

UC San Diego

Independent Study Projects

Title

A Population-based Systematic Approach to Improving Diabetic Ophthalmology Screening Rates at the UCSD Student-run Free Clinic Project.

Permalink

<https://escholarship.org/uc/item/7vj9n8d6>

Author

Ciobanu, Cosmina

Publication Date

2014

A Population-based Systematic Approach to Improving Diabetic Ophthalmology Screening Rates at
the UCSD Student-run Free Clinic Project

Cosmina Ciobanu, MS4
Independent Study Project
University of California San Diego
School of Medicine
UCSD Student-Run Free Clinic Project

ISP Committee:
Dr. Sunny Smith, ISP Chair
Dr. Ellen Beck
Dr. Paul Michelson

Submitted May 1, 2014

ABSTRACT

Background: Diabetic retinopathy affects millions of Americans every year and is the leading cause of blindness in the United States. The prevention and treatment of diabetic retinopathy is well documented. Well-regulated glucose and blood pressure levels have been shown to help in preventing retinopathy in diabetic patients. Advances in treatment, such as retinal laser photocoagulation and vitrectomy have helped lower the risk of blindness, but diabetic retinopathy continues to be a major concern for diabetic patients. The best method of prevention appears to be annual ophthalmologic screenings. After a recent study of diabetic patients at the UCSD Student-run Free Clinic Project found that only 32% of diabetic patients received their annual ophthalmology exam in 2009 (Smith), new population-based systematic measures were implemented to improve the diabetic ophthalmology screening rates. This study discusses the implementation and results of those measures.

Methods: Systems-based changes included adding date of last ophthalmology visit on diabetic SOAP notes, improved referral sheets that include prioritizing patients based on urgency, proactively identifying and calling diabetic patients using a designated Spanish-speaker, instituting same-day walk-in appointments, increasing frequency of ophthalmology clinics, generating yearly reports, and educating diabetic patients on the symptoms and risks associated with diabetic retinopathy. The project was initiated in 2011 and ran until December 2013. The criteria for querying the database included all patients with at least one diagnosis of diabetes and all patients who had seen General Free Clinic during the years 2010, 2011, 2012, and 2013.

Results: In 2009, based on Smith's study, only 32% of diabetic patients received diabetic retinopathy screening at the UCSD Student-run Free Clinic Project. The 2009 study was conducted at a time when there was only one clinic site offering ophthalmology specialty clinics (the Downtown clinic site). Once ophthalmology services were expanded to a second free clinic site (Baker Elementary School) in 2010, screening rates increased to 54.4%. After initiation of this project in 2011, the percentage of diabetic patients being screened for retinopathy increased to 68.9%. The rates dropped in 2012 and 2013 to 51.6% and 34.4% respectively. During the life of the project, the average no-show rate per ophthalmology clinic was 30.6% (range from 0% to 60%). The most frequent reasons for confirmed patients not showing up to clinic were inability to find a ride and work problems (i.e. work ran late or patient had to be at work early the next morning).

Conclusion: The implementation of a population-based systematic approach to improve screening rates of diabetic retinopathy initially saw an increase in screening rates during the first year of the project. Although improving the diabetic SOAP note, setting up a proper patient referral system, and educating patients about diabetic retinopathy seemed to be strengths of the implementation, screening rates fell in the subsequent two years of the project's duration. The UCSD SRFCP Ophthalmology Clinic will need to continue to make adjustments to best serve the patient population. Some of those adjustments will include recruiting more ophthalmologists and becoming more efficient with the use of the new EMR Epic.

INTRODUCTION

Diabetic retinopathy is the leading cause of irreversible blindness in the United States (Paulus) and the leading cause of new blindness among adults between the ages of 20 to 65 years old (Riordan-Eva). Diabetic retinopathy is present in about 40 percent of diagnosed diabetic patients, and it increases in prevalence and severity with increasing duration of diabetes (Riordan-Eva). Almost all patients with type 1 diabetes will develop diabetic retinopathy within 20 years of disease onset (Frank), whereas fifty percent of patients with insulin-independent type 2 diabetes and eighty percent of patients with insulin-dependent type 2 diabetes will develop diabetic retinopathy within the same time period. Today, one in four US adults live with diabetes and the diabetes pandemic continues to affect lives and account for a significant amount of healthcare dollars. It is predicted that by 2025, the incidence of diabetes in the world will double from 150 million to 300 million (Durham).

