Diabetic Patient Satisfaction and Follow Up at a Patient Centered Medical Home

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Introduction:

The purpose of this study was to examine diabetic patient satisfaction, education and adherence to self-care recommendations following a visit to a United Neighborhood Health Services (UNHS) clinic during a two month period (June 10 – August 5 2013). An eleven item telephone scripted survey was used to elicit the patient's responses to the study variables.

Diabetic patient's interaction and satisfaction with the primary care provider during clinic visits is critical for follow-up care and management of the disease. Diabetic patients must follow specific daily regimens for diet and blood sugar testing and keep accurate records of these results. This record facilitates appropriate management by providing the patient and the physician with valuable information related to variations in blood sugar and the patient's understanding of diet and other health related recommendations for diabetic care.

As noted in a recent study by Marrero et al, "In the past decades, the sophistication of treatments for diabetes has increased dramatically, and evidence for effective interventions has proliferated. As a result, it is now possible to achieve excellent glucose control and reduce the risk of many of the complications associated with the disease (Marrero et. al., 2013)." However, the complexity of self-care, patient cultural behaviors, education and beliefs continue to have a dramatic impact on patient care outcomes. In other words, care options have improved, but patient outcomes have not improved during the same period. Therefore, examining primary care visit outcomes is a critical interaction to examine when evaluating diabetic patient outcomes, as the patient – physician relationship has been shown to influence patient care outcomes significantly.

Background/Review of Literature:

The physician-patient interview is considered the key component of all primary health care exposures. Beck, Daughtridge, and Sloane (2002) completed an extensive review of the related research in this area arising from the years 1975 to 2000. The researchers found 22 relevant studies from this time period- 14 studies related to verbal communication and 8 studies of nonverbal communication occurring during a primary care visit. The criteria for inclusion in the study included an evaluation of interactions using neutral observers who coded the observed patient-physician encounters and used video and audiotapes of the visits. These researchers concluded that most of the studies used different criteria to assess the quality of the visit and therefore specific recommendations were limited. However, they recommended a visit that focused on teaching and reinforcing behaviors known to promote favorable patient outcomes. Patient satisfaction with the visit was felt to be a critical indicator of patient outcomes.

A similar study evaluated primary care practice in a large-staff HMO (Wagner et. al, 2001). Diabetic patients over 30 years of age were randomly selected from a diabetic registry. Patients in the control group received multi-staff interventions, group education and peer support meetings. The methodology included self-reported mailed surveys and telephone interviews for nonrespondents at baseline and at 12 and 24 months. In addition, HbA1c levels and health care use and cost data was examined. The researchers concluded that multi-staff primary care sessions were associated with better patient outcomes.

Another study of diabetic patients who rated their communication with their clinician as poor had lower adherence rates with oral diabetic medications (Ciechanowski et al, 2001). In contrast, patient who were satisfied with their relationship with their physician had better adherence to diabetic treatment plans (Von Korff et al, 1997).

More recently, a 2010 study showed that many interventions intended to prevent and control diabetes are cost saving and strongly supported by evidence (Li et. al., 2010). For diabetes mellitus type II, in particular, intensive lifestyle and glycemic control interventions were found to be more effective than standard lifestyle recommendations. Additionally, annual screening for diabetic retinopathy was also found to be a cost-saving measure. In a setting such as the UNHS clinics, the primary focus on preventative care can be used to help establish more stringent diabetic interventions to prevent further patient mortality down the road. Not only does this study show that patients would suffer less mortality associated with their diabetes, but also that the healthcare system would be less extended financially in caring for these patients.

Diabetic care is complicated and is influenced by many factors such as culture, personal health choices and health and social policies (Marrero et al, 2013). The authors suggest that among the many variables impacting diabetic care and compliance is the need for the patient to implement the decisions made by the health care provider. It is therefore critical that physicians and patients interact within a context influenced by the individual's unique characteristics, as well as the ability of the physician to engage the patient in decisions about care options. Further, the researchers' note that it is difficult to manage the complexity of diabetic care in a brief primary care visit.

Methodology:

Patients who were seen for primary care visits at UNHS clinics from June 10 to August 15, 2013were randomly selected from the clinic diabetic registry. Patients were contacted using a scripted telephone survey to evaluate their responses to eleven questions in order to determine patient satisfaction. Telephone calls were made between 11 and 7 CST, unless the patient requested a call back at an alternate time. The complete survey is included in Appendix A. Patients were informed that the survey was confidential, questions had no right or wrong answer, and could decline to participate with no impact to their patient care at UNHS. Eight of the eleven questions were structured with a 5 Likert scale rating depending on the type of question. The responses were analyzed using descriptive statistics.

