DR Barometer
Shifting the needle

The Diabetic Retinopathy Barometer Report

Australia

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 Australia.

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

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

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

Goal

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

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

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

Background

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

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

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

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

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

Study Populations

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

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

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

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

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

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

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

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

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

Introduction
Australia Study

Demographic Characteristics[1]

Australia is estimated to be the most populous country in Oceania and fifteenth most populous country of the Asia Pacific region with a population of some 24.1 million. One of the major influences in the region is that of population ageing which has serious policy and programme implications alongside the increased prevalence of many non-communicable diseases.

Currently it is estimated that ~19% of the population is under the age of 15 years (4.5 million) while 15% is over the age of 65 years (3.6 million).

By 2050, the population in Australia is expected to increase by 36% to 32.9 million but the demographic shift will be marked toward population ageing. Those 15 years and younger will only make up 17% of the total population while those aged 65 years or older will comprise 22.5% of Australia's population. This means that in just over 30 years those aged 65 years or older will double and reach an all-time high of approximately 7.4 million.

Diabetes Profile[2]

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 International Diabetes Federation region of the Western Pacific 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, some 62% live in cities and 90% live in low or middle-income countries.

Australia has the tenth highest number of people living with diabetes in the Western Pacific Region at ~1.1 million (840.7-1,301.4‡), which accounts for only ~1% of people living with diabetes in this region. It is important to note that approximately $106 billion USD was spent on diabetes-related care in the region in 2015, which accounted for 10% of the region's total health budget. Australia had the highest spending per person with diabetes in the region at $7,652 to $14,498 USD, with the Western Pacific average being between $693 to $1,246 USD.

Australia's diabetes national prevalence (20-79 years) is 6.3% (4.9-7.6‡) and the diabetes age-adjusted comparative prevalence is 5.1% (4.0-6.1‡). Deaths attributed to diabetes in Australia in 2015 were 6,342, which accounts to ~0.5% of the diabetes related deaths experienced in this region. The estimated number of undiagnosed cases was ~493,900 (435.6-674.4‡).

Study Populations: Australia

As reported by 321 respondents with diabetes in Australia, 22% were diagnosed with DED and a further 3.1% with DME.

One hundred and forty-one health care professionals completed the survey in Australia. Of these, 18 were diabetes specialist providers (13%), 18 were ophthalmologists (13%), and one was a primary care provider (0.7%). The remaining respondents were either optometrists, nurses, health educators or other professionals.

The DR Barometer Study:
Australia Overview

The DR Barometer study was conducted in 41 countries. In Australia, 321 adults with diabetes and 141 health care professionals provided new information about the experiences of living with, managing and treating diabetes, DR and DME.

46%

of patients said that **cost** was a barrier to eye exams
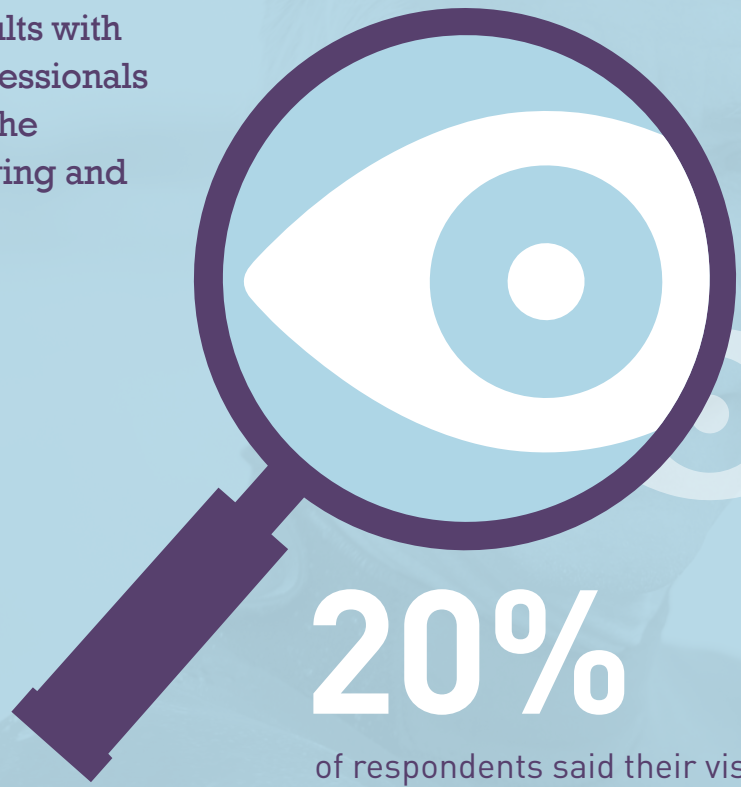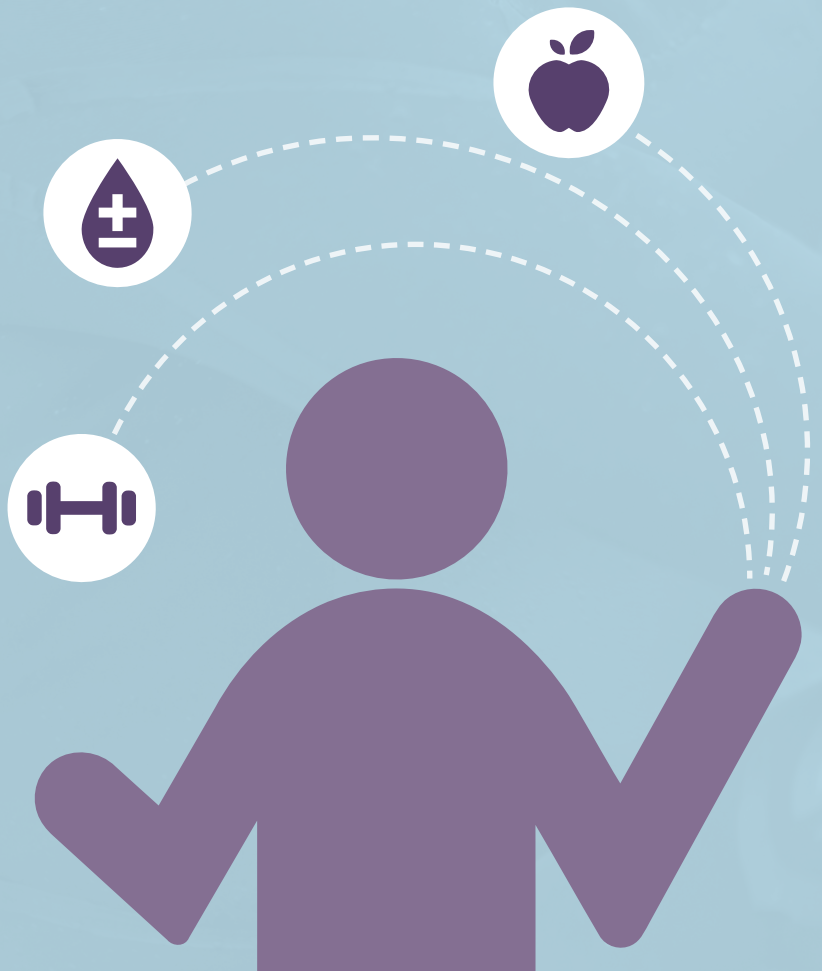
20%

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

40%

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

DR: Diabetic Retinopathy
DME: Diabetic Macular Edema

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66%

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

57%

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

7%

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

20%

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

Australia
DR Barometer Findings:
Adults with Diabetes

Key Demographic Characteristics

Three hundred and twenty-one adults with diabetes (patients) completed the patients' survey in Australia: 60% were female and 40% were male. Eighty-one percent lived in an urban setting and 19% in a non-urban setting (see Appendix Table 4.2).

The education levels of all respondents were as follows: 2.4% of respondents were educated to a primary school level, 37% to a secondary school level, 33% to a college or university level, and 27% to a graduate or post-graduate level (see Appendix Table 4.3).

Forty-three percent of all respondents were in paid employment, 39% were retired, and 8.3% were not working (see Appendix Table 4.4).

Most respondents (43%) were aged between 60 and 79 years (21% were 18-39 years, 32% were 40-59 years, and 3.4% were 80 years and over). Fifty-three percent were of traditional working age (18- 59 years) (see Table 1).

Of the respondents in Australia, 45% had been diagnosed with type 1 diabetes and 54% with type 2 diabetes. A further 0.9% of respondents were either unsure of or did not know their type of diabetes (see Appendix Table 2.1).

Twenty-two percent of respondents (n=72) had been diagnosed with DED and a further 3.1% (n=10) with DME.

Four percent of those surveyed were diagnosed with diabetes within the last year, 1 - 5 years ago (18%), 6 - 10 years ago (14%), 11 - 15 years ago (16%), 16 - 20 years ago (18%), and 21 years ago or more (31%) (see Appendix Table 2.2).

A younger population tended to be associated with type 1 diabetes and the older population with type 2 diabetes. Amongst the 18 to 39-year-olds, 91% had type 1 and 8.8% had type 2 diabetes. In the 40-59 age group, 44% had type 1 and 56% had type 2 diabetes, 25% of 60-79-year-olds had type 1 diabetes and 73% had type 2.

In people aged 18-39 years, 22% had DED and no-one had DME, in those aged 40-59 years, 22% had DED and 3.9% had DME. For people aged 60-79 years to 20% had DED and 3.6% had DME, this increased to 55% and 9.1% respectively in those aged 80 and over.

An important trend noted in the findings was that generally, the longer the time since diagnoses the greater the likelihood to be diagnosed with DED and DME. In those diagnosed with diabetes 6-10 years ago, 2.3% had DED and 2.3% had DME. This increased to 25% with DED and 5.4% with DME of those 16-20 years since diagnosis. This increased again to 45% with DED and 6% with DME for those diagnosed more than 21 years ago.

While most (77%) respondents reported that their diabetes was well controlled there were approximately one in five (21%) who felt that this was not the case. For those whose diabetes was controlled 21% had DED and 2.5% had DME and there was a noted increased proportion of eye disease for those who reported their condition as not well controlled (34% DED and 4.7% DME.)

Table 1: Summary of key characteristics of adults with diabetes

Group	Subgroup	All Respondents	Type 1 diabetes	Type 2 diabetes	With DED	With DME
All respondents		321 (100.0%)	144 (44.9%)	174 (54.2%)	72 (22.4%)	10 (3.1%)
Gender	Male	117 (40.3%)	42 (35.9%)	74 (63.2%)	35 (29.9%)	6 (5.1%)
	Female	173 (59.7%)	88 (50.9%)	84 (48.6%)	37 (21.4%)	4 (2.3%)
	Total Missing	31	14	16	0	0
Age	18-39 yrs.	68 (21.2%)	62 (91.2%)	6 (8.8%)	15 (22.1%)	0 (0.0%)
	40-59 yrs.	103 (32.1%)	45 (43.7%)	58 (56.3%)	23 (22.3%)	4 (3.9%)
	60-79 yrs.	139 (43.3%)	35 (25.2%)	102 (73.4%)	28 (20.1%)	5 (3.6%)
	80 yrs. plus	11 (3.4%)	2 (18.2%)	8 (72.7%)	6 (54.5%)	1 (9.1%)
Time since diagnosis	Within the last year	14 (4.4%)	1 (7.1%)	13 (92.9%)	1 (7.1%)	0 (0.0%)
	1 - 5 yrs.	56 (17.5%)	11 (19.6%)	45 (80.4%)	2 (3.6%)	0 (0.0%)
	6 - 10 yrs.	44 (13.8%)	8 (18.2%)	35 (79.5%)	1 (2.3%)	1 (2.3%)
	11 - 15 yrs.	50 (15.6%)	14 (28.0%)	35 (70.0%)	9 (18.0%)	0 (0.0%)
	16 - 20 yrs.	56 (17.5%)	22 (39.3%)	33 (58.9%)	14 (25.0%)	3 (5.4%)
	21 yrs. plus	100 (31.3%)	88 (88.0%)	12 (12.0%)	45 (45.0%)	6 (6.0%)
	Total Missing	1	0	1	0	0
Control of Diabetes	Controlled	236 (77.4%)	102 (43.2%)	133 (56.4%)	49 (20.8%)	6 (2.5%)
	Not controlled	64 (21.0%)	35 (54.7%)	28 (43.8%)	22 (34.4%)	3 (4.7%)
	Don't know/ Not sure	5 (1.6%)	1 (20.0%)	4 (80.0%)	1 (20.0%)	1 (20.0%)
	Total Missing	16	6	9	0	0
	Total Missing	25	12	12	1	0

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

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

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

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

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

Knowledge and Management of Diabetes

Ninety-eight percent of those surveyed saw a health care professional for their diabetes, with 54% seeing a diabetes specialist (average number of visits was 3.3 times per year) and 44% seeing a general or family doctor (average number of visits was 4 times per year) (see Appendix Table 2.3.1 and 2.3.2).

People were informed about their condition through a variety of channels. Ninety percent received information from a doctor or nurse, 84% from a diabetes organisation, or other health organisation, and 63% from a health educator. Nutritionist and dietician (61%) and the internet (60%) were also important and well-used sources of information (see Table 2 and Appendix Table 2.4).

Table 2: Source of information regarding diabetes

Information Source	All Respondents (n=315)
Doctor or nurse	284 (90.2%)
Diabetes organisation or other health organisation	263 (83.5%)
Health educator	198 (62.9%)
Nutritionist or dietician	193 (61.3%)
Internet	188 (59.7%)
TV/Radio/Newspaper/Magazines	70 (22.2%)
Family/Friends/Neighbours	66 (21.0%)
Pharmacist	67 (21.3%)
Social media (e.g. Facebook, Twitter, blogs)	60 (19.0%)
None of the above	1 (0.3%)

A range of strategies was used by respondents to manage their diabetes. For those with type 1 diabetes, apart from insulin, 46% managed their diabetes with diet and 39% with exercise. Of the respondents with type 2 diabetes, 78% reported that they managed their condition with oral medicine, 77% with diet, 57% with exercise, and 32% with insulin.

A notable 35% of respondents were enrolled in diabetes management programmes and of these, 90% said the programme included information on education on the importance of screening for diabetic eye complications (see Appendix Table 2.6).

The nature and frequency of tests that people with diabetes experienced included blood glucose checks and eye checks. For those who had eye checks (94%), these occurred at less than 6 months (52%), 6 - 12 months (31%), and greater than 12 months (10%) (see Appendix Table 2.7).

The main challenges in controlling diabetes cited by respondents were: it was too hard to eat the right things (44%), the high cost of care (35%), there were too many other things to do (24%), the respondent didn't want to think about having diabetes (18%) and long wait times for an appointment to see their doctor or specialist (16%) (see Appendix Table 2.9).

Free or low cost medicines or monitoring materials (72%), health education and information (55%), coordination of healthcare and services by a professional (45%), support from family or friends (41%) and support groups (18%) were identified as important to improving the management of their diabetes (see Appendix Table 2.10).

Nature and Information about Complications

Ninety-three percent of respondents were aware of vision loss and other complications, such as: neuropathy (88%), amputation (85%), foot ulcers (83%), and kidney disease (77%) were associated with diabetes (see Appendix Table 2.11).

Patients were most concerned about vision loss (46%), cardiovascular disease or stroke (19%), kidney disease (11%), neuropathy (8.1%), and amputation (7.1%) (see Appendix Table 2.12).

Fifty percent of respondents reported that they had no complications of diabetes. However, of those who did have complications, 23% had vision loss, neuropathy (22%), cardiovascular disease or stroke (13%), kidney disease (7.9%), and foot ulcers (2.4%) (see Figure 1 and Appendix Table 2.13).

Almost all people with DED (93%) had additional complications with their condition and for those with DME, 67% had additional complications (see Table 3 and Appendix EXP 1).