Diabetic retinopathy is caused by structural and functional changes in the retina as a consequence of diabetes; vision loss occurs because of retinal ischemia, retinal vascular exudation, macular edema, intraretinal hemorrhages, and neovascularization (Gardner). More specifically, it is believed hyperglycemia causes a decrease in retinal blood flow, which then leads to activation of cellular signaling cascades, such as the protein kinase C pathway, damaging blood-retinal barriers and increasing vascular permeability. As chronic low-grade inflammation develops and the retina becomes more ischemic, compensatory remodeling occurs. New blood vessels are laid down in an attempt to reduce ischemia, but unfortunately, the blood vessels are weak and leaky, leading to hemorrhages and eventual vision loss (Durham). Because patients with diabetic retinopathy are often asymptomatic, it is recommended that diabetic patients receive yearly dilated eye examinations (Fong) along with continued tight control of blood pressure and blood glucose levels (Frank). It has been noted that patients with more severe retinopathy should receive dilated eye examinations more frequently to determine when to initiate treatment (Fong) with treatment options including anti-vascular endothelial growth factor treatment, laser photocoagulation therapy, and vitrectomy (Cheung).

The UCSD School of Medicine Student-run Free Clinic Project (SRFCP) began in January 1997 under the guidance of Dr. Ellen Beck. The SRFCP partners with several programs such as the Pacific College of Oriental Medicine, Skaggs School of Pharmacy, and Cal Western School of Law to provide free, high quality care to underserved communities in San Diego. The transdisciplinary approach includes primary care, comprehensive dental services, mental health, social work, lab testing, pharmaceuticals, acupuncture, and numerous specialty care clinics (i.e. cardiology, neurology, ophthalmology) in an attempt to provide accessible health care to the underserved population. Rooted in the core values of respect, trust, and empowerment, the SRFCP operates on five days each week, has four different sites, and serves the needs of over 750 medical patients and over 2000 transdisciplinary patients (Beck).

In a recent study of diabetic patients at the SRFCP, it was discovered that diabetic patients were receiving their annual ophthalmology exam at an unacceptably low rate. While the percentage of diabetic patients receiving screening tests for blood pressure, HbA1c, LDL levels, triglycerides, and HDL levels was 100%, 99.5%, 93%, 88%, and 88% respectively, only 32% of diabetic patients received screening for diabetic retinopathy within one year (Smith). The SRFCP currently has bimonthly ophthalmology clinics onsite and at ten to fifteen patients per clinic, the SRFCP has the capacity to see over 200 ophthalmology patients per year. A study of

diabetic patients at the UCSD SRFCP in 2009 showed that there were 182 diabetic patients, and therefore the infrastructure or ability to accommodate diabetic patients should not be the main barrier to care.

Once the aforementioned study revealed the low percentage of diabetic patients screened for diabetic retinopathy annually, the ophthalmology managers at the UCSD SRFCP began to focus their efforts on systematic changes that could be implemented to increase the rate of retina screening in diabetic patients. A new file containing the information of approximately 200 diabetic patients at free clinic was uploaded to the password protected file-sharing site, ishare.ucsd.edu. The file was color coded to prioritize those patients that the ophthalmology managers needed to see most urgently for their retinopathy screening. For example, those patients highlighted in green were patients in priority group 1 who needed their ophthalmology exam most urgently and needed to be seen as soon as possible. Those patients highlighted in yellow were priority group 2 patients, and those who no longer needed retinopathy screening were marked in red. Examples of patients who no longer needed screening include patients who transferred care elsewhere (i.e. County Medical Service) and were no longer patients of the clinic.