Questions included whether the patient would recommend the clinic to others, their satisfaction with the clinic visit relating to the length of time for the visit, their trust of their physician to make decisions related to their diabetic care and how well the practitioner was able to explain their diabetes. Questions also related to follow-up care including the patient's dietary changes, modifications in physical activity, the frequency of blood sugar testing and record keeping. Patients were also asked about any complications since their last clinic visit, and if they had contact with a diabetic counselor or nutritionist during the last visit.

Findings:

For the survey, 113 UNHS patients were contacted between the hours of 10-7 CST, unless the patient requested a call back at an alternate time. Of the 113 patients contacted, 54 completed the survey (48% response rate). Eight additional patients declined to comment, another 3 patients could not participate because they were Spanish speaking, and 10 patients had contact numbers that were no longer in service or not accepting calls. Another 48 were not able to be reached, despite leaving phone messages and repeated calls.

Tables and graphs of all results are included in Appendix B of this paper, and described below:

For the first question, the majority of patients indicated that they were "extremely" or "very" likely to recommend the UNHS clinics to family and friends; many patients confirmed that they had already done so.

For the second question, the majority of patients (83.3%) said they felt that had enough time with their practitioner. The rest of respondents said they need more time with the practitioner, and no respondent suggested that they had too much time.

For questions three and four, the vast majority (85% and 80%, respectively) of patients reported that they found their practitioner either "extremely" or "very" trusted in helping them make medical decisions in their best interest, as well as finding the practitioner "extremely" or "very" helpful in explaining their diabetes condition.

For question five, almost a third of patients reported that they had made no dietary modifications since last coming to clinic. Another 46% of patients reported that there dietary changes had been slight or moderate. Just over 20% of patients reported extreme or very significant dietary changes since their last clinic visit.

Approximately 85% of patients reported "moderate," "slight," or no changes to their level of physical activity since their last clinic visit for question six.

For questions seven and eight, over half of patients (54%) check their blood sugar 2-3 times a day, and 74% of patients who check their blood sugar subsequently revealed that they either write their blood sugar values in a log, or the values are recorded in their monitor.

Only a minority of patients (slightly less than 20%) had suffered diabetic complications since their last clinic visit; the most common complication reported was tingling and numbness in the extremities (27%), likely related to diabetic neuropathy. Other complications included ulcers (18%), blurred vision (18%), difficulty keeping blood sugar down (9%), dizziness or hospitalization (both 18%, respectively).

While the majority of patients reported that they had seen the diabetes coordinator or nutritionist at their last clinic visit, many patients seemed unclear of the role of such providers, and required additional prompting to identify who those providers were.

Limitations:

This was a cross sectional study noting patient satisfaction with a diabetic clinic visit at one point in time. The sample size was smaller (n = 113), the time period over which patients were gathered was brief (two months), and patients were questioned about their most recent experience only, limiting the ability to make far-reaching conclusions. The telephone survey methodology also limited the researcher's ability to observe any nonverbal cues of the patient or to observe whether they were keeping records or truly increasing their physical activity or making dietary changes. Almost 10% of patients had contact phone numbers that were out of service or not accepting calls.

The survey is also limited by the discrete eleven questions queried. For example, the patients were not asked about specific dietary changes or what types of physical activities they were doing. Although the patients did at times add information of relevance to the study, this was not specifically solicited as part of the survey. Additionally, neither ethnicity nor race was identified in the patient roster; therefore, cultural or racial specificities could not be elicited. Three patients only spoke Spanish and therefore the researcher was unable to elicit their responses to the survey. A large number of patients were over the age of 60. Some of these patients may have had hearing or other sensory impairment influencing their ability to answer the questions truthfully.

Although not done with this analysis, it would be helpful to see if significant correlations exist between patient satisfaction and: number of times blood glucose is checked, amount of dietary/physical activity changes, or number of diabetic complications reported. If such a correlation exists, it would be helpful to share when applying for further grant funding for the clinic, because previous studies (described above) have demonstrated the role of patient satisfaction in both adherence and outcomes.

Conclusions:

Upon reviewing the results of the survey, it is clear that the majority of patients:

- Would recommend the clinic
- Feel they get enough time with the provider
- Find the provider trustworthy and helpful
- Check and record their blood sugar regularly
- Have suffered no diabetic complications since last coming to clinic

However, many patients surveyed reported that they haven't changed their diet or exercise significantly (defined as very/extremely on Likert scale). Patients also expressed confusion about the role and identity of the diabetes coordinator and nutritionist. Many patients were not clear about who these persons were, and what service these individuals provided at the appointment. One possibility is that patients become so overwhelmed with the breadth of information covered by the practitioner that they are unable to process suggestions for changes to diet and physical activity. Many patients could also not be reached by phone, limiting a provider's ability to discuss test results or other issues from the visit.