Aside from vision loss, there was a considerable increase in the frequency of people with DED and DME experiencing complications compared with people without DED. The frequency of neuropathy increased from 14% in those without DED to 42% with DED and 56% with DME; as with the reporting of cardiovascular disease or stroke increasing from 7.6% for those without DED to 28% with DED and 22% in those with DME.
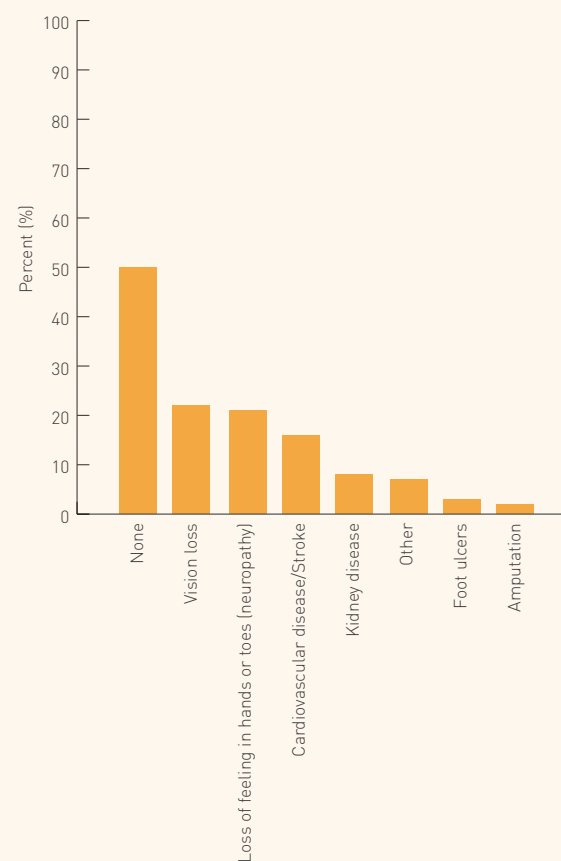

Figure 1: Presence of complications

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

Complication	Without DED (n=211)	With DED (n=72)	With DME (n=9)
Any	74 (35.1%)	67 (93.1%)	6 (66.7%)
Vision loss	23 (10.9%)	41 (56.9%)	4 (44.4%)
Loss of feeling in hands or toes (neuropathy)	29 (13.7%)	30 (41.7%)	5 (55.6%)
Cardiovascular disease/Stroke	16 (7.6%)	20 (27.8%)	2 (22.2%)
Kidney disease	8 (3.8%)	15 (20.8%)	0 (0.0%)
Foot ulcers	3 (1.4%)	4 (5.6%)	0 (0.0%)
Amputation	2 (0.9%)	3 (4.2%)	0 (0.0%)
Other	7 (3.3%)	11 (15.3%)	1 (11.1%)
None	137 (64.9%)	5 (6.9%)	3 (33.3%)

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

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

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

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

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

Information about Diabetic Retinopathy or Diabetic Macular Edema

Eighty-eight percent of respondents stated that eye complications were discussed with their health care professionals. Notwithstanding one in five surveyed (20%), either had never discussed eye complications (8.4%) or discussions only took place when symptoms arose (12%). The frequency of regular discussions varied from every visit (17%), multiple times a year (23%) and once a year (36%) (see Appendix Table 2.14).

Nearly all patients (92%) reported that they did what they could to prevent vision problems (e.g. get routine screenings, visit specialists), yet surprisingly 21% thought that vision problems were a normal part of ageing and 3.4% made no special effort to have a preventative approach to their eye health (see Appendix Table 2.15).

Seventy percent of all respondents had received information about DR and DME with a doctor or nurse being the most common source (49%) followed by the diabetes, or other health, organisation (40%). A surprise finding was 30% of respondents did not receive such information from any of the sources listed (see Appendix Table 3.9).

Table 4: Source of information about DR and DME

Information Source	All Respondents (n=287)
Doctor/Nurse	141 (49.1%)
Diabetes organisation or other health organisation	115 (40.1%)
Health educator	69 (24.0%)
Internet	60 (20.9%)
TV/Radio/Newspaper/Magazines	15 (5.2%)
Family/Friends/Neighbours	12 (4.2%)
None of the above	85 (29.6%)

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

Most (93%) respondents reported having an eye exam for DED, with 79% having the exam within the last year and a further 18% more than one year ago but less than two years ago (see Appendix Table 3.2). Eighteen percent of respondents were aware of government sponsored screening programmes for DED (see Appendix Table 3.1).

While a large proportion (79%) of those surveyed thought that they should have their eye examined for DED once a year, there were varied small number of respondents who thought that testing should happen every two years, less often than two years or only when symptoms occur (see Appendix Table 3.4).

The biggest barriers to eye exams were that eye exams were expensive (46%), there was a fear of treatment and or the results (22%) and long wait times for appointment (20%) (see Table 5 and Appendix Table 3.5).

Table 5: Barriers to eye examinations

Identified Barriers	All Respondents (n=232)
They are expensive	106 (45.7%)
Fear of treatment/results	51 (22.0%)
Long wait time for appointment	47 (20.3%)
Long wait time on the day of the visit	45 (19.4%)
Limited access to diabetes specialists	29 (12.5%)
Eye exams are not available near my home	24 (10.3%)
Referral process is complicated or takes too long	24 (10.3%)
Too many other things to do or worry about	23 (9.9%)
Burden on my family/friends	14 (6.0%)
Don't know much about my condition	9 (3.9%)
I'm not likely to have eye complications	6 (2.6%)
Recommended treatments for eye problems are not available	2 (0.9%)
Eye exams are not important	2 (0.9%)
Clinics are too small or lack necessary equipment/staff	1 (0.4%)
Other	42 (18.1%)

Treatment of Diabetic Eye Disease and Diabetic Macular Edema

Treatment was assessed separately in people with DED and in those with DME. Those with DED, 64% received laser treatment which was ongoing for fourteen of the respondents. Two-thirds had completed their treatment (65%) and three-quarters (76%) of this group felt that treatment had been successful and their vision had either improved (33%) or stayed the same (44%). Five people said that the treatment did not work (see Table 6).

For the twenty-one respondents (29%) with DED who had not received treatment, the most common reason reported was that their doctor did not recommend treatment. Eighty-six percent of patients with DME received treatment, laser being the most common, and most felt that the treatment was successful and either their vision had improved (50%) or had stayed the same (33%).

There was a strong preference by all those with DME to have a proactive approach in the treatment pathway to prevent further vision loss rather than a reactive approach once further vision loss occurred (see Appendix Table 3.8).

Table 6: Treatment characteristics of patients with DED and DME

Question	Response	With DED (n=72)	With DME (n=7)
Have you had any treatment for diabetic eye disease?	Yes	46 (63.9%)	6 (85.7%)
	No	21 (29.2%)	1 (14.3%)
	Don't know/ Not sure	5 (6.9%)	0 (0.0%)
What treatment did you receive?	Laser	39 (84.8%)	6 (100.0%)
	Anti-VEGF	12 (26.1%)	2 (33.3%)
	Surgery	17 (37.0%)	1 (16.7%)
	Other	6 (13.0%)	0 (0.0%)
Did you complete the treatment?	Yes	30 (65.2%)	5 (83.3%)
	Still receiving treatment	14 (30.4%)	1 (16.7%)
	Don't know/ Not sure	2 (4.3%)	0 (0.0%)
Do you feel that the treatment worked?	Yes, and vision improved	15 (32.6%)	3 (50.0%)
	Yes, but vision stayed the same	20 (43.5%)	2 (33.3%)
	No	5 (10.9%)	0 (0.0%)
	Still waiting to know	5 (10.9%)	1 (16.7%)
	Don't know/ Not sure	1 (2.2%)	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	20 (95.2%)	1 (100.0%)
	Other	2 (9.5%)	0 (0.0%)

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

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

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

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

Impact of Diabetic Eye Disease and Diabetic Macular Edema

Almost three-quarters (73%) of those diagnosed with DED or DME said that their vision was affected (27% significantly, 46% slightly) (see Appendix Table 3.6).

Sixty-five percent of these respondents said that vision issues impacted their daily lives in various ways such as difficulty in driving a vehicle (44%), leisure activities or exercise (38%), travelling (29%), social interactions with family or friends (27%), working or keeping a job (27%), household responsibilities, such as cooking or cleaning (20%), and managing their underlying diabetes (20%) (see Table 7).

Table 7: Activities affected through vision impairment and loss

	All Respondents (n=55)
Driving (a car/vehicle)	24 (43.6%)
Leisure activities/exercise	21 (38.2%)
Travelling	16 (29.1%)
Social interactions with family/friends	15 (27.3%)
Work or keeping a job	15 (27.3%)
Household responsibilities, such as cooking or cleaning	11 (20.0%)
Managing my diabetes	11 (20.0%)
Other	5 (9.1%)
None	19 (34.5%)

Twenty-seven percent of patients with DED reported difficulties (27%) with work or keeping a job and 11% were not working. Notwithstanding this finding, a third of those with DED and 50% of those with DME were in paid employment compared with 46% of respondents without DED (see Table 8 and Appendix EXP 5.1).

Fifty-two percent of all those surveyed did not receive assistance from the government while 30% received pension assistance (see Appendix Table 4.5). Forty-six percent of those without DED compared with 58% of those with DED and 22% with DME received assistance.

Most respondents (86%) had no trouble paying for food at any time during the past year (see Appendix Table 4.6) 32% said that their access to healthcare was affected, and for 20% of these it because of their income (see Appendix Table 4.7).

Forty-seven percent of respondents said they worried about their health, 13% about family, and 13% were not worried about any of the items listed in the survey (see Appendix Table 4.8).

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

Question	Response	Without DED (n=209)	With DED (n=72)	With DME (n=8)
Are you currently working?	Working for pay	95 (45.5%)	24 (33.3%)	4 (50.0%)
	Working without pay at home (e.g. housework, farming)	9 (4.3%)	3 (4.2%)	0 (0.0%)
	Volunteering	5 (2.4%)	2 (2.8%)	1 (12.5%)
	Retired	78 (37.3%)	31 (43.1%)	3 (37.5%)
	Student	6 (2.9%)	4 (5.6%)	0 (0.0%)
	Not working	16 (7.7%)	8 (11.1%)	0 (0.0%)
Question	**Response**	**Without DED (n=208)**	**With DED (n=71)**	**With DME (n=9)**
Do you receive assistance from the government?	Income assistance	23 (11.1%)	10 (14.1%)	1 (11.1%)
	Medical assistance	50 (24.0%)	20 (28.2%)	0 (0.0%)
	Food assistance	0 (0.0%)	1 (1.4%)	0 (0.0%)
	Housing assistance	7 (3.4%)	4 (5.6%)	0 (0.0%)
	Pension assistance	55 (26.4%)	30 (42.3%)	1 (11.1%)
	None of the above	113 (54.3%)	30 (42.3%)	7 (77.8%)
Question	**Response**	**Without DED (n=208)**	**With DED (n=72)**	**With DME (n=10)**
Did you have trouble paying for food at any time during the past year?	Yes	27 (13.0%)	15 (20.8%)	0 (0.0%)
	No	181 (87.0%)	57 (79.2%)	10 (100.0%)

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

The findings on self-reported health status were telling in respect to the impact of DED and DME. More than half (52%) of those with DED and 70% with DME reported that their overall health was poor compared with 30% of those without DED.

Examining health from a physical and mental perspective didn't however show the corresponding trend, in fact 49% of people with DED experienced mentally unhealthy days compared to only 38% (however there were very few respondents in this sub group (n=3)).

People living with DED and DME had a higher proportion for some impairments. Of note, over half of the respondents (without DED 54%, with DED 47%, with DME 67%) were limited in their activities because of mental health and emotional problems (see Appendix EXP 2).

Furthermore, most respondents had mobility challenges evident through walking problems, back and neck problems, stroke and arthritis. These patients have complex comorbidities that require careful management across the health and social care system.

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	145 (69.7%)	33 (47.8%)	3 (30.0%)
Self-rated health: Poor	63 (30.3%)	36 (52.2%)	7 (70.0%)
Physically unhealthy days	93 (50.8%)	37 (61.7%)	4 (50.0%)
Mentally unhealthy days	86 (48.6%)	26 (45.6%)	3 (37.5%)
Unhealthy days	123 (69.9%)	41 (71.9%)	4 (57.1%)
Activity limitation days	71 (54.6%)	28 (56.0%)	3 (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.

Australia
DR Barometer Findings:
Health Care Professionals

Key Demographic Characteristics

There were 141 health care professionals who answered at least one of the survey questions in Australia. Of these, one was a primary care provider (0.7%), 18 were diabetes specialist providers (13%) and 18 were ophthalmologists (13%). The remaining respondents were optometrists, nurses, health educators or other professionals (see Appendix PT 1.3).

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

Health care professionals as a group had been practicing for an average of 17 years, with the ophthalmologist group for an average of 19 years (see Appendix PT 1.5).

All were well educated (60% with graduate or advanced degree);78% were female and 22% male and, the largest proportion (34%) were aged 50 - 59 years with 24% in the 40 – 49 age group and a further 16% aged 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	Ophthalmologist
All respondents		141 (100.0%)	1 (0.7%)	18 (12.8%)	18 (12.8%)
Age group	18 - 29 yrs.	6 (6.3%)	1 (100.0%)	0 (0.0%)	0 (0.0%)
	30 - 39 yrs.	15 (15.8%)	0 (0.0%)	0 (0.0%)	2 (14.3%)
	40 - 49 yrs.	23 (24.2%)	0 (0.0%)	3 (21.4%)	5 (35.7%)
	50 - 59 yrs.	32 (33.7%)	0 (0.0%)	6 (42.9%)	3 (21.4%)
	60 - 69 yrs.	17 (17.9%)	0 (0.0%)	4 (28.6%)	4 (28.6%)
	70 - 79 yrs.	2 (2.1%)	0 (0.0%)	1 (7.1%)	0 (0.0%)
Gender	Female	74 (77.9%)	1 (100.0%)	9 (64.3%)	6 (42.9%)
	Male	21 (22.1%)	0 (0.0%)	5 (35.7%)	8 (57.1%)
Education	Secondary School	4 (4.2%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	College/University	34 (35.8%)	1 (100.0%)	3 (21.4%)	1 (7.1%)
	Graduate or advanced degree (e.g. PhD, MD, etc.)	57 (60.0%)	0 (0.0%)	11 (78.6%)	13 (92.9%)

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

Twenty-nine percent of all providers had their main practice setting in an eye clinic and for ophthalmologists only, the settings were eye clinic (88%) and hospital (5.9%) (see Appendix PT 2.1). Most providers (80%) worked in an urban setting (see Appendix PT 2.2).

Most health care professionals worked in the private sector (44%) and ophthalmologists worked mainly in private (82%), government (12%) and combined or mixed (5.9%) sectors (see Appendix PT 2.3).

Providers overall said that 48% of patients do not pay for services, 27% pay a reduced or subsidised rate, and 21% have a co-payment system with insurance. On the other hand, for ophthalmologists, 50% of patients co-pay with insurance, 38% pay a reduced or subsidised rate, and 25% pay out-of-pocket (full fees) for services (see Appendix PT 2.7).

On average, all providers see 47 patients per week and on average 51% of these patients had diabetes. On the other hand, ophthalmologists saw an average 102 patients per week and 28% had diabetes (see Appendix PT 2.6).

For all health care professionals, the average waiting time for an appointment was most commonly more than one week but less than one month (38%), or less than one week (35%) (see Appendix PT 2.5).

