25.0%)	0 (0.0%)
	Housing assistance	0 (0.0%)	1 (25.0%)	0 (0.0%)
	Pension assistance	2 (6.9%)	0 (0.0%)	0 (0.0%)
	None of the above	25 (86.2%)	3 (75.0%)	0 (0.0%)
	Total valid response	29 (100.0%)	4 (100.0%)	0
	Total missing	0	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	2 (7.1%)	1 (25.0%)	0 (0.0%)
	No	26 (92.9%)	3 (75.0%)	0 (0.0%)
	Total Valid Response	28 (100.0%)	4 (100.0%)	0 (0.0%)
	Total missing	1	0	0

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

EXP 5.4: Age group 60-79 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	10 (45.5%)	1 (50.0%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	1 (4.5%)	0 (0.0%)	0 (0.0%)
	Volunteering	1 (4.5%)	0 (0.0%)	0 (0.0%)
	Retired	10 (45.5%)	1 (50.0%)	0 (0.0%)
	Total Valid Response	22 (100.0%)	2 (100.0%)	0 (0.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	Medical assistance	0 (0.0%)	1 (50.0%)	0 (0.0%)
	Pension assistance	15 (68.2%)	1 (50.0%)	0 (0.0%)
	None of the above	7 (31.8%)	0 (0.0%)	0 (0.0%)
	Total valid response	22 (100.0%)	2 (100.0%)	0
	Total missing	1	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	1 (4.5%)	0 (0.0%)	0 (0.0%)
	No	21 (95.5%)	2 (100.0%)	0 (0.0%)
	Total Valid Response	22 (100.0%)	2 (100.0%)	0 (0.0%)
	Total missing	1	0	0

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

EXP 5.5: Age group 80+ years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Volunteering	0 (0.0%)	1 (100.0%)	0 (0.0%)
	Total Valid Response	0	1 (100.0%)	0 (0.0%)
	Total missing	1	0	0
Do you receive assistance from the government?	Pension assistance	0 (0.0%)	1 (100.0%)	0 (0.0%)
	Total valid response	0	1 (100.0%)	0

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

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

EXP 6

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
All respondents		77 (100%)	18 (23.4%)	55 (71.4%)	11 (14.3%)	3 (3.9%)
Gender	Male	56 (78.9%)	8 (14.3%)	46 (82.1%)	7 (12.5%)	0 (0.0%)
	Female	15 (21.1%)	8 (53.3%)	6 (40.0%)	4 (26.7%)	2 (13.3%)
	Total Missing	6	2	3	0	1
Age	18-39 yrs	17 (22.1%)	10 (58.8%)	7 (41.2%)	4 (23.5%)	3 (17.6%)
	40-59 yrs	33 (42.9%)	8 (24.2%)	24 (72.7%)	4 (12.1%)	0 (0.0%)
	60-79 yrs	25 (32.5%)	0 (0.0%)	22 (88.0%)	2 (8.0%)	0 (0.0%)
	80 yrs and over	2 (2.6%)	0 (0.0%)	2 (100.0%)	1 (50.0%)	0 (0.0%)
Time since diagnosis	Within the last year	5 (6.6%)	0 (0.0%)	4 (80.0%)	0 (0.0%)	1 (20.0%)
	1 - 5 years ago	19 (25.0%)	1 (5.3%)	18 (94.7%)	1 (5.3%)	2 (10.5%)
	6 - 10 years ago	15 (19.7%)	2 (13.3%)	11 (73.3%)	1 (6.7%)	0 (0.0%)
	11 - 15 years ago	11 (14.5%)	3 (27.3%)	8 (72.7%)	0 (0.0%)	0 (0.0%)
	16 - 20 years ago	6 (7.9%)	1 (16.7%)	5 (83.3%)	0 (0.0%)	0 (0.0%)
	21 years ago or longer	20 (26.3%)	11 (55.0%)	8 (40.0%)	9 (45.0%)	0 (0.0%)
	Total Missing	1	0	1	0	0
Control of Diabetes	Controlled	50 (67.6%)	16 (32.0%)	33 (66.0%)	10 (20.0%)	1 (2.0%)
	Not controlled	22 (29.7%)	1 (4.5%)	19 (86.4%)	1 (4.5%)	2 (9.1%)

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
	Don't know/Not sure	2 (2.7%)	0 (0.0%)	2 (100.0%)	0 (0.0%)	0 (0.0%)
	Total Missing	3	1	1	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 (45.5%)	2 (100.0%)
	No	5 (45.5%)	0 (0.0%)
	Don't know/Not sure	1 (9.1%)	0 (0.0%)
	Total valid response	11 (100.0%)	2 (100.0%)
	Total missing	0	1
What treatment did you receive?	Laser	4 (80.0%)	1 (50.0%)
	Anti-VEGF	0 (0.0%)	1 (50.0%)
	Other	1 (20.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	2 (100.0%)
	Total missing	6	1
Did you complete the treatment?	Yes	3 (60.0%)	1 (50.0%)
	Still receiving treatment	2 (40.0%)	0 (0.0%)
	Don't know/Not sure	0 (0.0%)	1 (50.0%)
	Total valid response	5 (100.0%)	2 (100.0%)
	Total missing	6	1
Do you feel that the treatment worked?	Yes, and vision improved	2 (40.0%)	1 (50.0%)
	Yes, but vision stayed the same	2 (40.0%)	0 (0.0%)
	No	0 (0.0%)	1 (50.0%)
	Don't know/Not sure	1 (20.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	2 (100.0%)
	Total missing	6	1
What is/are the reason(s) that you did not complete the treatment?	Total valid response	0 (0.0%)	0 (0.0%)

Question	Response	With DED n (%)	With DME n (%)
	Total missing	11	3
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	3 (60.0%)	0 (0.0%)
	Other	2 (40.0%)	0 (0.0%)
	Total valid response	5 (100.0%)	0 (0.0%)
	Total missing	6	3

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