Even with initial efforts to prioritize the call list, the ophthalmology managers continued to have problems bringing in the diabetic patients that they had called and had confirmed were coming. For example, for the January 3, 2011 ophthalmology clinic, ten patients were called and confirmed, but only three of the confirmed patients came to clinic for a 30% show rate. One additional walk-in patient was added on for a total of four patients seen in a clinic with a capacity of 10-15 patients per clinic, while well over a hundred patients still needed a retina exam. For the clinic on Monday, February 7th, ten patients were again confirmed, and none of the confirmed patients showed up to clinic, resulting in a 0% show rate. Ophthalmology student managers then spoke with general clinic managers and primary care attending physicians onsite to identify four patients who were at the general medical clinic who also needed ophthalmology screening exams. However, this still left at least 6 open slots for patients who could have been screened for diabetic retinopathy and over a hundred patients who need to be seen.

It became evident that the ophthalmology managers needed to implement a few changes for the next clinic date. A physician leader of the clinic who speaks fluent Spanish and was also familiar with the patients on the list of diabetic patients awaiting screening called patients for the ophthalmology clinic on February 28th. Of the ten patients that were confirmed, nine showed up to clinic, with a 90% show rate. There were an additional three walk-in patients. This clinic of twelve patients was appropriate for the SRFCP's capacity and demonstrated the significant improvements that could be made using even small changes in scheduling patient appointments. However, there was clearly still much work to be done beyond changing the calling patterns toward systematically increasing the percentage of diabetic patients who are seen by an ophthalmologist for their annual retina examination.

With the PCMH movement and population-based care becoming more prominent in health care (Berenson), the UCSD SRFCP also began to realize the need to start to implement change on a systems based level. Research has shown that the PCMH's focus on the comprehensive, coordinated care of the patient and the systems based approach to quality care, has improved not only patient care experience but also clinician experience and clinical quality of care (Larson). The PCMH also emphasizes the importance of engaging in performance

measurements so as to improve patient care and population health management (PCMH). In keeping with current medical trends and focusing on a patient-centered, comprehensive care, we began to concentrate on improving our diabetic retinopathy screening rate so as to improve population outcomes.

METHODS

Setting

The UCSD Student-run Free Clinic Project provides acute and chronic health care along with dental services, legal services, social services, among many other services, to uninsured patients in San Diego. The SRFCP uses four different sites to offer its services: the First Lutheran Church in Downtown San Diego, Baker Elementary School in the Mountain View Community, the Pacific Beach Methodist Church in Pacific Beach, and the most recent addition, Golden Avenue Elementary School in Lemon Grove. The ophthalmology free clinic is based out of two sites: the First Luther Church in Downtown San Diego (DT) and Baker Elementary School (Baker). The DT ophthalmology clinic is held monthly on Mondays from 6-10 pm, and the Baker ophthalmology clinic is held monthly on Tuesdays from 1-5 pm.

Population

This study examined all patient visits in the ophthalmology specialty clinic of the UCSD Student-run Free Clinic Project. All ophthalmology appointments are made by referral from a primary care doctor within the Student-run Free Clinic Project. This patient population has been previously described (Beck, Smith). Patients are seen at the UCSD Student-run Free Clinic Project if they are ineligible to receive care elsewhere for free and unable to afford care at community health centers. The patient population includes largely the working poor, predominantly middle-aged adults, who are uninsured, many of whom are undocumented. Demographics of diabetics in the 2009 study were as follows: mean age 53 years (range 18-80, SD 11.5); 59% female, 41% male; 75% Latino, 15% Caucasian, 4% Asian, 3% African American, 3% other; 71% Spanish speaking, 27% English, 2% other; 10% homeless. While most of the ophthalmology patients have Type 2 Diabetes, there were some patients with Type 1 Diabetes or without diabetes who were seen at ophthalmology free clinic for urgent and/or acute ophthalmology issues during the time period of this project.