For an appointment with an ophthalmologist, it was usually more than one week but less than one month in 50% of practices but for a further 25% of practices, the 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=116)	Ophthalmologist (n=16)
Less than 1 week	41 (35.3%)	4 (25.0%)
More than 1 week but less than 1 month	44 (37.9%)	8 (50.0%)
More than 1 month but less than 2 months	9 (7.8%)	1 (6.3%)
More than 2 months but less than 3 months	5 (4.3%)	1 (6.3%)
More than 3 months but less than 6 months	3 (2.6%)	1 (6.3%)
Do not take appointments	5 (4.3%)	1 (6.3%)
Other	4 (3.4%)	0 (0.0%)
Don't know/Not sure	5 (4.3%)	0 (0.0%)

Patient Education Information

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

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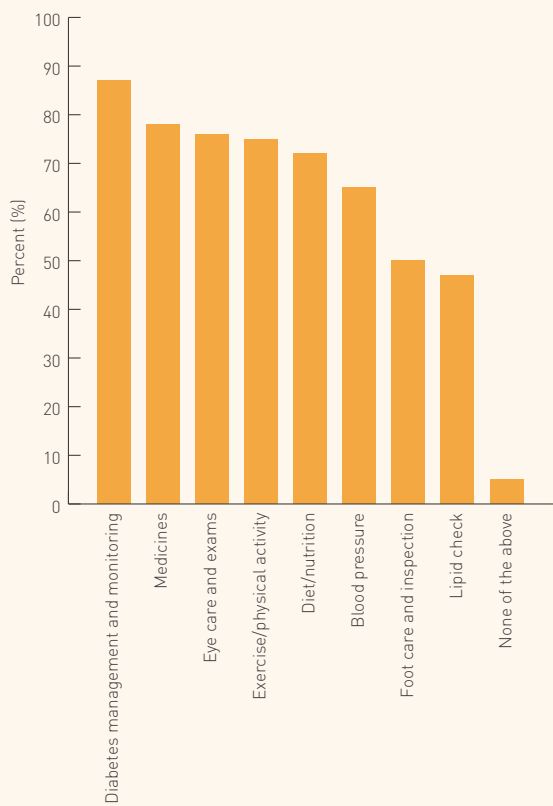
Health care professionals stated that written information about diabetes is available yet the adequacy of that related to eye complications varies.

Forty-three percent of all providers reported that they had sufficient information about eye complications, 24% said the information on eye complications and diabetes was not sufficient and 12% said there was no such information. Overall 14% of those surveyed had no written information available for their patients (see Table 12 and Appendix PT 2.11).

Most ophthalmologists (67%) had written information about diabetes and potential eye complications, 6.7% had information on diabetes but information on eye complications was not sufficient. Twenty percent of ophthalmologists said there was no written information available at all.

Guidelines and Protocols

Sixty percent of providers and 20% of ophthalmologists had written protocols for the management of diabetes, which were used by staff. However, 27% had no protocols (see Appendix PT 2.12).

With respect to the management of diabetes-related vision issues, 41% of all providers, including 40% of ophthalmologists, had written protocols which used by staff (see Table 12).

An unexpected, and somewhat concerning, finding was that 40% of all providers, including 47% of ophthalmologists, did not have protocols on the management of diabetes-related vision issues available (see Table 12 and Appendix PT 2.13).

Table 12: Average wait times to schedule an appointment

Question	Response	All Respondents (n=101)	Ophthalmologist (n=15)
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	43 (42.6%)	10 (66.7%)
	Yes, but information on eye complications is not sufficient	24 (23.8%)	1 (6.7%)
	Yes, but no information on eye complications is included	12 (11.9%)	0 (0.0%)
	No written information is available for patients	14 (13.9%)	3 (20.0%)
	Don't know/Not sure	8 (7.9%)	1 (6.7%)
Question	**Response**	**All Respondents (n=99)**	**Ophthalmologist (n=15)**
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	41 (41.4%)	6 (40.0%)
	Yes, available but not used by staff	6 (6.1%)	0 (0.0%)
	Not available	40 (40.4%)	7 (46.7%)
	Don't know/Not sure	12 (12.1%)	2 (13.3%)

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

Screening Protocols and Barriers in the Care Pathway

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

Recommendations for the time of the initial exam in regard to the type of diabetes did vary. For patients with type 1 diabetes some 52% of providers recommended an exam at the time of diagnosis while 18% said after a predetermined number of years. Most providers (79%) recommended for patients with type 2 diabetes an initial eye exam at the time of diagnosis (see Appendix PT 2.14).

Overall, 55% of health care professionals, including 47% of ophthalmologists, reported that follow-up eye examinations should be conducted every year (see Appendix PT 2.15). Most ophthalmologists (93%) and half of the health care professionals (54%) screen patients for DR (see Appendix PT 2.16).

Across all health care professionals, 76% reported that they send appointment reminders while 15% do not (see Appendix PT 2.19).

Ninety-four percent of the health care professionals shared information to optimise patient care management (see Appendix PT 2.20).

The most common patient characteristics influencing the referral process for eye complications for health care professionals respectively were: diabetes duration (74%), high glucose levels (68%), presence of comorbidities such as hypertension (70%), the patient's age (48%), and a patient's ability to adhere to recommendations (28%) (see Appendix PT 2.17).

Health care professionals felt that the major barriers to optimising eye health faced by patients with diabetes were: a lack of knowledge and/or awareness (63%), competing responsibilities and priorities (53%), and the patient feeling that eye complications were unlikely (47%) (see Appendix PT 2.18).

Ophthalmologists, like health care professionals, reported similar barriers however the frequency was increased especially when it came to patients' perception: the fear of treatment (54%), the misperception that complications were unlikely (54%) and that eye exams were not important (54%). Ophthalmologists (39%) also reported that patients' feeling that they were a burden on family or friends was a barrier (see Table 13 and Appendix PT 2.18).

Table 13: Major barriers to optimising eye health

Response	All Respondents (n=94)	Ophthalmologists (n=13)
Lack of knowledge and/or awareness	59 (62.8%)	9 (69.2%)
Patients have competing responsibilities and priorities	50 (53.2%)	8 (61.5%)
Patients fear of treatment/results	35 (37.2%)	7 (53.8%)
Patients feel eye complications are unlikely	44 (46.8%)	7 (53.8%)
Patients feel eye exams are not important	44 (46.8%)	7 (53.8%)
Patients feel they are a burden on family/friends	15 (16.0%)	5 (38.5%)
Cost of care	21 (22.3%)	3 (23.1%)
Referral process	20 (21.3%)	3 (23.1%)
Proximity to care	22 (23.4%)	2 (15.4%)
Long wait time for appointment	15 (16.0%)	2 (15.4%)
Long wait time on the day of visit	9 (9.6%)	2 (15.4%)
Limited access to eye specialists	17 (18.1%)	1 (7.7%)
Clinic too small or lack necessary equipment/staff	10 (10.6%)	1 (7.7%)
Recommended treatments are not available	3 (3.2%)	0 (0.0%)
Limited access to diabetes specialists	9 (9.6%)	0 (0.0%)
Other	9 (9.6%)	1 (7.7%)

Australia
DR Barometer Findings:
Ophthalmologists

Screening

There were fourteen ophthalmologists who answered at least one of the supplementary questions (see Appendix PT 4.1 to PT 4.14). On average 22% of patients seen by ophthalmologists had DR and 10% had DME (see Appendix PT 4.1 and PT 4.2).

The most common waiting time for a screening appointment for DED was more than one week but less than one month (43%) with 29% stating less than one week (see Appendix PT 4.3).

Ninety-three percent of ophthalmologists reported that there was no wait time from time of screening to diagnosis (see Appendix PT 4.4).

Treatment and Challenges

Ninety-three percent of ophthalmologists personally administer treatment for DR (see Appendix PT 4.6). The most common factors influencing the ophthalmologists' treatment of patients with DR or DME were: the presence of comorbidities such as hypertension (77%), high glucose levels (69%), and the duration of diabetes (62%) (see Appendix PT 4.7).

The most common outreach venues for screening for DED were at vision centres (29%) and mobile screening centres (7.1%) (see Appendix PT 4.13).

Ninety-three percent ophthalmologists reported that they screen patients for DR based on fundoscopy through dilated pupils. Additionally, 79% were based on optical coherence tomography and 29% on retinal photo. All ophthalmologists said that treat DR and DME based on both visual and anatomical outcomes (see Appendix PT 4.8 and PT 4.9).

Fifty-seven percent (n=8) of ophthalmologists said that patients present "in time" for screening while 43% (n=6) believe that they present when visual problems have already occurred (see Appendix PT 4.10).

Most (93%) ophthalmologists had received specific training on treatment and diagnosis of DR and or DME. Thirty-nine percent had training five years ago or more, 31% within the past year, and 23% between one and five years ago (see Appendix PT 4.11). Twenty-nine percent would be interested in online education and certification on DME, angiogenesis and anti-VEGF therapies (see Appendix PT 4.12).

Late diagnosis (79%) and complex or inadequate referral pathways (57%) were viewed by ophthalmologists as the greatest challenges for improving patient outcomes in DED whilst 43% cited reimbursement restrictions on approved therapies (see Table 14 and Appendix PT 4.14).

Table 14: Challenges for improving outcomes in DED

Question	Response	Ophthalmologist (n=14)
What do you perceive to be the greatest challenges for improving patient outcomes in diabetic eye disease?	Late diagnosis	11 (78.6%)
	Referral pathways	7 (50.0%)
	Reimbursement/restrictions on approved therapy	6 (42.9%)
	Government/insurance not able to cover patient costs	5 (35.7%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	4 (28.6%)
	No universal guideline on when to treat	2 (14.3%)
	Multi-disciplinary team integration is poor	2 (14.3%)
	Ineffective screening services	2 (14.3%)
	No universal guidelines on referral/ screening	1 (7.1%)
	Current available therapies not effective	1 (7.1%)
	Other	3 (21.4%)

Australia
DR Barometer Summary

In Australia, 321 adults with diabetes and 141 health care professionals provided insight into their experiences of living with, managing and treating diabetes, DR and DME.

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

Australia has reached a significant demographic milestone, which will impact the society for many decades to come. Currently 19% of the population is under the age of 15 years (4.5 million) while 15% is over the age of 65 years (3.6 million). By 2050, the population in Australia is expected to increase by 36% to 32.9 million with the demographic shift marked toward population ageing. In just over 30 years those aged 65 years or older will double and reach an all-time high of approximately 7.4 million.

Alongside the demographic changes the prevalence of people with diabetes is climbing rapidly. Today Australia has ~1.1 million (840.7-1,301.4‡) people living with diabetes. Approximately $106 billion USD was spent on diabetes-related care in the region in 2015, which accounted for 10% of the region's total health budget. Australia had the highest spending per person with diabetes in the region at $7,652 to $14,498 USD, with the Western Pacific average being between $693 to $1,246 USD.

The DR Barometer findings indicate that overall a younger population was more likely to be associated with type 1 diabetes, which was the opposite for those with type 2 diabetes, which tended to be an older population. Ninety-four percent of those in the youngest age group (18-39 years) had type 1 diabetes (8.8% type 2). In the 40 – 59 age group 44% had type 1 (56% type 2) and in the 60-79 year-olds 25% had type 1 diabetes (73% had type 2). This is an important but well-known finding in the context of Australia's rapidly ageing population and the increase in non-communicable diseases.

An important trend noted in the study was that in general, the longer the time since diagnoses of diabetes the greater the likelihood to be diagnosed with DED. Less than three percent those diagnosed 6-10 years ago had DED and this increased progressively over time to 45% of those diagnosed 21 years or more.

People were most often informed about their condition by health professionals such as the doctor, nurse, and diabetes and other health organisations. The health educator and nutritionist also played important roles and were viewed as valuable sources of information. A trend globally, which was reflected in the Australia study, was the increasing use of the internet by 60% of the respondents.

About a third (35%) of respondents were enrolled in diabetes management programmes and most (90%) noted there was education on the importance of screening for eye complications.

Many of those surveyed struggled with the management of their diabetic condition with some issues that were within their personal control such as eating the right foods or not even wanting to think about having diabetes. In addition 35% reported that cost of care was a challenge as was long wait times for appointments.

There was a high awareness of the complications associated with diabetes. Vision loss (46%) was by far the most concerning followed by cardiovascular disease, neuropathy and amputation. While half of those surveyed had no complications there was still many who reported having vision loss, neuropathy, cardiovascular disease, and kidney disease.

Almost all (93%) people with DED and (67%) DME had additional complications with their condition and the frequency of complications, aside from vision loss, was significantly greater than for those respondents without DED (e.g. 14% without DED, 42% with DED, 56% with DME reported neuropathy).

Evidence shows that the relationship between the patient and the health care professional is critical to ensure realistic and optimal patient outcomes. It was therefore gratifying that 88% of those surveyed said that eye complications were discussed with their health care professionals. However, there remained 21% who had either had never discussed eye complications or discussions only took place when symptoms arose. Equally concerning is the myths and perceptions around vision changes with 21% of patients reporting that vision problems were a normal part of ageing and some not making any special effort to prevent vision problems.

While most respondents reported having an eye exam for DED some 46% of the respondents said that the eye exams were expensive and this was a barrier for them. Ophthalmologists (39%) also reported that patients' feeling that they were a burden on family or friends was a barrier.

Almost three quarters of those with DED or DME said that their vision was slightly or significantly affected which in turn impacted their life choices and roles and responsibilities, including difficulty driving a vehicle, social interactions with family and friends, and working.

The findings on self-reported health status described the real impact DED and DME has on health and wellbeing. More than half (52%) of those with DED, and 70% with DME, said that there overall health was poor compared with 30% of those without DED. Further analysis of health from a physical and mental perspective did not however show the above corresponding trend, in fact, about the same proportion of those without DED (49%) and with DED (46%) experienced mentally unhealthy days.

A proactive treatment approach to prevent further vision loss was preferred rather than reactive treatment once further vision loss had occurred. However, for some (16%) respondents access to healthcare was affected by where they actually lived. Health (57%) and family (13%) were the top 'worries' on the minds of the respondents surveyed.

Patient education is very much at the heart of a proactive approach so it was somewhat unexpected to find that 36% of providers said that the written information on diabetes and eye complications available was not sufficient or non-existent. Furthermore, only 41% of providers, and 40% of ophthalmologists, had written protocols for the detection and management of diabetes-related vision issues that were used by staff. A concerning finding was that 40% of all providers, and 47% of ophthalmologists, did not have protocols on the management of diabetes-related vision issues available.

For both patients with either type 1 or type 2 diabetes 52% and 79% of all providers respectively said that an initial eye exam should occur at time of the diagnosis of diabetes. With respect to follow-up eye examinations 55% of providers, and 47% of ophthalmologists, reported that these should be conducted every year.

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

Late diagnosis and complex or inadequate referral pathways were viewed by ophthalmologists as some of the greatest challenges for improving patient outcomes in DED.

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 noted in this study.