Recommendations:

Upon completion of this project, I offer several recommendations. The first is that I would make sure practitioners reiterate to patients how important it is to check blood sugar, and to record the values, daily. Although it appeared that most patients participating in the survey had a functioning blood meter capable of recording blood sugar measurements, some patients admitted that they did not check their blood sugar on a regular basis. A few respondents reported that their meter was broken, or that they didn't have a meter at all.

My second recommendation is to help patients better define how they can incorporate dietary changes and increase physical activity. A large number of respondents said that they had made none or only slight changes to their diet and physical activity. Given that diabetes and its advancement can be mitigated by changes to both elements, it is important for patients to understand fully how important it is that they adapt lifestyle modifications. Perhaps the clinic can begin to offer bimonthly classes conducted by the diabetes coordinator or other trained provider to teach diabetic patients how to make lifestyle changes. If hosting classes is cost prohibitive, distribution of information in the form of a pamphlet could help patients learn ways to increase their regular physical activity.

My third recommendation is to increase the presence and role of the diabetes coordinator and nutritionist. Diabetic patients at the clinic could benefit from more regular exposure to one or both people. The diabetes coordinator, for example, is only present at the UNHS Main Street clinic one day a week. So if a diabetes patient presents there on another day, the patient will not be able to meet with the coordinator to discuss lifestyle issues. It would be wonderful to have more than one diabetes coordinator on staff at the clinics for this reason.

Additionally, the nutritionist is present only at the Cayce clinic. Although she received rave reviews, patients at other clinics are unable to benefit from her expertise in receiving recommendations to modify diet. One possibility, funding permitted, is to hire a nutritionist to be on staff several days a week at each clinic, or to offer patients a referral to the nutritionist at Cayce.

Lastly, staff permitting, I think it would be very valuable to do follow up calls with the diabetic patients to assess whether or not the patient had made lifestyle recommendations per the provider. A brief follow up call would increase accountability, and encourage patients to stay in control of their diabetes. It would also help recognize patients suffering from increasing complications who might need to come back to clinic sooner.

References

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Appendix A

1. How likely are you to recommend the clinic to family or friends?

○ Extremely likely
○ Very likely
○ Moderately likely
○ Slightly likely
○ Not at all likely

2. During a typical office visit, does your practitioner spend too much time with you, too little time with you, or about the right amount of time with you?

○ Too much
○ About the right amount
○ Too little

3. How much do you trust your doctor to make help you make medical decisions that are in your best interests?

○ A great deal
○ A lot
○ A moderate amount
○ A little
○ Not at all

4. How helpful is your practitioner at explaining your diabetes?

○ Extremely helpful
○ Very helpful
○ Moderately helpful
○ Slightly helpful
○ Not at all helpful

5. Have you made changes to your diet since last coming to clinic?

○ Extremely

○ Very

○ Moderately

○ Slightly

○ Not at all

6. Have you increased your physical activity since last coming to clinic?

○ Extremely

○ Very

○ Moderately

○ Slightly

○ Not at all

7. How many times a day do you check your blood sugar?

○ 4 or more

○ 2-3

○ 1

○ none

8. Do you record your blood sugar in a log (either on paper or on a monitor)?

◉ Everyday

○ A few times a week

○ A few times a month

○ Occasionally

○ Never

9. Have you had complications from your diabetes since your last visit?

○ Many

○ Some

○ None

10. If so, what kinds of diabetes complications have you had since your last visit?

- ☐ Trouble keeping sugar down
- ☐ Hospitalizations
- ☐ Wounds/ulcers that won't heal
- ☐ Blurred vision
- ☐ Tingling/numbness
- ☐ Dizziness

11. Did you see or speak with the diabetes coordinator or nutritionist at your last visit?

- ○ Yes
- ○ No

Appendix B- Tables & Graphs

Q1

Answer Choices	Responses	
Extremely likely	47.17%	25
Very likely	33.96%	18
Moderately likely	16.98%	9
Slightly likely	0%	0
Not at all likely	1.89%	1
Total		53

Q2

Answer Choices	Responses	
Too much	0%	0
About the right amount	83.33%	45
Too little	16.67%	9
Total		54

Q3

Answer Choices	Responses	
A great deal	44.44%	24
A lot	40.74%	22
A moderate amount	9.26%	5
A little	3.70%	2
Not at all	1.85%	1
Total		54

Q4

Answer Choices	Responses	
Extremely helpful	33.33%	18
Very helpful	46.30%	25
Moderately helpful	16.67%	9
Slightly helpful	1.85%	1
Not at all helpful	1.85%	

Answer Choices	Responses
	1
Total	54

Q5

Answer Choices	Responses
Extremely	7.41% 4
Very	14.81% 8
Moderately	35.19% 19
Slightly	11.11% 6
Not at all	31.48% 17
Total	54

Q6

Answer Choices	Responses
Extremely	7.41% 4
Moderately	37.04% 20
Not at all	42.59% 23
Slightly	5.56% 3
Very	7.41% 4
Total	54