Systematic approaches to improving diabetic retinopathy screening rates:

1. Improved Diabetes Flow Sheet (Appendix 1). Since 2002, a bright orange diabetes flow sheet had been placed on top of the problem lists in patient medical charts at the UCSD SRFCP. Students regularly refer to these sheets before presenting to the attending physicians. Faculty refer to these sheets to easily determine which lab tests are due. Implementation of these flow sheets had contributed to the remarkable number of UCSD SRFCP diabetes patients receiving lab tests in an appropriate time frame, as mentioned above (Smith). The ophthalmology exam date had been placed at the bottom of this flow sheet and had often been overlooked by students and faculty. In order to prevent this from happening, an ophthalmology section was created and moved to the very top of the flow sheet. The ophthalmology section included date of last ophthalmology screening, whether the patient has diabetic retinopathy and

if so what type (mild, moderate, severe), other comments, and the next ophthalmology exam due date. This way, it became much more noticeable and became more easily and regularly referenced during routine visits.

2. Improved diabetic SOAP notes (Appendix 2). As the UCSD SRFCP has students of varying clinical skills, a diabetic SOAP note template is regularly used to guide students on taking an appropriate history, review of systems, and asking for pertinent recent labs. There had previously been no mention of the last ophthalmology exam on this diabetic SOAP note. The diabetic SOAP note was redesigned to include last ophthalmology exam date, ophthalmology exam results, next ophthalmology exam due date, and any vision changes. Therefore, students and faculty were prompted to ask the patient or review the chart for these results at each visit.

3. Referrals and Priority Lists. Historically if a patient had been referred to ophthalmology clinic, the patient would go at the bottom of the referral list. In order to have our most urgent cases be seen quickly, we created a priority list. All new referrals were added to an excel file and included the reason for referral, when the patient was last seen, and his/her priority. Patients with priority group 1 needed to be seen as soon as possible for an acute problem. Patients from priority group 2 were usually uncontrolled diabetics or diabetic patients who had not had an ophthalmology exam in over 2 years. Other patients were listed in priority group 3 and were added to the bottom of the referral list. By including a priority system, we were able to identify those patients with the greatest need of seeing an ophthalmologist.

4. Same day appointments. Each day that ophthalmology clinic was onsite, they informed the managers of the primary care clinic how many open walk-in slots they have and how many more patients they can accommodate that day. If ophthalmology clinic was already onsite while a diabetic patient came for a primary care visit and additional walk-in slots were available, the patient was offered a dilated retinal exam while they waited for their medication prescriptions to be filled.

5. Yearly reports were generated. Lists of all diabetic patients were generated at least yearly at each site (and often more frequently). This information also included due dates for an ophthalmology exam for each site. This was done by querying the clinical database for the diagnosis of diabetes at any clinic visit and last ophthalmology exam date.

6. An ophthalmology clinic schedule was created. This schedule showed future ophthalmology clinic dates. It was kept online at ishare.ucsd.edu such that it could be accessed securely from all clinic sites. Intensive efforts were made to schedule all patients that were overdue for an ophthalmology exam within the first three months of the project.

7. Proactively contact patients who were due for exams. Patients who were identified from the database query yearly report were notified of an ophthalmology clinic appointment slot by phone or in person if they came in for a primary care appointment as indicated in “improved patient scheduling and notifications” section below.

8. Increased frequency of ophthalmology clinic during the summer. Normally, we have ophthalmology clinic once a month at each of the two sites (DT and Baker). Our ophthalmologists volunteer their time and many of them come on the same clinic day at the same clinic site as only one clinic is held per month at each site. We were unable to increase the frequency of clinics per month during the academic school year due to medical student time constraints, but we worked to increase the number of clinics per month to every week or every other week during the summer.

9. Debriefing after each ophthalmology clinic. At the end of every ophthalmology clinic session, the number of patients seen, the no show rate, clinic flow, referrals to be done, and overall clinic issues were reviewed by students and physicians. Suggestions for continual improvement were sought.

10. Coordination with primary care clinic student managers. We had general clinic managers routinely check the primary care list of patients on each clinic session with the list of diabetes patients who still need an ophthalmology exam. They then asked if those patients would like to be seen by ophthalmology clinic that day if walk-in slots were available. Otherwise, a referral form was filled out by general clinic managers and given to ophthalmology clinic managers. The referred patient was added to the call list based on their reason for referral and their priority group number (as discussed above in "Referrals and Priority Lists").