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

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 Australia

APPENDIX 1 : National Results

Table 1.1

Survey Information	Number of Respondents (%)
All valid respondents [1]	333 (100.0%)
Respondents aged 18 or over	330 (99.1%)
Respondents with diabetes	321 (96.4%)

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

Table 1.2

Survey Information	Number of Respondents (%)
All valid respondents	333 (100.0%)
Included in Diabetic Analysis Set	321 (96.4%)
Excluded from Diabetic Analysis Set	12 (3.6%)
Reasons for exclusion from diabetic analysis set	.
Under 18 years of age	3
Not diagnosed with diabetes	6
Missing information on diabetes diagnosis	3

Table 1.3

Survey Information	Number of Respondents (%)
Diabetic Analysis Set	321 (100.0%)
World Bank Income Group: High Income	321 (100.0%)
Persons with diabetic eye disease (DED)	72 (22.4%)
Persons with diabetic macular edema (DME)	10 (3.1%)
Persons with Type I diabetes	144 (44.9%)
Persons with Type II diabetes	174 (54.2%)
Persons not seeing health care professional for diabetes	6 (1.9%)
Persons seeing health care professional for diabetes	314 (97.8%)
Persons with eye disease & not received treatment	22 (6.9%)
Persons with eye disease & received treatment	52 (16.2%)

Table 2.1

Question	Response	Number of Respondents (%)
With which type of diabetes have you been diagnosed?	Type I	144 (44.9)
	Type II	174 (54.2)
	Don't know/Not sure	3 (0.9)
	Total Valid Response	321 (100.0)

Table 2.2

Question	Response	Number of Respondents (%)
When was your diabetes diagnosed?	Within the last year	14 (4.4)
	1 - 5 years ago	56 (17.5)
	6 - 10 years ago	44 (13.8)
	11 - 15 years ago	50 (15.6)
	16 - 20 years ago	56 (17.5)
	21 years ago or longer	100 (31.3)
	Total Valid Response	320 (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	314 (98.1)
	No	6 (1.9)
	Total Valid Response	320 (100.0)
	Total missing	1
What kind of health care professional?	General/Family Doctor	136 (43.7)
	Nurse	4 (1.3)
	Diabetes Specialist	167 (53.7)
	Other	4 (1.3)
	Total Valid Response	311 (100.0)

Question	Response	Number of Respondents (%)
	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)	110
	Mean	4.0
	SD	2.9
	Median	4.0
	Min	1
	Max	23
	Don't know/Not sure	4
	Total missing	22
Nurse	Total valid numeric response (n)	1
	Mean	8.0
	SD	
	Median	8.0
	Min	8
	Max	8
	Total missing	3
Diabetes Specialist	Total valid numeric response (n)	141
	Mean	3.3
	SD	1.9
	Median	3.0
	Min	1
	Max	12
	Don't know/Not sure	2
	Total missing	24
Other	Total valid numeric response (n)	3
	Mean	4.0
	SD	2.0
	Median	4.0
	Min	2
	Max	6

Type of health care professional	Times per year seen for diabetes	Value
	Total missing	1

Table 2.4

Question	Response	Number of Respondents (%)
How have you received information about diabetes?	Doctor or nurse	284 (90.2%)
	Health educator	198 (62.9%)
	Nutritionist or dietitian	193 (61.3%)
	Diabetes organization or other health organization	263 (83.5%)
	Family/Friends/Neighbors	66 (21.0%)
	TV/Radio/Newspaper/Magazines	70 (22.2%)
	Internet	188 (59.7%)
	Social media (e.g. Facebook, Twitter, blogs)	60 (19.0%)
	Pharmacist	67 (21.3%)
	None of the above	1 (0.3%)
	Total Valid Response	315 (100.0%)
	Total missing	6

Table 2.5

Question	Response	Number of Respondents (%)
How do you manage your diabetes?	Diet	197 (62.9%)
	Oral medicine	142 (45.4%)
	Exercise	153 (48.9%)
	Insulin	194 (62.0%)
	Natural/Herbal medicine	12 (3.8%)
	Other	1 (0.3%)
	None of the above	2 (0.6%)
	Total Valid Response	313 (100.0%)
	Total missing	8

Table 2.6

Question	Response	Number of Respondents (%)
Are you currently enrolled in a diabetes patient management support programme?	Yes	111 (35.2)
	No	204 (64.8)
	Total Valid Response	315 (100.0)
	Total missing	6
Who sponsors the programme?	Hospital support program	13 (12.1)
	Clinic support program	37 (34.6)
	Pharmaceutical support program	5 (4.7)
	Patient organization support program	10 (9.3)
	Don't know/Not sure	42 (39.3)
	Total Valid Response	107 (100.0)
	Total missing	214
Does the programme include education on the importance of screening for diabetic eye complications?	Yes	95 (89.6)
	No	11 (10.4)
	Total Valid Response	106 (100.0)
	Total missing	215

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	296 (96.4%)
	Less than 6 months	247 (80.5%)
	6 - 12 months	30 (9.8%)
	Greater than 12 months	16 (5.2%)
	Total valid response	293 (95.4%)
	Total missing	28

Test	Response	Number of Respondents (%)
	No	11 (3.6%)
	Total valid response	307 (100.0%)
	Total missing	14
Urine check	Yes	273 (89.5%)
	Less than 6 months	172 (56.4%)
	6 - 12 months	76 (24.9%)
	Greater than 12 months	21 (6.9%)
	Total valid response	269 (88.2%)
	Total missing	52
	No	24 (7.9%)
	Don't know/Not sure	8 (2.6%)
	Total valid response	305 (100.0%)
	Total missing	16
Weight check	Yes	294 (97.4%)
	Less than 6 months	240 (79.5%)
	6 - 12 months	36 (11.9%)
	Greater than 12 months	12 (4.0%)
	Total valid response	288 (95.4%)
	Total missing	33
	No	8 (2.6%)
	Total valid response	302 (100.0%)
	Total missing	19
Blood pressure check	Yes	304 (99.3%)
	Less than 6 months	285 (93.1%)
	6 - 12 months	11 (3.6%)

Test	Response	Number of Respondents (%)
	Greater than 12 months	4 (1.3%)
	Total valid response	300 (98.0%)
	Total missing	21
	No	2 (0.7%)
	Total valid response	306 (100.0%)
	Total missing	15
Foot check	Yes	264 (86.8%)
	Less than 6 months	145 (47.7%)
	6 - 12 months	81 (26.6%)
	Greater than 12 months	34 (11.2%)
	Total valid response	260 (85.5%)
	Total missing	61
	No	39 (12.8%)
	Don't know/Not sure	1 (0.3%)
	Total valid response	304 (100.0%)
	Total missing	17
Eye check	Yes	282 (93.7%)
	Less than 6 months	156 (51.8%)
	6 - 12 months	93 (30.9%)
	Greater than 12 months	30 (10.0%)
	Total valid response	279 (92.7%)
	Total missing	42
	No	17 (5.6%)
	Don't know/Not sure	2 (0.7%)
	Total valid	301 (100.0%)

Test	Response	Number of Respondents (%)
	response	
	Total missing	20

Table 2.8

Question	Response	Number of Respondents (%)
How well do you think your diabetes is controlled?	Very well	67 (22.0%)
	Well	169 (55.4%)
	Not very well	58 (19.0%)
	Not well at all	6 (2.0%)
	Don't know/Not sure	5 (1.6%)
	Total Valid Response	305 (100.0%)
	Total missing	16

Table 2.9

Question	Response	Number of Respondents (%)
What are the main challenges you face in controlling your diabetes?	High cost of care	107 (35.2%)
	No insurance	27 (8.9%)
	Travel to my regular doctor or specialist is difficult	33 (10.9%)
	Long wait time for an appointment to see my doctor or specialist	50 (16.4%)
	Health services needed are not available	28 (9.2%)
	Don't know enough about diabetes	21 (6.9%)
	Too hard to eat the right things	134 (44.1%)
	Too many other things to do	72 (23.7%)
	Stigma or discrimination because of diabetes	36 (11.8%)
	Don't want to think about having diabetes	55 (18.1%)

Question	Response	Number of Respondents (%)
	Other	70 (23.0%)
	Total Valid Response	304 (100.0%)
	Total missing	17

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	215 (71.9%)
	Support groups	55 (18.4%)
	Support from family or friends	121 (40.5%)
	Health education and information	165 (55.2%)
	Mobile services (services that travel to or near your home)	12 (4.0%)
	Coordination of healthcare and services by a professional	135 (45.2%)
	Emergency helpline	10 (3.3%)
	Other	13 (4.3%)
	None	20 (6.7%)
	Total Valid Response	299 (100.0%)
	Total missing	22

Table 2.11

Question	Response	Number of Respondents (%)
What complications (or problems), to your knowledge, arise from diabetes?	Amputation	257 (85.4%)
	Foot ulcers	251 (83.4%)
	Increased risk of broken bones or fractures	53 (17.6%)
	Loss of feeling in hands or toes (neuropathy)	266 (88.4%)
	Vision loss	280 (93.0%)
	Irritable bowel disease	52 (17.3%)
	Kidney disease	231 (76.7%)

Question	Response	Number of Respondents (%)
	Cardiovascular disease/Stroke	232 (77.1%)
	Other	47 (15.6%)
	Don't know/Not sure	4 (1.3%)
	None	10 (3.3%)
	Total Valid Response	301 (100.0%)
	Total missing	20

Table 2.12

Question	Response	Number of Respondents (%)
Which complication of diabetes are you most concerned about?	Amputation	21 (7.1)
	Foot ulcers	4 (1.4)
	Increased risk of broken bones or fractures	2 (0.7)
	Loss of feeling in hands or toes (neuropathy)	24 (8.1)
	Vision loss	136 (45.9)
	Irritable bowel disease	1 (0.3)
	Kidney disease	32 (10.8)
	Cardiovascular disease/Stroke	56 (18.9)
	Other	2 (0.7)
	Don't know/Not sure	6 (2.0)
	None	12 (4.1)
	Total Valid Response	296 (100.0)
	Total missing	25

Table 2.13

Question	Response	Number of Respondents (%)
Which of the following complications of diabetes do you have?	Amputation	5 (1.7%)
	Foot ulcers	7 (2.4%)
	Broken bones or fractures	8 (2.7%)

Question	Response	Number of Respondents (%)
	Loss of feeling in hands or toes (neuropathy)	64 (21.9%)
	Vision loss	68 (23.3%)
	Irritable bowel disease	22 (7.5%)
	Kidney disease	23 (7.9%)
	Cardiovascular disease/Stroke	38 (13.0%)
	Other	19 (6.5%)
	Don't know/Not sure	13 (4.5%)
	None	145 (49.7%)
	Total Valid Response	292 (100.0%)
	Total missing	29

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	51 (17.2%)
	Multiple times per year	68 (23.0%)
	Once per year	107 (36.1%)
	Only when symptoms arise	35 (11.8%)
	Never	25 (8.4%)
	Don't know/Not sure	10 (3.4%)
	Total Valid Response	296 (100.0%)
	Total missing	25

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	63 (21.4%)
	I do what I can to prevent vision problems (e.g. get routine screenings, visit	270 (91.8%)

Question	Response	Number of Respondents (%)
	specialists)	
	I do not make any special effort to prevent vision problems	10 (3.4%)
	Total Valid Response	294 (100.0%)
	Total missing	27

Table 2.16

Question	Response	Number of Respondents (%)
What type of health insurance do you have?	Public	33 (11.1)
	Public - Private	69 (23.2)
	Private	150 (50.5)
	None	45 (15.2)
	Total Valid Response	297 (100.0)
	Total missing	24

Table 2.17

Question	Response	Number of Respondents (%)
Most often, how do you pay for the following types of medical care and services?		
General doctor visits (e.g. primary care doctor)	Care is free	139 (47.0)
	Insurance pays total cost	12 (4.1)
	Insurance and out-of-pocket/cash (e.g. co-pays)	85 (28.7)
	Out-of-pocket only (pay cash for all care)	56 (18.9)
	Don't know/Not Sure	4 (1.4)
	Total Valid Response	296 (100.0)
	Total missing	25
Specialist medical visits (e.g. eye doctor, gynecologist, urologist)	Care is free	54 (18.6)
	Insurance pays total cost	9 (3.1)
	Insurance and out-of-pocket/cash (e.g. co-pays)	151 (51.9)
	Out-of-pocket only (pay	65 (22.3)

Question	Response	Number of Respondents (%)
	cash for all care)	
	Do not use service	7 (2.4)
	Don't know/Not Sure	5 (1.7)
	Total Valid Response	291 (100.0)
	Total missing	30
Medicines	Care is free	6 (2.1)
	Insurance pays total cost	3 (1.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	103 (35.6)
	Out-of-pocket only (pay cash for all care)	165 (57.1)
	Do not use service	6 (2.1)
	Don't know/Not Sure	6 (2.1)
	Total Valid Response	289 (100.0)
	Total missing	32
Medical supplies (e.g. blood glucose meter/strips)	Care is free	27 (9.2)
	Insurance pays total cost	6 (2.0)
	Insurance and out-of-pocket/cash (e.g. co-pays)	96 (32.8)
	Out-of-pocket only (pay cash for all care)	155 (52.9)
	Do not use service	5 (1.7)
	Don't know/Not Sure	4 (1.4)
	Total Valid Response	293 (100.0)
	Total missing	28
Procedures	Care is free	45 (15.8)
	Insurance pays total cost	23 (8.1)
	Insurance and out-of-pocket/cash (e.g. co-pays)	129 (45.3)
	Out-of-pocket only (pay cash for all care)	42 (14.7)
	Do not use service	29 (10.2)
	Don't know/Not Sure	17 (6.0)
	Total Valid Response	285 (100.0)

Question	Response	Number of Respondents (%)
	Total missing	36
Tests/screenings	Care is free	136 (46.9)
	Insurance pays total cost	20 (6.9)
	Insurance and out-of-pocket/cash (e.g. co-pays)	88 (30.3)
	Out-of-pocket only (pay cash for all care)	31 (10.7)
	Do not use service	3 (1.0)
	Don't know/Not Sure	12 (4.1)
	Total Valid Response	290 (100.0)
	Total missing	31
Health education	Care is free	114 (40.0)
	Insurance pays total cost	8 (2.8)
	Insurance and out-of-pocket/cash (e.g. co-pays)	41 (14.4)
	Out-of-pocket only (pay cash for all care)	36 (12.6)
	Do not use service	64 (22.5)
	Don't know/Not Sure	22 (7.7)
	Total Valid Response	285 (100.0)
	Total missing	36
Counseling	Care is free	58 (20.6)
	Insurance pays total cost	4 (1.4)
	Insurance and out-of-pocket/cash (e.g. co-pays)	43 (15.3)
	Out-of-pocket only (pay cash for all care)	24 (8.5)
	Do not use service	136 (48.4)
	Don't know/Not Sure	16 (5.7)
	Total Valid Response	281 (100.0)
	Total missing	40

Table 3.1

Question	Response	Number of Respondents (%)

Question	Response	Number of Respondents (%)
Are you aware of any government sponsored screening programs for diabetic eye disease (diabetic retinopathy)?	Yes	54 (18.4%)
	No	239 (81.6%)
	Total valid response	293 (100.0%)
	Total missing	28

Table 3.2

Question	Response	Number of Respondents (%)
Have you ever had an eye exam for diabetic eye disease?	Yes	272 (92.5%)
	No	22 (7.5%)
	Total valid response	294 (100.0%)
	Total missing	27
How long ago was your last eye exam?	Within the last year	215 (79.0%)
	More than 1 year ago but less than 2 years	49 (18.0%)
	More than 2 years ago but less than 3 years	4 (1.5%)
	More than 3 years ago but less than 5 years	3 (1.1%)
	Five or more years ago	1 (0.4%)
	Total valid response	272 (100.0%)
	Total missing	49
Who did the last exam?	General/Family practitioner	3 (1.1%)
	Eye doctor/Eye clinic	254 (93.4%)
	Other	15 (5.5%)
	Total valid response	272 (100.0%)
	Total missing	49

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	272 (93.5%)

Question	Response	Number of Respondents (%)
	No	18 (6.2%)
	Don't know/Not sure	1 (0.3%)
	Total valid response	291 (100.0%)
	Total missing	30

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	230 (78.5%)
	Every two years	54 (18.4%)
	Less often than every two years	1 (0.3%)
	Only when symptoms occur	1 (0.3%)
	Don't know/Not sure	7 (2.4%)
	Total valid response	293 (100.0%)
	Total missing	28

Table 3.5

Question	Response	Number of Respondents (%)
For you, what are the biggest barriers to eye exams?	They are expensive	106 (45.7%)
	Eye exams are not available near my home	24 (10.3%)
	Long wait time for appointment	47 (20.3%)
	Long wait time on the day of the visit	45 (19.4%)
	Referral process is complicated or takes too long	24 (10.3%)
	Recommended treatments for eye problems are not available	2 (0.9%)
	Don't know much about my condition	9 (3.9%)
	Fear of treatment/results	51 (22.0%)