Q7

Answer Choices	Responses
4 or more	12.96% 7
2-3	53.70% 29
1	18.52% 10
none	14.81% 8
Total	54

Q8

Answer Choices	Responses
Everyday	74.07% 40
A few times a week	0% 0
A few times a month	0% 0
Occasionally	1.85% 1
Never	24.07% 13
Total	54

Q9

Answer Choices	Responses
Many	7.69% 4
Some	11.54% 6
None	80.77% 42
Total	52

Q10

Answer Choices	Responses
Trouble keeping sugar down	9.09% 1
Hospitalizations	18.18% 2
Wounds/ulcers that won't heal	18.18% 2
Blurred vision	9.09% 1
Tingling/numbness	27.27% 3
Dizziness	18.18% 2
Total Respondents: 11	

Q11

Answer Choices	Responses
Yes	75.93% 41
No	24.07% 13
Total	54

Q1 How likely are you to recommend the clinic to family or friends?

Answered: 53   Skipped: 1

Extremely likely	
Very likely	
Moderately likely	
Slightly likely	
Not at all likely	

0%   20%   40%   60%   80%
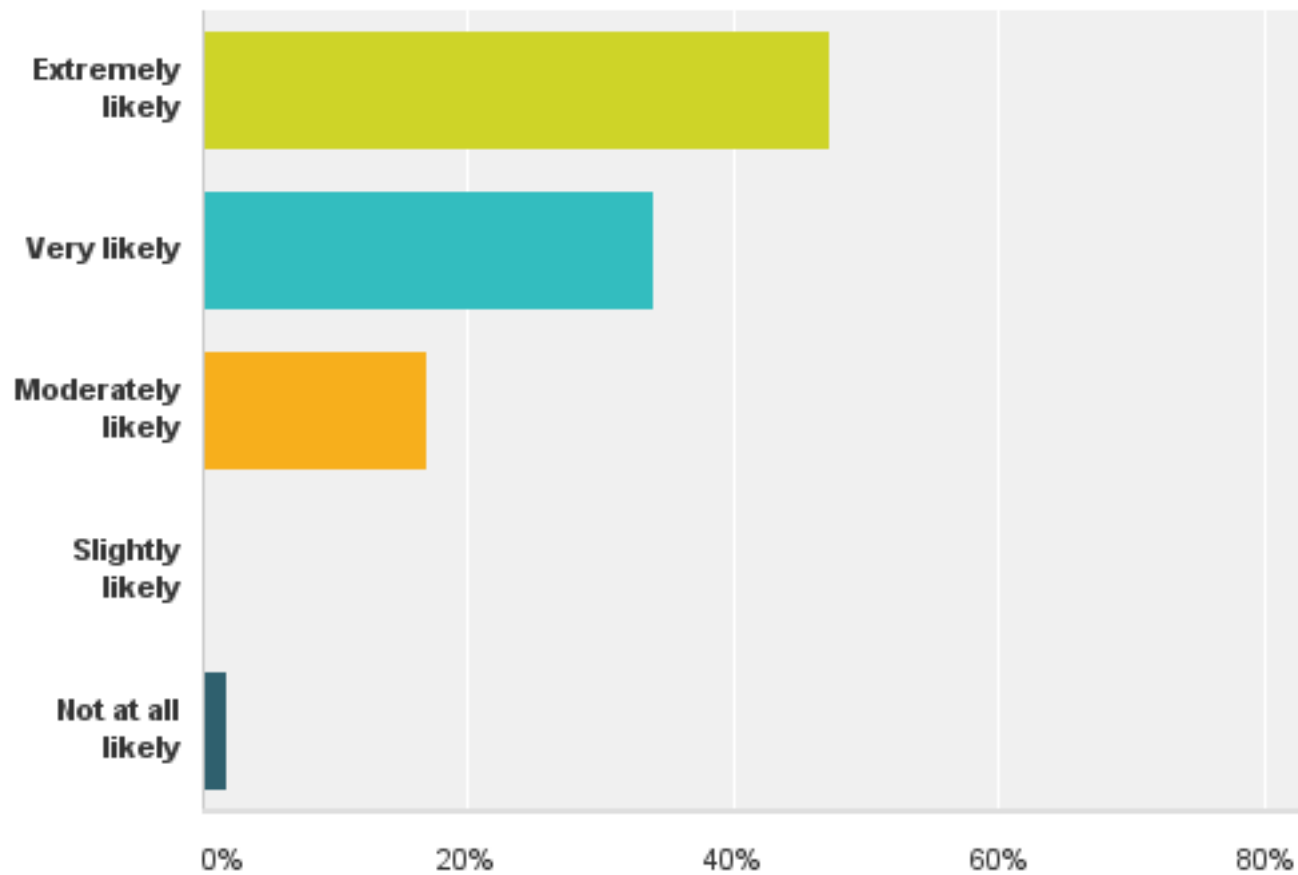
Q2 During a typical office visit, does your practitioner spend too much time with you, too little time with you, or about the right amount of time with you?
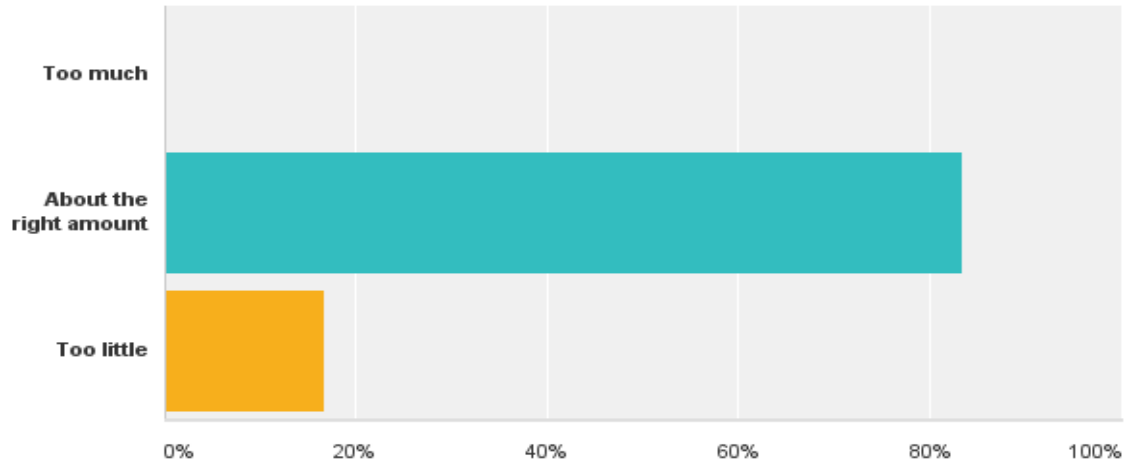
Q3 How much do you trust your doctor to make help you make medical decisions that are in your best interests?