11. Sustainability. We trained subsequent ophthalmology clinic student managers to maintain these policies and procedures to continue the population-based systematic approach for increasing the rate of diabetic retinopathy screening. The SRFCP has a website already dedicated to policies and procedures and students transitioning into leadership positions each year receive a policies and procedures training sheet pertinent to their role at clinic.

12. Tracking. We routinely kept track of the percentage of patients called and confirmed for ophthalmology free clinic, the number of confirmed patients that show up to each clinic, the number of walk-ins that are seen during each clinic, and the total percentage of diabetic patients of the SRFCP who are up to date on their screening for diabetic retinopathy.

13. Patient Education. All patients were given a two-sided hand out (in English or Spanish, at a basic literacy level) educating them about the symptoms and causes of "diabetic eye disease" and the importance of annual dilated eye exams (Appendices 3 and 4).

Improved patient scheduling and notifications

Strategies that were implemented when calling patients for ophthalmology appointments:

1. A priority referral system was implemented (1=high priority, 2=medium, 3=low) so that ophthalmology managers knew which patients needed to be seen most urgently. High priority patients were offered appointments to the next available clinic. Please see "Referrals and Priority Lists" above.
2. A fluent Spanish speaker called the Spanish-speaking patients.
3. The goal was to confirm at least 10 patients by telephone approximately one week prior to clinic. This usually entailed calling 20 to 30 patients before 10 confirmations were reached. (A confirmed patient was considered a patient that had told the caller that they would attend ophthalmology clinic on the given day.)
4. When calling patients, the patients were told that the ophthalmology clinic was performing screening tests for diabetic retinopathy. It was explained to the patients that retina screening was necessary once a year for all diabetic patients to prevent blindness and they needed this test once a year, even if they were asymptomatic and their vision was normal. The patients were given the date, time, and location of the diabetic retinopathy screening.
5. Reminder phone calls were made the day before clinic to confirm appointments.
6. As mentioned above, the general clinic patient roster was compared with the list of patients in need of ophthalmology exams. Any diabetic patients overdue for their

ophthalmology screening that were being seen for other clinic services were offered walk-in same day appointments as space permitted. As mentioned above, if ophthalmology clinic was not onsite at the time of the primary care appointment, a referral to ophthalmology clinic was filled out on behalf of the patient. The referrals were then assessed by ophthalmology clinic managers and the patient was placed on the referral list according to his or her priority group number.

Improved follow up and categorization of no-shows

We made a spreadsheet for patients who did not come to their scheduled appointments and called these patients to reschedule if appropriate and categorize their reasons for not coming (i.e. got lost, no transportation, no babysitter, forgot, etc). These patients were then offered an additional appointment time for the next ophthalmology clinic day.

Improved Tracking of ophthalmology exam date, results, and follow up plan in medical chart

After patients were seen at ophthalmology clinic, the ophthalmology student manager placed the ophthalmology clinic note behind the problem list, added the date of their ophthalmologic exam to the problem list and diabetes flow sheet, and listed the results and follow up plan clearly (avoiding usual ophthalmology abbreviations so that it was easily understood by all health care providers).

Querying the Database

Several queries of the UCSD SRFCP database were run during this project, with the final query run in December 2013 to determine the number of active diabetic patients seen at the SRFCP each year. For this query, we examined the total number of diabetic patients seen at the UCSD SRFCP each year from 2010 to 2013. This was determined by querying all patient visits for each year and determining the number of patients who had at least one diagnosis of diabetes recorded at a clinic visit.

RESULTS

Population

UCSD SRFCP prides itself in serving the underserved, and much of that population is Spanish-speaking. In 2013, 87.9% of diabetic patients seen by the Ophthalmology Clinic were Hispanic (Table 1). The rest of the diabetic population seen by Ophthalmology Clinic were Caucasian (7.4%), other (2.1%), African American (1.4%), and Asian (1.1%). For this reason, much of the teaching given to patients was provided in both English and Spanish (Appendices 3 and 4).