Question	Response	Number of Respondents (%)
	Burden on my family/friends	14 (6.0%)
	Limited access to diabetes specialists	29 (12.5%)
	I'm not likely to have eye complications	6 (2.6%)
	Eye exams are not important	2 (0.9%)
	Too many other things to do or worry about	23 (9.9%)
	Clinics are too small or lack necessary equipment/staff	1 (0.4%)
	Other	42 (18.1%)
	Total valid response	232 (100.0%)
	Total missing	89

Table 3.6

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic eye disease?	Yes	79 (27.1%)
	No	213 (72.9%)
	Total valid response	292 (100.0%)
	Total missing	29
Has your diabetic eye disease affected your vision?	Yes, slightly	36 (45.6%)
	Yes, significantly	21 (26.6%)
	No	22 (27.8%)
	Total valid response	79 (100.0%)
	Total missing	242
Have vision issues caused you to have difficulty with any of the following?	Traveling	16 (29.1%)
	Household responsibilities, such as cooking or cleaning	11 (20.0%)
	Social interactions with family/friends	15 (27.3%)
	Leisure activities/exercise	21 (38.2%)
	Work or keeping a job	15 (27.3%)
	Managing my diabetes	11 (20.0%)

Question	Response	Number of Respondents (%)
	Other	5 (9.1%)
	None	19 (34.5%)
	Driving (a car/vehicle)	24 (43.6%)
	Total valid response	55 (100.0%)
	Total missing	266

Table 3.7

Question	Response	Number of Respondents (%)
Have you had any treatment for diabetic eye disease?	Yes	52 (65.8%)
	No	22 (27.8%)
	Don't know/Not sure	5 (6.3%)
	Total valid response	79 (100.0%)
	Total missing	242
What treatment did you receive?	Laser	45 (86.5%)
	Injection in the eye (Anti-VEGF)	14 (26.9%)
	Surgery	18 (34.6%)
	Other	6 (11.5%)
	Total valid response	52 (100.0%)
	Total missing	269
Did you complete the treatment?	Yes	35 (67.3%)
	Still receiving treatment	15 (28.8%)
	Don't know/Not sure	2 (3.8%)
	Total valid response	52 (100.0%)
	Total missing	269
Do you feel that the treatment worked?	Yes, and vision improved	18 (34.6%)
	Yes, but vision stayed the same	22 (42.3%)
	No	5 (9.6%)
	Still waiting to know	6 (11.5%)
	Don't know/Not sure	1 (1.9%)
	Total valid response	52 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	269
What is/are the reason(s) that you did not complete the treatment?	Total missing	321
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	21 (95.5%)
	Other	2 (9.1%)
	Total valid response	22 (100.0%)
	Total missing	299

Table 3.8

Question	Response	Number of Respondents (%)
Have you been diagnosed with diabetic macular edema?	Yes	10 (3.4%)
	No	238 (82.1%)
	Don't know/Not sure	42 (14.5%)
	Total valid response	290 (100.0%)
	Total missing	31
If Yes, which of the following would you prefer	Treatment to prevent further vision loss	10 (100.0%)
	Total valid response	10 (100.0%)
	Total missing	311

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	141 (49.1%)
	Health educator	69 (24.0%)
	Diabetes organization or other health organization	115 (40.1%)
	Family/Friends/Neighbors	12 (4.2%)
	TV/Radio/Newspaper/Magazines	15 (5.2%)
	Internet	60 (20.9%)

Question	Response	Number of Respondents (%)
	None of the above	85 (29.6%)
	Total valid response	287 (100.0%)
	Total missing	34

Table 4.1

Question	Response	Number of Respondents (%)
What is your gender?	Female	173 (59.7)
	Male	117 (40.3)
	Total Valid Response	290 (100.0)
	Total missing	31
Please indicate your age	18 - 29	28 (8.7)
	30 - 39	40 (12.5)
	40 - 49	33 (10.3)
	50 - 59	70 (21.8)
	60 - 69	96 (29.9)
	70 - 79	43 (13.4)
	80 - 89	11 (3.4)
	Total Valid Response	321 (100.0)

Table 4.2

Question	Response	Number of Respondents (%)
Where do you live?	Urban setting	233 (80.6)
	Non-urban setting	56 (19.4)
	Total Valid Response	289 (100.0)
	Total missing	32

Table 4.3

Question	Response	Number of Respondents (%)
What is the highest level of education you completed?	Primary school	7 (2.4)
	Secondary school	108 (37.1)
	College/University	97 (33.3)

Question	Response	Number of Respondents (%)
	Graduate or post-graduate	79 (27.1)
	Total valid response	291 (100.0)
	Total missing	30

Table 4.4

Question	Response	Number of Respondents (%)
Are you currently working?	Working for pay	123 (42.6)
	Working without pay at home (e.g. housework, farming)	12 (4.2)
	Volunteering	8 (2.8)
	Retired	112 (38.8)
	Student	10 (3.5)
	Not working	24 (8.3)
	Total Valid Response	289 (100.0)
	Total missing	32

Table 4.5

Question	Response	Number of Respondents (%)
Do you receive assistance from the government?	Income assistance	34 (11.8%)
	Medical assistance	70 (24.3%)
	Food assistance	1 (0.3%)
	Housing assistance	11 (3.8%)
	Pension assistance	86 (29.9%)
	None of the above	150 (52.1%)
	Total valid response	288 (100.0%)
	Total missing	33

Table 4.6

Question	Response	Number of Respondents (%)
Did you have trouble paying for food at anytime during the past year?	Yes	42 (14.5)
	No	248 (85.5)
	Total Valid Response	290 (100.0)
	Total missing	31

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	24 (8.3)
	Education	2 (0.7)
	Gender	1 (0.3)
	Income	57 (19.8)
	Place of birth	3 (1.0)
	Place where you live	45 (15.6)
	Religion	1 (0.3)
	None of the above	197 (68.4)
	Total valid response	288 (100.0)
	Total missing	33

Table 4.8

Question	Response	Number of Respondents (%)
Which of the following do you worry about most?	Food	5 (1.7)
	Housing	10 (3.4)
	Money	60 (20.6)
	Health	138 (47.4)
	Family	39 (13.4)
	None of the above	39 (13.4)
	Total Valid	291 (100.0)

Question	Response	Number of Respondents (%)
	Response	
	Total missing	30

Table 5.1

Question	Response	Number of Respondents (%)
In general, would you say your health is:	Excellent	8 (2.8%)
	Very good	58 (20.2%)
	Good	115 (40.1%)
	Total good health	181 (63.1%)
	Fair	80 (27.9%)
	Poor	26 (9.1%)
	Fair or poor health	106 (36.9%)
	Total valid response	287 (100.0%)
	Total missing	34

Table 5.2

Question	Response	Number of Respondents (%)
How many days during last 30 days was your physical health not good	Any unhealthy days	134 (53.4%)
	1-5 unhealthy days	60 (23.9%)
	6-10 unhealthy days	26 (10.4%)
	11-20 unhealthy days	26 (10.4%)
	21-30 unhealthy days	22 (8.8%)
	No unhealthy days	117 (46.6%)
	Total valid response	251 (100.0%)
	Total missing	70

Table 5.3.1

Question	Response	Number of Respondents (%)
How many days during last 30 days was your mental health not good	Any unhealthy days	115 (47.5%)
	1-5 unhealthy days	42 (17.4%)
	6-10 unhealthy days	22 (9.1%)
	11-20 unhealthy days	23 (9.5%)
	21-30 unhealthy days	28 (11.6%)
	No unhealthy days	127 (52.5%)
	Total valid response	242 (100.0%)
	Total missing	79

Table 5.3.2

Question	Response	Number of Respondents (%)
Unhealthy days (physically or mentally unhealthy, max 30)	Any unhealthy days	168 (70.0%)
	1-5 unhealthy days	50 (20.8%)
	6-10 unhealthy days	30 (12.5%)
	11-20 unhealthy days	37 (15.4%)
	21-30 unhealthy days	51 (21.3%)
	No unhealthy days	72 (30.0%)
	Total valid response	240 (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	102 (54.8%)

Question	Response	Number of Respondents (%)
	1-5 unhealthy days	45 (24.2%)
	6-10 unhealthy days	28 (15.1%)
	11-20 unhealthy days	21 (11.3%)
	21-30 unhealthy days	8 (4.3%)
	No unhealthy days	84 (45.2%)
	Total valid response	186 (100.0%)
	Total missing	135

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	142 (53.0%)
	No	126 (47.0%)
	Total valid response	268 (100.0%)
	Total missing	53
Which impairment or health problem, if any, limits your activities?		
a) Arthritis/rheumatism	Yes	63 (56.8%)
	No	46 (41.4%)
	Don't know/Not sure	1 (0.9%)
	Refused	1 (0.9%)
	Total valid response	111 (100.0%)
	Total missing	210
b) Back or neck problem	Yes	68 (60.2%)
	No	45 (39.8%)
	Total valid response	113 (100.0%)

Question	Response	Number of Respondents (%)
	Total missing	208
c) Fractures, bone/joint injury	Yes	26 (26.5%)
	No	70 (71.4%)
	Don't know/Not sure	1 (1.0%)
	Refused	1 (1.0%)
	Total valid response	98 (100.0%)
	Total missing	223
d) Walking problem	Yes	76 (66.1%)
	No	38 (33.0%)
	Refused	1 (0.9%)
	Total valid response	115 (100.0%)
	Total missing	206
e) Lung/breathing problem	Yes	32 (32.3%)
	No	65 (65.7%)
	Don't know/Not sure	1 (1.0%)
	Refused	1 (1.0%)
	Total valid response	99 (100.0%)
	Total missing	222
f) Hearing problem	Yes	26 (25.7%)
	No	71 (70.3%)
	Don't know/Not sure	3 (3.0%)
	Refused	1 (1.0%)
	Total valid response	101 (100.0%)
	Total missing	220
g) Eye/vision problem	Yes	44 (43.1%)
	No	56 (54.9%)
	Don't know/Not sure	2 (2.0%)

Question	Response	Number of Respondents (%)
	Total valid response	102 (100.0%)
	Total missing	219
h) Heart problem	Yes	28 (28.0%)
	No	66 (66.0%)
	Don't know/Not sure	5 (5.0%)
	Refused	1 (1.0%)
	Total valid response	100 (100.0%)
	Total missing	221
i) Stroke problem	Yes	8 (8.4%)
	No	82 (86.3%)
	Don't know/Not sure	3 (3.2%)
	Refused	2 (2.1%)
	Total valid response	95 (100.0%)
	Total missing	226
j) Hypertension/high blood pressure	Yes	48 (45.7%)
	No	55 (52.4%)
	Don't know/Not sure	1 (1.0%)
	Refused	1 (1.0%)
	Total valid response	105 (100.0%)
	Total missing	216
k) Diabetes	Yes	99 (79.2%)
	No	23 (18.4%)
	Don't know/Not sure	2 (1.6%)
	Refused	1 (0.8%)
	Total valid response	125 (100.0%)
	Total missing	196
l) Cancer	Yes	8 (8.4%)

Question	Response	Number of Respondents (%)
	No	82 (86.3%)
	Don't know/Not sure	5 (5.3%)
	Total valid response	95 (100.0%)
	Total missing	226
m) Mental or emotional health	Yes	55 (51.9%)
	No	42 (39.6%)
	Don't know/Not sure	9 (8.5%)
	Total valid response	106 (100.0%)
	Total missing	215

PT 1.2

Analysis Sets	Number of Respondents (%)
All valid respondents	141 (100.0%)
Included in Provider Analysis Set (PAS)	141 (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	141
Included in the Eye Care Professional Set (Eye Specialist)	47 (33.3%)
Excluded in the Eye Care Professional Set (Eye Specialist)	94 (66.7%)
Reasons for exclusion from Eye Care Professional Set:	
Missing required speciality	94
No valid (non-missing) response for the supplemental eye questionnaire	0

PT 1.3

Subgroups	Number of Respondents (%)
Provider Analysis Set	141 (100.0%)
Primary Care Provider	1 (0.7%)

Subgroups	Number of Respondents (%)
Diabetes Specialist Provider	18 (12.8%)
Eye Care Professional	47 (33.3%)
Ophthalmologist	18 (12.8%)

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

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

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

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

PT 1.4

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your specialty?	General primary care/Family practitioner	1 (100.0%)	0 (0.0%)	0 (0.0%)	2 (1.4%)
	Diabetes specialist	0 (0.0%)	18 (100.0%)	0 (0.0%)	18 (12.8%)
	General ophthalmologist	0 (0.0%)	0 (0.0%)	7 (38.9%)	7 (5.0%)
	Optometrist	0 (0.0%)	0 (0.0%)	0 (0.0%)	29 (20.6%)
	Retinal specialist	0 (0.0%)	0 (0.0%)	12 (66.7%)	12 (8.5%)
	Nurse	0 (0.0%)	7 (38.9%)	0 (0.0%)	48 (34.0%)
	Health educator	0 (0.0%)	8 (44.4%)	0 (0.0%)	39 (27.7%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	15 (10.6%)
	Total valid response	1 (100.0%)	18 (100.0%)	18 (100.0%)	141 (100.0%)
	Total missing	0	0	0	0

PT 1.5

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
How long have you been practicing in this profession?	Total valid response (n)	1	18	18	141
	Mean	2.0	16.9	19.0	16.7

Item	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	SD	.	13.7	11.1	12.4
	Median	2.0	15.0	20.5	14.0
	Min.	2	0	3	0
	Max.	2	39	40	50
	Total missing	0	0	0	0

PT 2.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is your main practice setting?	Diabetes clinic/practice	0 (0.0%)	8 (44.4%)	0 (0.0%)	28 (20.4%)
	Eye clinic/practice	0 (0.0%)	1 (5.6%)	15 (88.2%)	40 (29.2%)
	General medical clinic/practice	1 (100.0%)	3 (16.7%)	0 (0.0%)	15 (10.9%)
	Hospital	0 (0.0%)	4 (22.2%)	1 (5.9%)	22 (16.1%)
	Other	0 (0.0%)	2 (11.1%)	1 (5.9%)	32 (23.4%)
	Total Valid Response	1 (100.0%)	18 (100.0%)	17 (100.0%)	137 (100.0%)
	Total missing	0	0	1	4

PT 2.2

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Where is your main practice located?	Urban setting	1 (100.0%)	14 (77.8%)	17 (100.0%)	108 (80.0%)
	Non-urban setting	0 (0.0%)	4 (22.2%)	0 (0.0%)	27 (20.0%)
	Total Valid Response	1 (100.0%)	18 (100.0%)	17 (100.0%)	135 (100.0%)
	Total missing	0	0	1	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%)	7 (38.9%)	2 (11.8%)	46 (34.3%)
	Private	1 (100.0%)	8 (44.4%)	14 (82.4%)	59 (44.0%)
	Non profit	0 (0.0%)	1 (5.6%)	0 (0.0%)	16 (11.9%)
	Combined/mixed	0 (0.0%)	2 (11.1%)	1 (5.9%)	13 (9.7%)
	Total Valid Response	1 (100.0%)	18 (100.0%)	17 (100.0%)	134 (100.0%)
	Total missing	0	0	1	7

PT 2.4

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is your main practice limited to certain populations?	No	1 (100.0%)	13 (76.5%)	16 (94.1%)	99 (73.3%)
	Yes, limited by age	0 (0.0%)	2 (11.8%)	1 (5.9%)	13 (9.6%)
	Yes, limited by gender	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.7%)
	Yes, limited to persons in the military or veterans	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (1.5%)
	Yes, limited to persons with health insurance	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.7%)
	Yes, limited to low income or uninsured persons	0 (0.0%)	1 (5.9%)	0 (0.0%)	6 (4.4%)
	Yes, limited to persons who pay	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (2.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	out-of-pocket				
	Yes, other	0 (0.0%)	1 (5.9%)	0 (0.0%)	13 (9.6%)
	Total valid response	1 (100.0%)	17 (100.0%)	17 (100.0%)	135 (100.0%)
	Total missing	0	1	1	6