Answered: 54   Skipped: 0
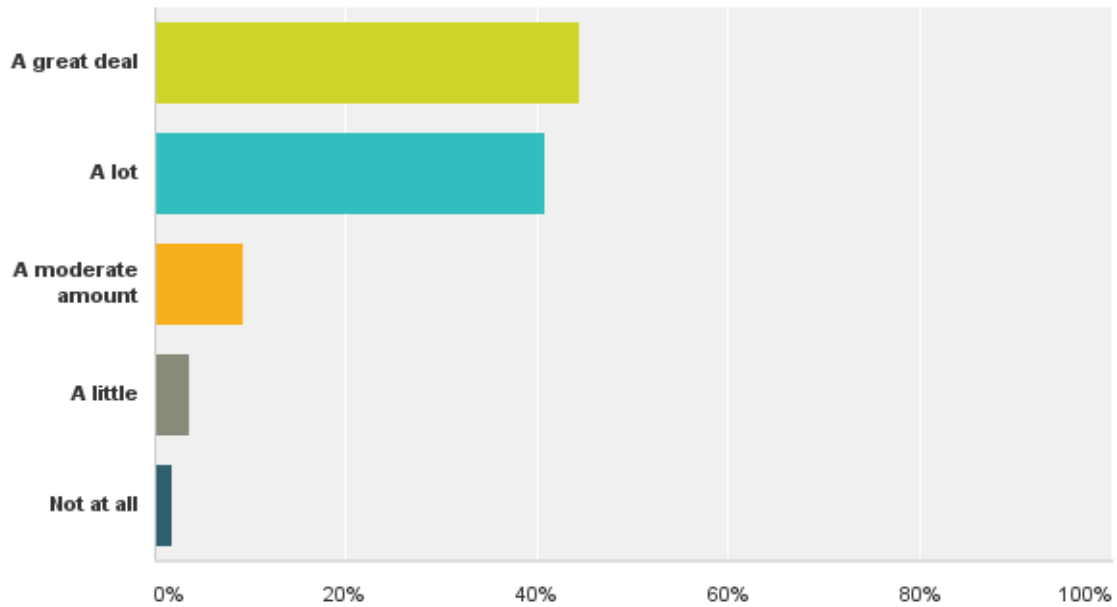
Q4 How helpful is your practitioner at explaining your diabetes?