Table 1. Ethnicity of the diabetic patients seen by Ophthalmology Clinic at the UCSD Student-run Free Clinic Project in 2013

Ethnicity	# Diabetic Patients seen by Ophthalmology Clinic in 2013 (Percentage)				
	Downtown	Baker	Pacific Beach	Golden Avenue	Total
African	3 (3.0%)	0 (0.0%)	1 (1.4%)	0 (0.0%)	4 (1.4%)

American					
Asian	3 (3.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	3 (1.1%)
Caucasian	12 (12.1%)	0 (0.0%)	9 (12.3%)	0 (0.0%)	21 (7.4%)
Hispanic	80 (80.8%)	103 (98.1%)	60 (82.2%)	5 (100%)	248 (87.9%)
Other	1 (1.0%)	2 (1.9%)	3 (4.1%)	0 (0.0%)	6 (2.1%)
Total	99	105	73	5	282

Outcomes

Although the emphasis of this project was to increase the number of diabetic patients screened for diabetic retinopathy, ophthalmology clinics also continued to see non-diabetic patients who were referred for urgent or acute care reasons, as part of their role as an ophthalmology specialty clinic. In 2010, before the project began, 72.9% (124/170) of the patients seen at ophthalmology clinic were diabetic. Once we began to focus on systematically bringing diabetics in for their yearly annual dilated eye exams, there was an increase in the percentage of patients seen by ophthalmology free clinic that were diabetic. For instance, in 2011, 79.8% (182/228) of patients seen by ophthalmology were diabetic patients while in 2012 and 2013 the percentages were 78.7% (163/207) and 80.8% (97/120) respectively. Table 2 shows the number of diabetic patients seen at both Downtown Ophthalmology Clinic and Baker Ophthalmology Clinic and the overall percentage of patients seen by ophthalmology clinic that were diabetic from 2010 to 2013.

Table 2. Percentages of UCSD Student-run Free Clinic Project Ophthalmology Clinic patients that are diabetic from 2010 to 2013

Year	# Diabetic Patients/ Total Ophthalmology Patients (Percentage)		
	DT	Baker	Totals
2010	79/109 (72.5%)	45/61 (73.8%)	124/170 (72.9%)
2011	100/134 (74.6%)	82/94 (87.2%)	182/228 (79.8%)
2012	76/106 (71.7%)	87/101 (86.1%)	163/207 (78.7%)
2013	56/68 (82.4%)	41/52 (78.8%)	97/120 (80.8%)

With the implementation of the project in 2011, we also saw an increase in the percentage of UCSD SRFCP diabetic patients who received their annual dilated eye exam from 54.4% in 2010 to 68.9% in 2011. Unfortunately, 2012 and 2013 saw a decrease in the percentage of diabetics being screened for diabetic retinopathy to 51.6% and 34.3% respectively (Table 3). Part of that decrease in screening rates can be accounted for by the decrease in the number of ophthalmology clinics held during those respective years (Table 4).

Table 3. Percentage of current and active diabetic patients seen in Ophthalmology Free Clinic from 2010 to 2013

Year	Total Number of Diabetic Patients Seen at Ophthalmology Free Clinic (Both DT and Baker)	Total Number of diabetic patients seen at UCSD General Free Clinic During the Respective Year	Percentage of UCSD SRFCP diabetic patients seen by Ophthalmology Free Clinic
2010	124	228	54.4%
2011	182	264	68.9%
2012	163	316	51.6%
2013	97	282	34.4%

Table 4. Total Number of Ophthalmology Free Clinics from 2010 to 2013

Year	Total Number of Downtown Ophthalmology Clinics During the Respective Year	Total Number of Baker Ophthalmology Clinics During the Respective Year	Total Number of Ophthalmology Clinics During the Respective Year
2010	12	10	22
2011	15	11	26
2012	10	9	19
2013	10	8	18

As mentioned earlier, much of the problem with ophthalmology free clinic was the low show rate (for both diabetic and non-diabetic patients). Before the project was implemented, some of the clinics were having show rates as low as 0%. Looking specifically at the clinic flow at Downtown Clinic from 2011 to 2013, there were a total of 329 confirmed patients, out of which 227 patients made their clinic appointment. Thus, the overall show rate at DT clinic from 2011 to 2013 was 69.0%. The number of walk-ins and the number of no shows during that time period were 73 and 102 respectively (Table 5). Unfortunately, because the Baker managers were not as diligent at recording the number of confirmed patients and the number of no-shows, a similar table depicting overall clinic flow could not be reproduced for Baker clinic.