PT 2.5

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the average wait time for an appointment in your main practice?	Less than 1 week	1 (100.0%)	3 (17.6%)	4 (25.0%)	41 (35.3%)
	More than 1 week but less than 1 month	0 (0.0%)	10 (58.8%)	8 (50.0%)	44 (37.9%)
	More than 1 month but less than 2 months	0 (0.0%)	1 (5.9%)	1 (6.3%)	9 (7.8%)
	More than 2 months but less than 3 months	0 (0.0%)	1 (5.9%)	1 (6.3%)	5 (4.3%)
	More than 3 months but less than 6 months	0 (0.0%)	1 (5.9%)	1 (6.3%)	3 (2.6%)
	Do not take appointments	0 (0.0%)	0 (0.0%)	1 (6.3%)	5 (4.3%)
	Other	0 (0.0%)	1 (5.9%)	0 (0.0%)	4 (3.4%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	0 (0.0%)	5 (4.3%)
	Total Valid Response	1 (100.0%)	17 (100.0%)	16 (100.0%)	116 (100.0%)
	Total missing	0	1	2	25

PT 2.6

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
On average, how many patients do you see per week in your main practice [n patients]	Total valid response (n)	1	16	15	111
	Mean	70	46.4	102.3	47.3
	SD	.	40.5	66.7	52.8
	Median	70	29	100	30
	Min.	70	2	0	0
	Max.	70	150	250	300
	Total missing	0	2	3	30
What percentage of the patients in your main practice have diabetes [% patients]	Total valid response (n)	0	16	16	109
	Mean	.	79	27.8	51.3
	SD	.	31.3	21.8	39.8
	Median	.	99.5	22.5	40
	Min.	.	10	0	0
	Max.	.	100	80	100
	Total missing	1	2	2	32

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	1 (100.0%)	13 (76.5%)	2 (12.5%)	56 (47.9%)
	Pay a reduced/subsidized rate	0 (0.0%)	4 (23.5%)	6 (37.5%)	31 (26.5%)
	Pay out-of-pocket (full fees)	0 (0.0%)	3 (17.6%)	4 (25.0%)	19 (16.2%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Pay through insurance	0 (0.0%)	3 (17.6%)	2 (12.5%)	9 (7.7%)
	Patient pays some, insurance pays some	0 (0.0%)	5 (29.4%)	8 (50.0%)	25 (21.4%)
	Other	0 (0.0%)	0 (0.0%)	2 (12.5%)	18 (15.4%)
	Total valid response	1 (100.0%)	17 (100.0%)	16 (100.0%)	117 (100.0%)
	Total missing	0	1	2	24

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 (100.0%)	10 (58.8%)	8 (50.0%)	44 (37.0%)
	No		7 (41.2%)	8 (50.0%)	75 (63.0%)
	Total valid response	1 (100.0%)	17 (100.0%)	16 (100.0%)	119 (100.0%)
	Total missing		1	2	22
In which other practice setting(s) do you work?	Hospital		2 (20.0%)	7 (87.5%)	12 (27.9%)
	General medical clinic/practice	1 (100.0%)	2 (20.0%)		14 (32.6%)
	Diabetes clinic/practice		3 (30.0%)		8 (18.6%)
	Eye clinic/practice		1 (10.0%)	5 (62.5%)	8 (18.6%)
	Other		5 (50.0%)		10 (23.3%)
	Total valid response	1 (100.0%)	10 (100.0%)	8 (100.0%)	43 (100.0%)
	Total missing		8	10	98
In which sector(s) is(are) the	Government		2 (20.0%)	4 (50.0%)	11

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
practice(s)?					(25.6%)
	Private	1 (100.0%)	6 (60.0%)	2 (25.0%)	21 (48.8%)
	Non profit		1 (10.0%)		4 (9.3%)
	Combined/mixed		1 (10.0%)	2 (25.0%)	7 (16.3%)
	Total valid response	1 (100.0%)	10 (100.0%)	8 (100.0%)	43 (100.0%)
	Total missing		8	10	98
Is there a major difference between your practices with respect to how diabetic eye disease is screened and managed?	Yes		6 (60.0%)	3 (37.5%)	15 (35.7%)
	No	1 (100.0%)	4 (40.0%)	5 (62.5%)	27 (64.3%)
	Total valid response	1 (100.0%)	10 (100.0%)	8 (100.0%)	42 (100.0%)
	Total missing		8	10	99

PT 2.9

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Blood glucose	Yes		1 (100.0%)	15 (93.8%)	3 (30.0%)	69 (71.1%)
		Total valid numeric response (n)	1 (100.0%)	15 (93.8%)	3 (30.0%)	64 (66.0%)
		Mean	3.0	6.8	2.0	34.4
		SD		12.8	1.7	97.6
		Median	3.0	4.0	1.0	4.0
		Min	3	0	1	0
		Max	3	52	4	365
		Total missing	0	3	15	77

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No			1 (6.3%)	7 (70.0%)	28 (28.9%)
	Total valid response		1 (100.0%)	16 (100.0%)	10 (100.0%)	97 (100.0%)
	Total missing			2	8	44
HbA1c	Yes		1 (100.0%)	12 (80.0%)	1 (10.0%)	51 (55.4%)
		Total valid numeric response (n)	1 (100.0%)	12 (80.0%)	1 (10.0%)	48 (52.2%)
		Mean	4.0	3.3	1.0	10.8
		SD		1.1		52.2
		Median	4.0	4.0	1.0	4.0
		Min	4	1	1	0
		Max	4	4	1	365
		Total missing	0	6	17	93
	No			3 (20.0%)	9 (90.0%)	41 (44.6%)
	Total valid response		1 (100.0%)	15 (100.0%)	10 (100.0%)	92 (100.0%)
	Total missing			3	8	49
Urine check	Yes		1 (100.0%)	10 (71.4%)		37 (41.1%)
			1 (100.0%)	10 (71.4%)	0 (0.0%)	34 (37.8%)
		Mean	1.0	2.3		8.1
		SD		3.4		34.0
		Median	1.0	1.0		1.0
		Min	1	1		0
		Max	1	12		200
		Total missing	0	8	18	107

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No			4 (28.6%)	10 (100.0%)	53 (58.9%)
	Total valid response		1 (100.0%)	14 (100.0%)	10 (100.0%)	90 (100.0%)
	Total missing			4	8	51
Weight check	Yes		1 (100.0%)	15 (93.8%)		64 (66.0%)
			1 (100.0%)	15 (93.8%)	0 (0.0%)	58 (59.8%)
		Mean	2.0	3.5		10.7
		SD		2.8		47.9
		Median	2.0	4.0		4.0
		Min	2	0		0
		Max	2	12		365
		Total missing	0	3	18	83
	No			1 (6.3%)	10 (100.0%)	33 (34.0%)
	Total valid response		1 (100.0%)	16 (100.0%)	10 (100.0%)	97 (100.0%)
	Total missing			2	8	44
Blood pressure check	Yes		1 (100.0%)	15 (93.8%)	5 (45.5%)	70 (72.9%)
		Total valid numeric response (n)	1 (100.0%)	15 (93.8%)	5 (45.5%)	65 (67.7%)
		Mean	4.0	9.5	1.4	23.4
		SD		16.9	1.5	76.6
		Median	4.0	4.0	1.0	4.0
		Min	4	0	0	0
		Max	4	52	4	365
		Total missing	0	3	13	76

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	No			1 (6.3%)	6 (54.5%)	26 (27.1%)
	Total valid response		1 (100.0%)	16 (100.0%)	11 (100.0%)	96 (100.0%)
	Total missing			2	7	45
Foot check	Yes			13 (86.7%)		55 (59.1%)
			0 (0.0%)	13 (86.7%)	0 (0.0%)	52 (55.9%)
		Mean		2.4		16.8
		SD		2.5		70.7
		Median		1.0		1.5
		Min		1		0
		Max		10		365
		Total missing	1	5	18	89
	No		1 (100.0%)	2 (13.3%)	10 (100.0%)	38 (40.9%)
	Total valid response		1 (100.0%)	15 (100.0%)	10 (100.0%)	93 (100.0%)
	Total missing			3	8	48
Eye examination - Un-dilated	Yes			7 (46.7%)	6 (60.0%)	39 (42.9%)
		Total valid numeric response (n)	0 (0.0%)	7 (46.7%)	6 (60.0%)	37 (40.7%)
		Mean		0.7	0.7	17.6
		SD		0.5	0.5	68.2
		Median		1.0	1.0	1.0
		Min		0	0	0
		Max		1	1	365
		Total	1	11	12	104

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		missing				
	No		1 (100.0%)	8 (53.3%)	4 (40.0%)	52 (57.1%)
	Total valid response		1 (100.0%)	15 (100.0%)	10 (100.0%)	91 (100.0%)
	Total missing			3	8	50
Eye examination - Optical Coherence Tomography	Yes			7 (46.7%)	14 (100.0%)	33 (34.4%)
		Total valid numeric response (n)	0 (0.0%)	5 (33.3%)	12 (85.7%)	26 (27.1%)
		Mean		1.0	32.3	38.7
		SD		0.7	104.8	104.3
		Median		1.0	1.5	1.0
		Min		0	1	0
		Max		2	365	365
		Total missing	1	13	6	115
	No		1 (100.0%)	8 (53.3%)		63 (65.6%)
	Total valid response		1 (100.0%)	15 (100.0%)	14 (100.0%)	96 (100.0%)
	Total missing			3	4	45
Eye examination - Fundoscopy	Yes			8 (53.3%)	14 (100.0%)	51 (52.0%)
		Total valid numeric response (n)	0 (0.0%)	8 (53.3%)	14 (100.0%)	48 (49.0%)
		Mean		1.0	28.2	29.4
		SD		0.0	97.0	92.7

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		Median		1.0	1.0	1.0
		Min		1	0	0
		Max		1	365	365
		Total missing	1	10	4	93
	No		1 (100.0%)	7 (46.7%)		47 (48.0%)
	Total valid response		1 (100.0%)	15 (100.0%)	14 (100.0%)	98 (100.0%)
	Total missing			3	4	43
Eye examination - Fluorescein Angiography	Yes			7 (46.7%)	12 (92.3%)	21 (22.8%)
		Total valid numeric response (n)	0 (0.0%)	5 (33.3%)	8 (61.5%)	15 (16.3%)
		Mean		0.8	33.3	19.9
		SD		0.8	91.6	66.8
		Median		1.0	1.0	1.0
		Min		0	0	0
		Max		2	260	260
		Total missing	1	13	10	126
	No		1 (100.0%)	8 (53.3%)	1 (7.7%)	71 (77.2%)
	Total valid response		1 (100.0%)	15 (100.0%)	13 (100.0%)	92 (100.0%)
	Total missing			3	5	49
Eye examination - Lipid check	Yes			6 (42.9%)	7 (63.6%)	36 (39.6%)
		Total valid numeric	0 (0.0%)	6 (42.9%)	7 (63.6%)	35 (38.5%)

Type of Test	Yes/No	How often/year	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
		response (n)				
		Mean		1.8	0.9	22.2
		SD		1.2	0.7	85.6
		Median		1.5	1.0	1.0
		Min		1	0	0
		Max		4	2	365
		Total missing	1	12	11	106
	No		1 (100.0%)	8 (57.1%)	4 (36.4%)	55 (60.4%)
	Total valid response		1 (100.0%)	14 (100.0%)	11 (100.0%)	91 (100.0%)
	Total missing			4	7	50

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	1 (100.0%)	14 (87.5%)	11 (73.3%)	88 (86.3%)
	Diet/nutrition	1 (100.0%)	13 (81.3%)	3 (20.0%)	66 (64.7%)
	Exercise/physical activity	1 (100.0%)	14 (87.5%)	5 (33.3%)	69 (67.6%)
	Medicines	1 (100.0%)	14 (87.5%)	7 (46.7%)	78 (76.5%)
	Foot care and inspection	1 (100.0%)	11 (68.8%)	0 (0.0%)	50 (49.0%)
	Blood pressure	1 (100.0%)	13 (81.3%)	6 (40.0%)	60 (58.8%)
	Eye care and exams	1 (100.0%)	10 (62.5%)	15 (100.0%)	72 (70.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Lipid check	1 (100.0%)	11 (68.8%)	4 (26.7%)	46 (45.1%)
	None of the above	0 (0.0%)	0 (0.0%)	0 (0.0%)	2 (2.0%)
	Total valid response	1 (100.0%)	16 (100.0%)	15 (100.0%)	102 (100.0%)
	Total missing	0	2	3	39

PT 2.11

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Is there written information about diabetes available for patients in your main practice?	Yes, and information on eye complications is sufficient	0 (0.0%)	6 (37.5%)	10 (66.7%)	43 (42.6%)
	Yes, but information on eye complications is not sufficient	0 (0.0%)	7 (43.8%)	1 (6.7%)	24 (23.8%)
	Yes, but no information on eye complications is included	0 (0.0%)	0 (0.0%)	0 (0.0%)	12 (11.9%)
	No written information is available for patients	0 (0.0%)	3 (18.8%)	3 (20.0%)	14 (13.9%)
	Don't know/Not sure	1 (100.0%)	0 (0.0%)	1 (6.7%)	8 (7.9%)
	Total Valid Response	1 (100.0%)	16 (100.0%)	15 (100.0%)	101 (100.0%)
	Total missing	0	2	3	40

PT 2.12

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you have written protocols/guidelines	Yes, available	1	12 (80.0%)	3 (20.0%)	59

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
available in your main practice for the management of diabetes?	and used by staff	(100.0%)			(59.6%)
	Yes, available but not used by staff	0 (0.0%)	0 (0.0%)	1 (6.7%)	4 (4.0%)
	Not available	0 (0.0%)	3 (20.0%)	10 (66.7%)	27 (27.3%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	1 (6.7%)	9 (9.1%)
	Total Valid Response	1 (100.0%)	15 (100.0%)	15 (100.0%)	99 (100.0%)
	Total missing	0	3	3	42

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%)	6 (40.0%)	6 (40.0%)	41 (41.4%)
	Yes, available but not used by staff	0 (0.0%)	1 (6.7%)	0 (0.0%)	6 (6.1%)
	Not available	1 (100.0%)	7 (46.7%)	7 (46.7%)	40 (40.4%)
	Don't know/Not sure	0 (0.0%)	1 (6.7%)	2 (13.3%)	12 (12.1%)
	Total Valid Response	1 (100.0%)	15 (100.0%)	15 (100.0%)	99 (100.0%)
	Total	0	3	3	42

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	missing				

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)	0 (0.0%)	4 (26.7%)	3 (20.0%)	18 (18.4%)
	Mean		5.3	6.3	4.2
	SD		0.5	3.2	2.2
	Median		5.0	5.0	5.0
	Min		5	4	1
	Max		6	10	10
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	3 (20.0%)	6 (6.1%)
	Mean			14.0	14.5
	SD			1.7	2.3
	Median			15.0	15.0
	Min			12	12
	Max			15	18
	As soon as they are diagnosed	1 (100.0%)	11 (73.3%)	7 (46.7%)	51 (52.0%)
	When a patient reports eye/vision problems				2 (2.0%)
	No standard practice, timing varies case by case			1 (6.7%)	7 (7.1%)
	Don't know/Not sure				10 (10.2%)
	Other			1 (6.7%)	4 (4.1%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total valid response	1 (100.0%)	15 (100.0%)	15 (100.0%)	98 (100.0%)
	Total missing		3	3	43
What is the protocol in your main practice for timing of initial eye exams for persons with diabetes - Type II?	After a predetermined number of years (numeric response) (n)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (1.0%)
	Mean				2.0
	SD				
	Median				2.0
	Min				2
	Max				2
	After a predetermined age (numeric response) (n)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Mean				
	SD				
	Median				
	Min				
	Max				
	As soon as they are diagnosed	1 (100.0%)	14 (93.3%)	14 (93.3%)	77 (78.6%)
	When a patient reports eye/vision problems				1 (1.0%)
	No standard practice, timing varies case by case		1 (6.7%)	1 (6.7%)	8 (8.2%)
	Don't know/Not sure				8 (8.2%)
	Other				3 (3.1%)
	Total valid response	1 (100.0%)	15 (100.0%)	15 (100.0%)	98 (100.0%)
	Total missing		3	3	43