Answered: 54   Skipped: 0
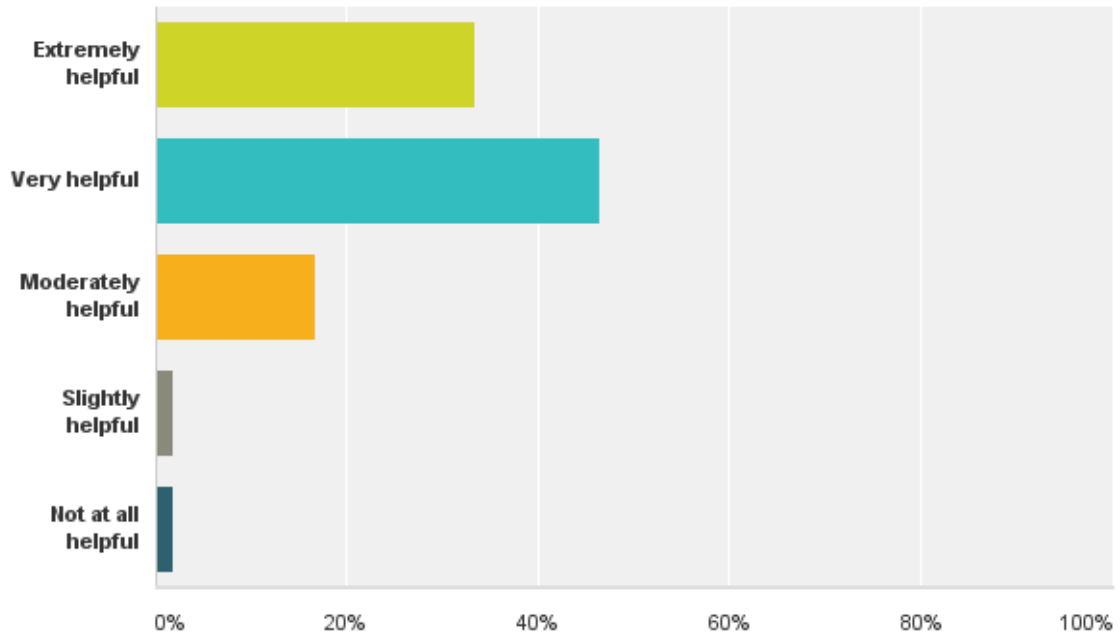
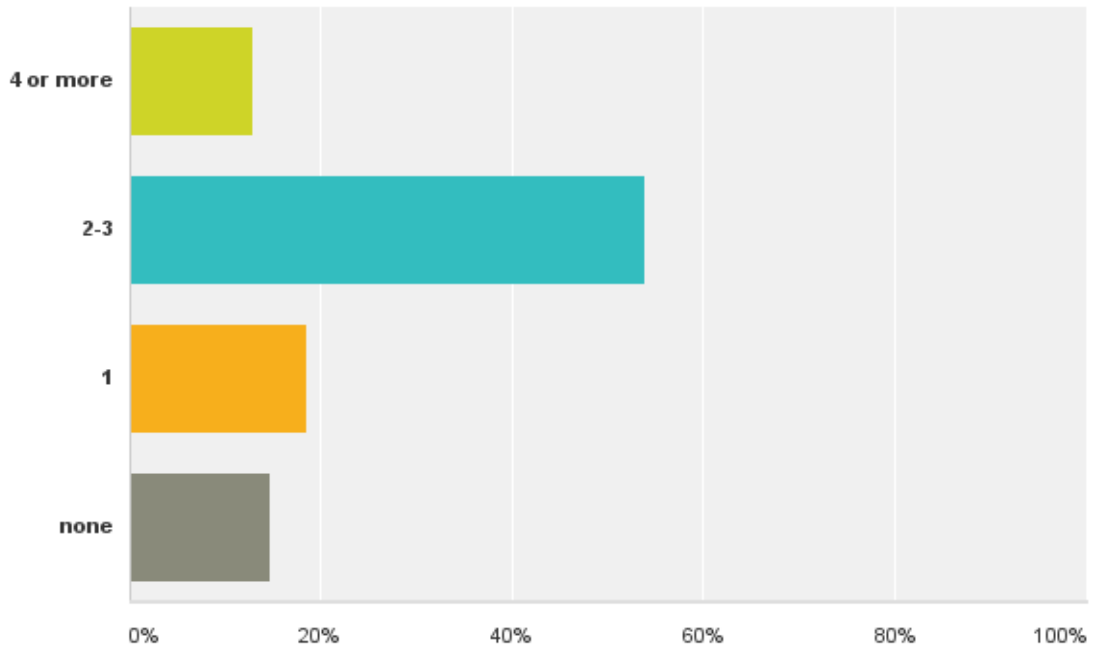# Q5 Have you made changes to your diet since last coming to clinic?