PT 2.15

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
What is the protocol in your main practice for timing of follow-up eye examinations for persons with diabetes?	Once a year	0 (0.0%)	9 (60.0%)	7 (46.7%)	54 (55.1%)
	Every two years	1 (100.0%)	4 (26.7%)	4 (26.7%)	27 (27.6%)
	More than every two years	0 (0.0%)	1 (6.7%)	0 (0.0%)	1 (1.0%)
	Other	0 (0.0%)	1 (6.7%)	4 (26.7%)	9 (9.2%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	0 (0.0%)	7 (7.1%)
	Total Valid Response	1 (100.0%)	15 (100.0%)	15 (100.0%)	98 (100.0%)
	Total missing	0	3	3	43

PT 2.16

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Do you screen patients for DR?	Yes		8 (53.3%)	14 (93.3%)	53 (54.1%)
	No	1 (100.0%)	7 (46.7%)	1 (6.7%)	45 (45.9%)
	Total valid response	1 (100.0%)	15 (100.0%)	15 (100.0%)	98 (100.0%)
	Total missing		3	3	43
Where do you screen patients?	In clinic		6 (75.0%)	13 (100.0%)	44 (84.6%)
	Outreach		2 (25.0%)		5 (9.6%)
	Other		2 (25.0%)		5 (9.6%)
	Total valid response		8 (100.0%)	13 (100.0%)	52 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	1	10	5	89

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	1 (100.0%)	9 (64.3%)	10 (71.4%)	70 (73.7%)
	Patient's age	1 (100.0%)	8 (57.1%)	6 (42.9%)	46 (48.4%)
	Patient's gender	0 (0.0%)	1 (7.1%)	0 (0.0%)	8 (8.4%)
	Presence of comorbidities such as hypertension, etc.	1 (100.0%)	8 (57.1%)	10 (71.4%)	66 (69.5%)
	High glucose levels	0 (0.0%)	8 (57.1%)	11 (78.6%)	65 (68.4%)
	Ability or inability to pay	1 (100.0%)	1 (7.1%)	0 (0.0%)	5 (5.3%)
	Insurance restrictions	1 (100.0%)	1 (7.1%)	0 (0.0%)	2 (2.1%)
	Patient educational level	0 (0.0%)	1 (7.1%)	3 (21.4%)	7 (7.4%)
	Patient adherence to recommendations	0 (0.0%)	5 (35.7%)	6 (42.9%)	27 (28.4%)
	None of the above	0 (0.0%)	4 (28.6%)	1 (7.1%)	14 (14.7%)
	Not applicable	0 (0.0%)	1 (7.1%)	2 (14.3%)	9 (9.5%)
	Total valid response	1 (100.0%)	14 (100.0%)	14 (100.0%)	95 (100.0%)
	Total missing	0	4	4	46

PT 2.18

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS

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%)	3 (21.4%)	3 (23.1%)	21 (22.3%)
	Proximity to care	0 (0.0%)	2 (14.3%)	2 (15.4%)	22 (23.4%)
	Long wait time for appointment	0 (0.0%)	3 (21.4%)	2 (15.4%)	15 (16.0%)
	Long wait time on the day of visit	0 (0.0%)	1 (7.1%)	2 (15.4%)	9 (9.6%)
	Referral process	1 (100.0%)	4 (28.6%)	3 (23.1%)	20 (21.3%)
	Recommended treatments are not available	0 (0.0%)	1 (7.1%)	0 (0.0%)	3 (3.2%)
	Lack of knowledge and/or awareness	1 (100.0%)	7 (50.0%)	9 (69.2%)	59 (62.8%)
	Patients fear of treatment/results	0 (0.0%)	4 (28.6%)	7 (53.8%)	35 (37.2%)
	Patients they are a burden on family/friends	0 (0.0%)	0 (0.0%)	5 (38.5%)	15 (16.0%)
	Limited access to diabetes specialists	0 (0.0%)	2 (14.3%)	0 (0.0%)	9 (9.6%)
	Limited access to eye specialists	1 (100.0%)	2 (14.3%)	1 (7.7%)	17 (18.1%)
	Patients feel eye complications are unlikely	0 (0.0%)	8 (57.1%)	7 (53.8%)	44 (46.8%)
	Patients feel eye exams are not important	1 (100.0%)	5 (35.7%)	7 (53.8%)	44 (46.8%)
	Patients have competing responsibilities and priorities	0 (0.0%)	9 (64.3%)	8 (61.5%)	50 (53.2%)
	Clinic too small or lack necessary	0 (0.0%)	3 (21.4%)	1 (7.7%)	10 (10.6%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	equipment/staff				
	Other	0 (0.0%)	1 (7.1%)	1 (7.7%)	9 (9.6%)
	Total valid response	1 (100.0%)	14 (100.0%)	13 (100.0%)	94 (100.0%)
	Total missing	0	4	5	47

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	1 (100.0%)	12 (85.7%)	10 (71.4%)	72 (75.8%)
	No	0 (0.0%)	2 (14.3%)	2 (14.3%)	14 (14.7%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	2 (14.3%)	9 (9.5%)
	Total Valid Response	1 (100.0%)	14 (100.0%)	14 (100.0%)	95 (100.0%)
	Total missing	0	4	4	46

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	1 (100.0%)	13 (100.0%)	13 (92.9%)	88 (93.6%)
	Don't know/Not sure	0 (0.0%)	0 (0.0%)	1 (7.1%)	6 (6.4%)
	Total Valid Response	1 (100.0%)	13 (100.0%)	14 (100.0%)	94 (100.0%)

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
	Total missing	0	5	4	47

PT 3.1

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
Please indicate your age:	18 - 29	1 (100.0%)			6 (6.3%)
	30 - 39			2 (14.3%)	15 (15.8%)
	40 - 49		3 (21.4%)	5 (35.7%)	23 (24.2%)
	50 - 59		6 (42.9%)	3 (21.4%)	32 (33.7%)
	60 - 69		4 (28.6%)	4 (28.6%)	17 (17.9%)
	70 - 79		1 (7.1%)		2 (2.1%)
	Total valid response	1 (100.0%)	14 (100.0%)	14 (100.0%)	95 (100.0%)
	Total missing		4	4	46
What is your gender?	Female	1 (100.0%)	9 (64.3%)	6 (42.9%)	74 (77.9%)
	Male		5 (35.7%)	8 (57.1%)	21 (22.1%)
	Total valid response	1 (100.0%)	14 (100.0%)	14 (100.0%)	95 (100.0%)
	Total missing		4	4	46
What is your highest level of education completed?	Secondary School				4 (4.2%)
	College/University	1 (100.0%)	3 (21.4%)	1 (7.1%)	34 (35.8%)
	Graduate or advanced degree (e.g. PhD, MD, etc)		11 (78.6%)	13 (92.9%)	57 (60.0%)
	Total valid response	1 (100.0%)	14 (100.0%)	14 (100.0%)	95

Question	Response	Primary Care Provider	Diabetes Specialist Provider	Ophthalmologist	PAS
					(100.0%)
	Total missing		4	4	46

PT 4.1

Question	Response	Ophthalmologist
What percentage of your patients have diabetic retinopathy	Total valid numeric response (n)	14
	Mean	22.1
	SD	17.4
	Median	20.0
	Min	0
	Max	70
	Total missing	4

PT 4.2

Question	Response	Ophthalmologist
What percentage of your patients have diabetic macular edema?	Total valid numeric response (n)	14
	Mean	9.5
	SD	6.9
	Median	9.0
	Min	0
	Max	20
	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	4 (28.6%)
	More than 1 week but less than 1 month	6 (42.9%)
	More than 1 month but less than 2 months	1 (7.1%)

Question	Response	Ophthalmologist
	More than 2 months but less than 3 months	1 (7.1%)
	More than 3 months but less than 6 months	1 (7.1%)
	Do not take appointment	1 (7.1%)
	Don't know/Not sure	0 (0.0%)
	Total Valid Response	14 (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?	More than 1 week but less than 1 month	0 (0.0%)
	Don't know/Not sure	1 (7.1%)
	There is not wait, diagnosis is given when screened	13 (92.9%)
	Total Valid Response	14 (100.0%)
	Total missing	4

PT 4.5

Type of Treatment	Question	Response/time	Ophthalmologist
Laser photocoagulation	Is the treatment available?	Available within country	3 (21.4%)
		Available locally	4 (28.6%)
		Available in practice	13 (92.9%)
		Total valid response	14 (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)	9 (81.8%)
		Mean	1.9
		SD	2.3
		Median	1.0

Type of Treatment	Question	Response/time	Ophthalmologist
		Min	1
		Max	8
		Don't know/not sure	2 (18.2%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	11 (91.7%)
		Mean	1.0
		SD	1.1
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	1 (8.3%)
		Not applicable	
		Total valid response	12 (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)	10 (83.3%)
		Mean	4.0
		SD	4.5
		Median	2.0
		Min	0
		Max	12
		Don't know/not sure	1 (8.3%)
		Not applicable	1 (8.3%)
		Total valid response	12 (100.0%)
		Total missing	6
Anti-VEGF therapies	Is the treatment available?	Available within	3 (21.4%)

Type of Treatment	Question	Response/time	Ophthalmologist
		country	
		Available locally	5 (35.7%)
		Available in practice	12 (85.7%)
		Total valid response	14 (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)	9 (81.8%)
		Mean	1.7
		SD	2.4
		Median	1.0
		Min	0
		Max	8
		Don't know/not sure	2 (18.2%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	10 (90.9%)
		Mean	0.9
		SD	1.2
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	1 (9.1%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a second	Total valid numeric response (n)	9 (81.8%)

Type of Treatment	Question	Response/time	Ophthalmologist
	treatment?(weeks)		
		Mean	3.3
		SD	1.7
		Median	4.0
		Min	0
		Max	5
		Don't know/not sure	1 (9.1%)
		Not applicable	1 (9.1%)
		Total valid response	11 (100.0%)
		Total missing	7
Intravitreal steroid	Is the treatment available?	Available within country	3 (21.4%)
		Available locally	5 (35.7%)
		Available in practice	12 (85.7%)
		Total valid response	14 (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)	8 (72.7%)
		Mean	1.9
		SD	2.5
		Median	1.0
		Min	1
		Max	8
		Don't know/not sure	2 (18.2%)
		Not applicable	1 (9.1%)
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	9 (81.8%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Mean	1.1
		SD	1.3
		Median	1.0
		Min	0
		Max	4
		Don't know/not sure	1 (9.1%)
		Not applicable	1 (9.1%)
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	7 (70.0%)
		Mean	10.0
		SD	6.0
		Median	12.0
		Min	0
		Max	16
		Don't know/not sure	1 (10.0%)
		Not applicable	2 (20.0%)
		Total valid response	10 (100.0%)
		Total missing	8
Uncomplicated vitrectomy	Is the treatment available?	Available within country	3 (21.4%)
		Available locally	9 (64.3%)
		Available in practice	7 (50.0%)
		Total valid response	14 (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)	8 (72.7%)
		Mean	2.9

Type of Treatment	Question	Response/time	Ophthalmologist
		SD	2.1
		Median	2.0
		Min	2
		Max	8
		Don't know/not sure	3 (27.3%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	9 (90.0%)
		Mean	2.2
		SD	0.8
		Median	2.0
		Min	1
		Max	4
		Don't know/not sure	1 (10.0%)
		Not applicable	
		Total valid response	10 (100.0%)
		Total missing	8
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	2 (16.7%)
		Mean	6.0
		SD	5.7
		Median	6.0
		Min	2
		Max	10
		Don't know/not sure	5 (41.7%)
		Not applicable	5 (41.7%)
		Total valid response	12 (100.0%)

Type of Treatment	Question	Response/time	Ophthalmologist
		Total missing	6
Complex vitreo-retinal surgery	Is the treatment available?	Available within country	3 (21.4%)
		Available locally	9 (64.3%)
		Available in practice	7 (50.0%)
		Total valid response	14 (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)	8 (72.7%)
		Mean	2.8
		SD	2.2
		Median	2.0
		Min	1
		Max	8
		Don't know/not sure	3 (27.3%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7
	What is the average amount of time your patients wait for a first treatment?(weeks)	Total valid numeric response (n)	9 (81.8%)
		Mean	1.9
		SD	0.6
		Median	2.0
		Min	1
		Max	3
		Don't know/not sure	2 (18.2%)
		Not applicable	
		Total valid response	11 (100.0%)
		Total missing	7

Type of Treatment	Question	Response/time	Ophthalmologist
	What is the average amount of time your patients wait for a second treatment?(weeks)	Total valid numeric response (n)	2 (16.7%)
		Mean	5.5
		SD	6.4
		Median	5.5
		Min	1
		Max	10
		Don't know/not sure	7 (58.3%)
		Not applicable	3 (25.0%)
		Total valid response	12 (100.0%)
		Total missing	6

PT 4.6

Question	Response	Ophthalmologist
Do you personally administer treatment for diabetic retinopathy?	Yes	13 (92.9%)
	No	1 (7.1%)
	Total valid response	14 (100.0%)
	Total missing	4
Who administer it?	Another provider in your practice	
	Refer to a provider at another facility	
	Other	1 (100.0%)
	Total valid response	1 (100.0%)
	Total missing	17

PT 4.7

Question	Response	Ophthalmologist
Do any of the following influence how you treat diabetic retinopathy or diabetic macular edema?	Diabetes duration	8 (61.5%)
	Patient's age	6 (46.2%)

Question	Response	Ophthalmologist
	Presence of comorbidities such as hypertension, etc.	10 (76.9%)
	High glucose levels	9 (69.2%)
	Patient educational level	2 (15.4%)
	Patient adherence to recommendations	8 (61.5%)
	None of the above	1 (7.7%)
	Total valid response	13 (100.0%)
	Total missing	5

PT 4.8

Question	Response	Ophthalmologist
Do you treat diabetic retinopathy and diabetic macular edema based on:	Visual outcome	0 (0.0%)
	Both	14 (100.0%)
	Other	0 (0.0%)
	Total Valid Response	14 (100.0%)
	Total missing	4

PT 4.9

Question	Response	Ophthalmologist
How are your patients with diabetes screened for diabetic eye disease?	Fundoscopy undilated	
	Fundoscopy dilated	13 (92.9%)
	Retinal photo	4 (28.6%)
	Optical Coherence Tomography	11 (78.6%)
	Fluorescein Angiography	1 (7.1%)
	Total valid response	14 (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	8 (57.1%)

Question	Response	Ophthalmologist
	When visual problems have already occurred	6 (42.9%)
	Total Valid Response	14 (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	13 (92.9%)
	No	1 (7.1%)
	Total valid response	14 (100.0%)
	Total missing	4
If yes, When was your last training?	Don't know/Not sure	1 (7.7%)
	Five or more years ago	5 (38.5%)
	Greater than 1 year ago but less than 5 years	3 (23.1%)
	Within the past year	4 (30.8%)
	Total valid response	13 (100.0%)
	Total missing	5

PT 4.12

Question	Response	Ophthalmologist
Would you be interested in online education and certification on DME, Angiogenesis and Anti-VEGF therapies?	Yes	4 (28.6%)
	No	10 (71.4%)
	Total Valid Response	14 (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	0 (0.0%)

Question	Response	Ophthalmologist
	Health fairs for people with diabetes	0 (0.0%)
	Mobile screening centers	1 (7.1%)
	At vision centers	4 (28.6%)
	Other	2 (14.3%)
	Not done	6 (42.9%)
	Don't know/Not sure	3 (21.4%)
	Total valid response	14 (100.0%)
	Total missing	4