Q6 Have you increased your physical activity since last coming to clinic?
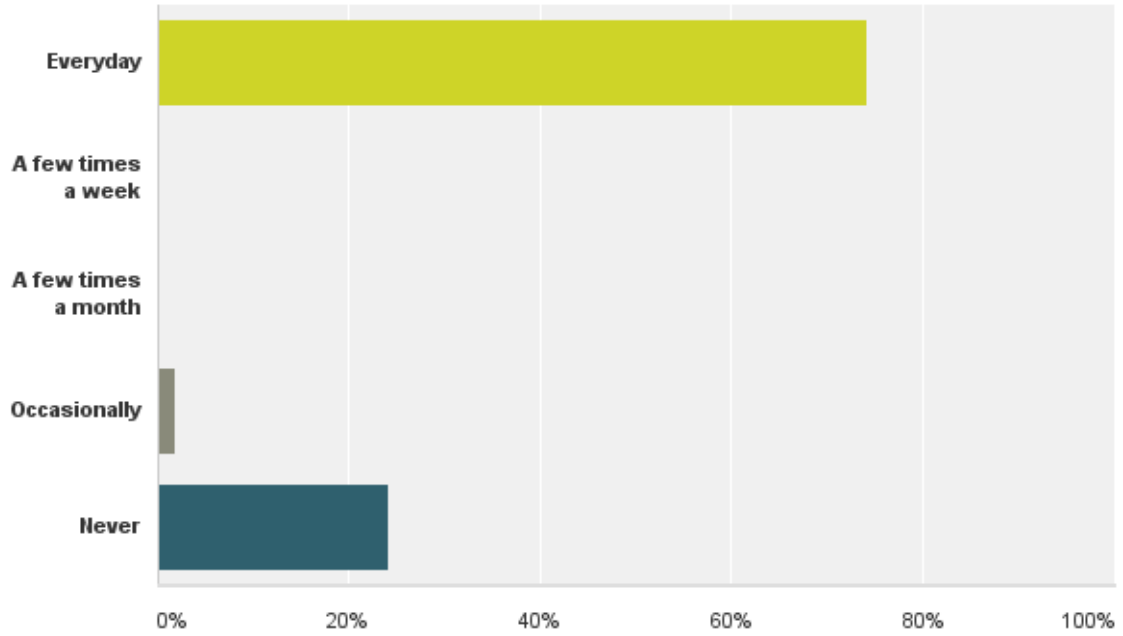
Answered: 54   Skipped: 0
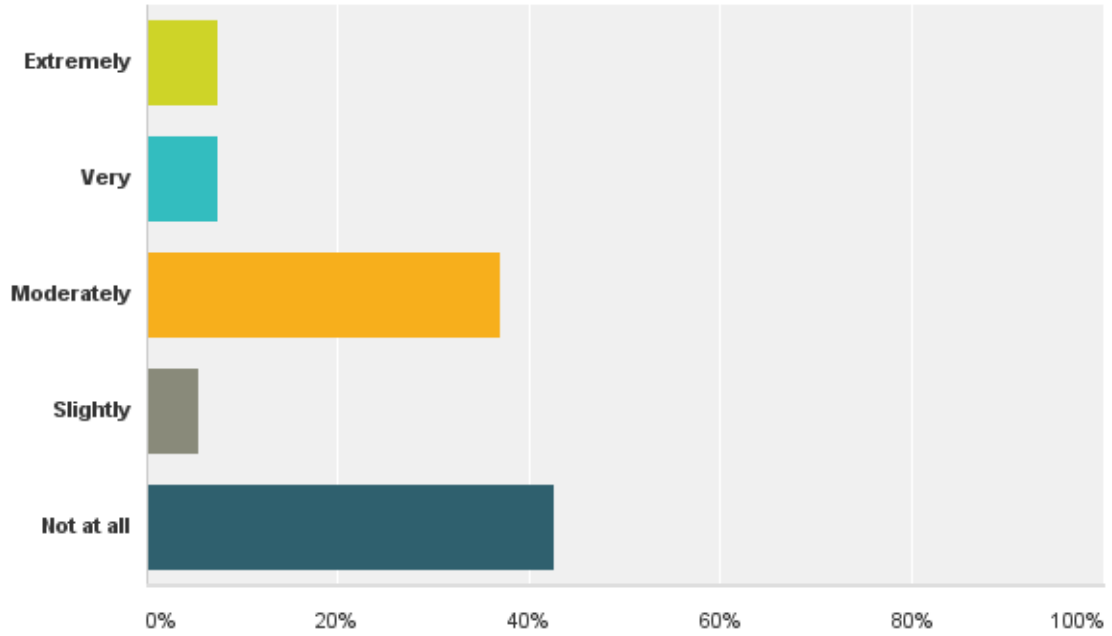
Q7 How many times a day do you check your blood sugar?
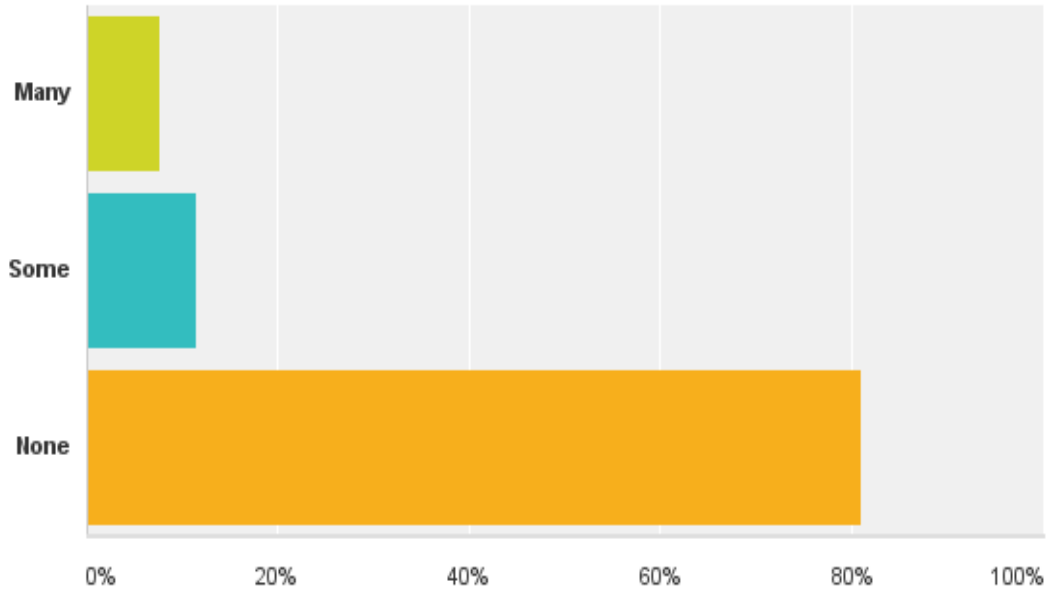
Answered: 54   Skipped: 0

Q8 Do you record your blood sugar in a log (either on paper or on a monitor)?
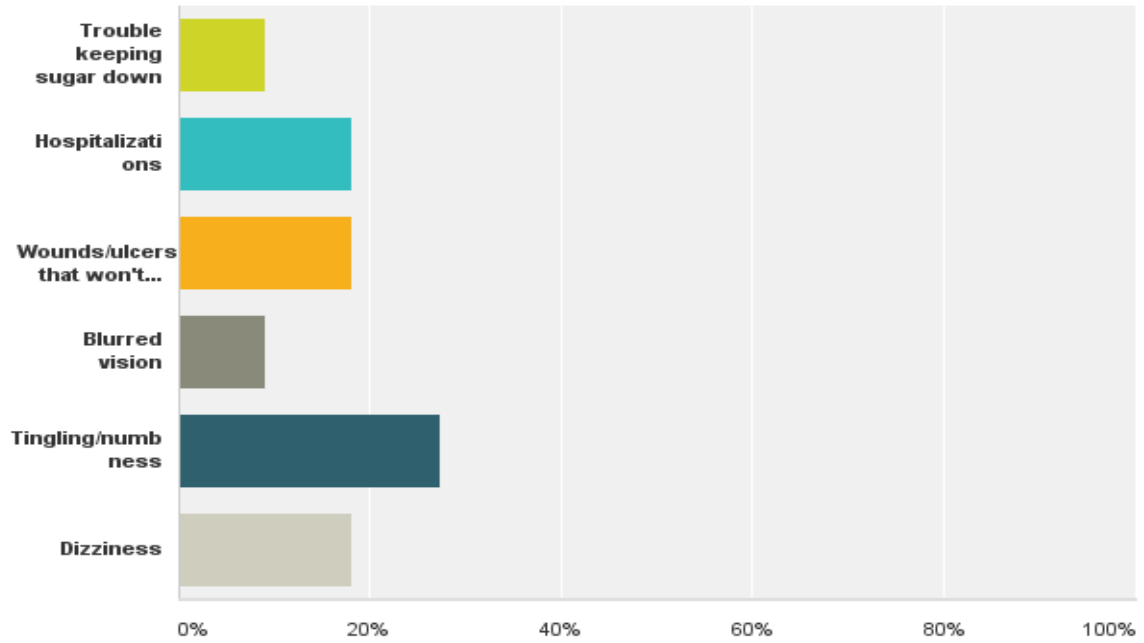
Answered: 54   Skipped: 0

Q9 Have you had complications from your diabetes since your last visit?

Answered: 52   Skipped: 2

Chart categories (top to bottom): Many, Some, None

X-axis: 0%, 20%, 40%, 60%, 80%, 100%

Q10 If so, what kinds of diabetes complications have you had since your last visit?

Answered: 11   Skipped: 43

Q11 Did you see or speak with the diabetes coordinator or nutritionist at your last visit?

Answered: 54   Skipped: 0