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 (42.9%)
	Late diagnosis	11 (78.6%)
	Referral pathways	7 (50.0%)
	Limited access to patient education on diabetic retinopathy and diabetic macular edema	4 (28.6%)
	No universal guidelines on referral/screening	1 (7.1%)
	No universal guideline on when to treat	2 (14.3%)
	Current available therapies not effective	1 (7.1%)
	Government/insurance not able to cover patient costs	5 (35.7%)
	Multi-disciplinary team integration is poor	2 (14.3%)
	Ineffective screening services	2 (14.3%)
	Other	3 (21.4%)
	Total valid response	14 (100.0%)
	Total missing	4

EXP 1

Question	Response	Without DED (%)	With DED (%)	With DME (%)
Which of the following complications of diabetes do you have?	Cardiovascular disease/Stroke	16 (7.6%)	20 (27.8%)	2 (22.2%)
	Loss of feeling in hands or toes (neuropathy)	29 (13.7%)	30 (41.7%)	5 (55.6%)
	Vision loss	23 (10.9%)	41 (56.9%)	4 (44.4%)
	Amputation	2 (0.9%)	3 (4.2%)	0 (0.0%)
	Broken bones or fractures	2 (0.9%)	6 (8.3%)	0 (0.0%)
	Foot ulcers	3 (1.4%)	4 (5.6%)	0 (0.0%)
	Irritable bowel disease	15 (7.1%)	7 (9.7%)	0 (0.0%)
	Kidney disease	8 (3.8%)	15 (20.8%)	0 (0.0%)
	Other	7 (3.3%)	11 (15.3%)	1 (11.1%)
	None	137 (64.9%)	5 (6.9%)	3 (33.3%)
	Don't know/Not sure	13 (6.2%)	0 (0.0%)	0 (0.0%)
	Total Valid Response	211 (100.0%)	72 (100.0%)	9 (100.0%)
	Total missing	28	0	1

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

EXP 2

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Limited in any way in any activities because of impairment or health problem	92 (44.9%)	46 (66.7%)	4 (40.0%)
Impairment or health problem			
Diabetes	57 (74.0%)	39 (86.7%)	3 (100.0%)
Walking problem	46 (66.7%)	27 (64.3%)	3 (75.0%)
Back or neck problem	45 (64.3%)	20 (51.3%)	3 (75.0%)
Arthritis/rheumatism	43 (62.3%)	18 (47.4%)	2 (50.0%)
Mental or emotional health	36 (53.7%)	17 (47.2%)	2 (66.7%)
Hypertension/high blood pressure	25 (39.7%)	21 (53.8%)	2 (66.7%)
Lung/breathing problem	22 (37.3%)	9 (25.0%)	1 (25.0%)

Limitations	Without DED n (%)	With DED n (%)	With DME n (%)
Eye/vision problem	19 (31.1%)	24 (63.2%)	1 (33.3%)
Hearing problem	14 (23.3%)	10 (27.0%)	2 (50.0%)
Heart problem	12 (21.1%)	15 (38.5%)	1 (25.0%)
Fractures, bone/joint injury	12 (20.3%)	12 (34.3%)	2 (50.0%)
Cancer	7 (12.1%)	1 (2.9%)	0 (0.0%)
Stroke problem	4 (7.0%)	3 (8.8%)	1 (25.0%)

NB [1]: Without DED = respondents who did not select "Yes" for both DED and DME.
NB [2]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [3]: DME = respondents with DME ="Yes".
NB [4]: 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	145 (69.7%)	33 (47.8%)	3 (30.0%)
Self-rated health: Poor	63 (30.3%)	36 (52.2%)	7 (70.0%)
Physically unhealthy days	93 (50.8%)	37 (61.7%)	4 (50.0%)
Mentally unhealthy days	86 (48.6%)	26 (45.6%)	3 (37.5%)
Unhealthy days	123 (69.9%)	41 (71.9%)	4 (57.1%)
Activity limitation days	71 (54.6%)	28 (56.0%)	3 (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	197 (62.9%)	65 (46.1%)	131 (77.1%)
	Oral medicine	142 (45.4%)	8 (5.7%)	133 (78.2%)
	Exercise	153 (48.9%)	55 (39.0%)	97 (57.1%)
	Insulin	194 (62.0%)	139 (98.6%)	54 (31.8%)
	Natural/Herbal medicine	12 (3.8%)	6 (4.3%)	6 (3.5%)
	Other	1 (0.3%)		1 (0.6%)
	None of the above	2 (0.6%)		2 (1.2%)

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	95 (45.5%)	24 (33.3%)	4 (50.0%)
	Working without pay at home (e.g. housework, farming)	9 (4.3%)	3 (4.2%)	0 (0.0%)
	Volunteering	5 (2.4%)	2 (2.8%)	1 (12.5%)
	Retired	78 (37.3%)	31 (43.1%)	3 (37.5%)
	Student	6 (2.9%)	4 (5.6%)	0 (0.0%)
	Not working	16 (7.7%)	8 (11.1%)	0 (0.0%)
	Total Valid Response	209 (100.0%)	72 (100.0%)	8 (100.0%)
	Total missing	30	0	2
Do you receive assistance from the government?	Income assistance	23 (11.1%)	10 (14.1%)	1 (11.1%)
	Medical assistance	50 (24.0%)	20 (28.2%)	0 (0.0%)
	Food assistance	0 (0.0%)	1 (1.4%)	0 (0.0%)
	Housing assistance	7 (3.4%)	4 (5.6%)	0 (0.0%)
	Pension assistance	55 (26.4%)	30 (42.3%)	1 (11.1%)
	None of the above	113 (54.3%)	30 (42.3%)	7 (77.8%)
	Total valid response	208 (100.0%)	71 (100.0%)	9 (100.0%)
	Total missing	31	1	1
Did you have trouble paying for food at anytime during the past year?	Yes	27 (13.0%)	15 (20.8%)	0 (0.0%)
	No	181 (87.0%)	57 (79.2%)	10 (100.0%)
	Total Valid Response	208 (100.0%)	72 (100.0%)	10 (100.0%)
	Total missing	31	0	0

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

EXP 5.2: Age group 18-39 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	32 (72.7%)	10 (66.7%)	0 (0.0%)
	Working without pay at home (e.g. housework, farming)	1 (2.3%)	0 (0.0%)	0 (0.0%)
	Volunteering	1 (2.3%)	0 (0.0%)	0 (0.0%)
	Student	6 (13.6%)	4 (26.7%)	0 (0.0%)
	Not working	4 (9.1%)	1 (6.7%)	0 (0.0%)
	Total Valid Response	44 (100.0%)	15 (100.0%)	0 (0.0%)
	Total missing	9	0	0
Do you receive assistance from the government?	Income assistance	6 (14.0%)	1 (6.7%)	0 (0.0%)
	Medical assistance	8 (18.6%)	1 (6.7%)	0 (0.0%)
	Housing assistance	2 (4.7%)	0 (0.0%)	0 (0.0%)
	Pension assistance	1 (2.3%)	6 (40.0%)	0 (0.0%)
	None of the above	29 (67.4%)	9 (60.0%)	0 (0.0%)
	Total valid response	43 (100.0%)	15 (100.0%)	0
	Total missing	10	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	13 (29.5%)	3 (20.0%)	0 (0.0%)
	No	31 (70.5%)	12 (80.0%)	0 (0.0%)
	Total Valid Response	44 (100.0%)	15 (100.0%)	0 (0.0%)
	Total missing	9	0	0

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

EXP 5.3: Age group 40-59 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	45 (65.2%)	13 (56.5%)	2 (66.7%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
	Working without pay at home (e.g. housework, farming)	7 (10.1%)	2 (8.7%)	0 (0.0%)
	Retired	7 (10.1%)	3 (13.0%)	1 (33.3%)
	Not working	10 (14.5%)	5 (21.7%)	0 (0.0%)
	Total Valid Response	69 (100.0%)	23 (100.0%)	3 (100.0%)
	Total missing	7	0	1
Do you receive assistance from the government?	Income assistance	7 (10.1%)	3 (13.6%)	0 (0.0%)
	Medical assistance	13 (18.8%)	7 (31.8%)	0 (0.0%)
	Housing assistance	2 (2.9%)	0 (0.0%)	0 (0.0%)
	Pension assistance	7 (10.1%)	4 (18.2%)	0 (0.0%)
	None of the above	51 (73.9%)	11 (50.0%)	3 (100.0%)
	Total valid response	69 (100.0%)	22 (100.0%)	3 (100.0%)
	Total missing	7	1	1
Did you have trouble paying for food at anytime during the past year?	Yes	9 (13.0%)	7 (30.4%)	0 (0.0%)
	No	60 (87.0%)	16 (69.6%)	4 (100.0%)
	Total Valid Response	69 (100.0%)	23 (100.0%)	4 (100.0%)
	Total missing	7	0	0

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

EXP 5.4: Age group 60-79 years

Item	Response	Without DED (%)	With DED (%)	With DME (%)
Are you currently working?	Working for pay	18 (19.1%)	1 (3.6%)	2 (40.0%)
	Working without pay at home (e.g. housework, farming)	1 (1.1%)	1 (3.6%)	0 (0.0%)
	Volunteering	4 (4.3%)	1 (3.6%)	1 (20.0%)
	Retired	69 (73.4%)	23	2 (40.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
			(82.1%)	
	Not working	2 (2.1%)	2 (7.1%)	0 (0.0%)
	Total Valid Response	94 (100.0%)	28 (100.0%)	5 (100.0%)
	Total missing	12	0	0
Do you receive assistance from the government?	Income assistance	10 (10.6%)	6 (21.4%)	0 (0.0%)
	Medical assistance	27 (28.7%)	10 (35.7%)	0 (0.0%)
	Food assistance	0 (0.0%)	1 (3.6%)	0 (0.0%)
	Housing assistance	3 (3.2%)	4 (14.3%)	0 (0.0%)
	Pension assistance	45 (47.9%)	16 (57.1%)	1 (20.0%)
	None of the above	33 (35.1%)	9 (32.1%)	4 (80.0%)
	Total valid response	94 (100.0%)	28 (100.0%)	5 (100.0%)
	Total missing	12	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	5 (5.3%)	4 (14.3%)	0 (0.0%)
	No	89 (94.7%)	24 (85.7%)	5 (100.0%)
	Total Valid Response	94 (100.0%)	28 (100.0%)	5 (100.0%)
	Total missing	12	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 (16.7%)	0 (0.0%)
	Retired	2 (100.0%)	5 (83.3%)	0 (0.0%)
	Total Valid Response	2 (100.0%)	6 (100.0%)	0
	Total missing	2	0	1
Do you receive assistance from the	Income	0 (0.0%)	0 (0.0%)	1 (100.0%)

Item	Response	Without DED (%)	With DED (%)	With DME (%)
government?	assistance			
	Medical assistance	2 (100.0%)	2 (33.3%)	0 (0.0%)
	Pension assistance	2 (100.0%)	4 (66.7%)	0 (0.0%)
	None of the above	0 (0.0%)	1 (16.7%)	0 (0.0%)
	Total valid response	2 (100.0%)	6 (100.0%)	1 (100.0%)
	Total missing	2	0	0
Did you have trouble paying for food at anytime during the past year?	Yes	0 (0.0%)	1 (16.7%)	0 (0.0%)
	No	1 (100.0%)	5 (83.3%)	1 (100.0%)
	Total Valid Response	1 (100.0%)	6 (100.0%)	1 (100.0%)
	Total missing	3	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		321 (100%)	144 (44.9%)	174 (54.2%)	72 (22.4%)	10 (3.1%)
Gender	Male	117 (40.3%)	42 (35.9%)	74 (63.2%)	35 (29.9%)	6 (5.1%)
	Female	173 (59.7%)	88 (50.9%)	84 (48.6%)	37 (21.4%)	4 (2.3%)
	Total Missing	31	14	16	0	0
Age	18-39 yrs	68 (21.2%)	62 (91.2%)	6 (8.8%)	15 (22.1%)	0 (0.0%)
	40-59 yrs	103 (32.1%)	45 (43.7%)	58 (56.3%)	23 (22.3%)	4 (3.9%)
	60-79 yrs	139 (43.3%)	35 (25.2%)	102 (73.4%)	28 (20.1%)	5 (3.6%)
	80 yrs and over	11 (3.4%)	2 (18.2%)	8 (72.7%)	6 (54.5%)	1 (9.1%)
Time since	Within the	14 (4.4%)	1 (7.1%)	13 (92.9%)	1 (7.1%)	0 (0.0%)

Group	Subgroup	All respondents	Type 1 diabetes	Type 2 diabetes	With DED (%)	With DME (%)
diagnosis	last year					
	1 - 5 years ago	56 (17.5%)	11 (19.6%)	45 (80.4%)	2 (3.6%)	0 (0.0%)
	6 - 10 years ago	44 (13.8%)	8 (18.2%)	35 (79.5%)	1 (2.3%)	1 (2.3%)
	11 - 15 years ago	50 (15.6%)	14 (28.0%)	35 (70.0%)	9 (18.0%)	0 (0.0%)
	16 - 20 years ago	56 (17.5%)	22 (39.3%)	33 (58.9%)	14 (25.0%)	3 (5.4%)
	21 years ago or longer	100 (31.3%)	88 (88.0%)	12 (12.0%)	45 (45.0%)	6 (6.0%)
	Total Missing	1	0	1	0	0
Control of Diabetes	Controlled	236 (77.4%)	102 (43.2%)	133 (56.4%)	49 (20.8%)	6 (2.5%)
	Not controlled	64 (21.0%)	35 (54.7%)	28 (43.8%)	22 (34.4%)	3 (4.7%)
	Don't know/Not sure	5 (1.6%)	1 (20.0%)	4 (80.0%)	1 (20.0%)	1 (20.0%)
	Total Missing	16	6	9	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	46 (63.9%)	6 (85.7%)
	No	21 (29.2%)	1 (14.3%)
	Don't know/Not sure	5 (6.9%)	0 (0.0%)
	Total valid response	72 (100.0%)	7 (100.0%)
	Total missing	0	3
What treatment did you receive?	Laser	39 (84.8%)	6 (100.0%)
	Anti-VEGF	12 (26.1%)	2 (33.3%)
	Surgery	17 (37.0%)	1 (16.7%)
	Other	6 (13.0%)	0 (0.0%)

Question	Response	With DED n (%)	With DME n (%)
	Total valid response	46 (100.0%)	6 (100.0%)
	Total missing	26	4
Did you complete the treatment?	Yes	30 (65.2%)	5 (83.3%)
	Still receiving treatment	14 (30.4%)	1 (16.7%)
	Don't know/Not sure	2 (4.3%)	0 (0.0%)
	Total valid response	46 (100.0%)	6 (100.0%)
	Total missing	26	4
Do you feel that the treatment worked?	Yes, and vision improved	15 (32.6%)	3 (50.0%)
	Yes, but vision stayed the same	20 (43.5%)	2 (33.3%)
	No	5 (10.9%)	0 (0.0%)
	Still waiting to know	5 (10.9%)	1 (16.7%)
	Don't know/Not sure	1 (2.2%)	0 (0.0%)
	Total valid response	46 (100.0%)	6 (100.0%)
	Total missing	26	4
What is/are the reason(s) that you did not complete the treatment?	Total valid response	0 (0.0%)	0 (0.0%)
	Total missing	72	10
What are the reason(s) that you have not had treatment for diabetic eye disease?	My doctor did not recommend any treatment	20 (95.2%)	1 (100.0%)
	Other	2 (9.5%)	0 (0.0%)
	Total valid response	21 (100.0%)	1 (100.0%)
	Total missing	51	9

NB [1]: DED = respondents with DED ="Yes" minus respondents with DME ="Yes".
NB [2]: DME = respondents with DME ="Yes".
NB [3]: Percentages within groups are calculated from non-missing data for that question.

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