Table 5. Overall Clinic Flow at Downtown Ophthalmology Clinic from January 2011 to December 2013

Date	Number of Patients Confirmed*	Number of Confirmed Patients that Showed Up	Walk-Ins	No-Shows	No Show Rate
January 3, 2011	10	3	1	7	70%

February 7, 2011	10	0	4	10	100%
February 28, 2011	10	9	3	1	10%
April 4, 2011	6	5	2	1	17%
May 9, 2011	10	1	5	9	90%
June 13, 2011	7	7	2	0	0%
July 11, 2011	10	5	3	5	50%
July 25, 2011	9	8	3	1	11%
August 1, 2011	10	5	6	5	50%
August 8, 2011	13	11	1	2	15%
August 15, 2011	11	9	0	2	18%
August 22, 2011	12	9	2	3	25%
September 12, 2011	11	8	1	3	27%
October 10, 2011	11	7	4	4	36%
December 5, 2011	12	8	2	4	33%
January 9, 2012	11	5	3	6	55%
February 6, 2012	9	7	1	2	22%
March 5, 2012	12	12	2	0	0
April 2, 2012	12	11	0	1	9%
May 7, 2012	11	10	4	1	9%
June 4, 2012	11	7	5	4	36%
July 2, 2012	9	7	4	2	22%
October 1, 2012	6	4	2	2	33%
November 5, 2012	7	4	2	3	43%
December 3, 2012	5	2	0	3	60%
February 4, 2013	5	5	0	0	0
March 4, 2013	9	8	0	1	11%
April 1, 2013	7	7	3	0	0
May 6, 2013	9	6	2	3	33%
June 3, 2013	10	6	0	4	40%
July 8, 2013	11	9	1	2	18%
August 5, 2013	8	6	1	2	25%
September 9, 2013	10	6	1	4	40%
October 7, 2013	7	7	0	0	0%
December 2, 2013	8	3	3	5	63%

*Confirmed patients were those patients who had been called by the Spanish-speaking caller and who had stated that they would come to ophthalmology clinic on the specific date and at the specific time provided by the Spanish-speaking caller.

The patients who were no shows were called in the subsequent days after clinic, to remind them about the importance of seeing the ophthalmologist for diabetic retinopathy screenings and to see why they had no-showed. One of the major problems encountered was an inability to reach patients. Some patients did not have working telephones, while others screened their phone calls. For the patients that our designated Spanish-speaking caller was able to track down, the most common reasons for missing appointments were an inability to find a ride to free clinic or work problems (i.e. work went late or patient had work early the next day).

Table 6 breaks down the reasons for no shows from July 2011 to June 2013 at DT. Of note, there were several months where the patients who had no-showed were not called.

Table 6. Reasons for No-Shows

Reason for No-Show	Number of Patients
Could not find a ride	5
Did not have bus fare	1
Forgot about the appointment	3
Did not know he/she had an appointment that day or thought the appointment was scheduled for a different day	2
Had a family problem/emergency	3
Work Problems (work went late or had work really early the next morning)	6
Was sick	1
Attended a different specialty clinic on the same day and no longer had time to attend ophthalmology clinic	1
Unknown (was unable to reach the patient or callers were no longer calling patients to find out the patients' reasons for no shows)	39

DISCUSSION

The results of this study demonstrate that systematic implementation of a population-based method at the UCSD SRFCP Ophthalmology Clinic improved the screening rates of diabetic retinopathy. As noted in Smith's study in 2009, only 32% of diabetic patients at the UCSD SRFCP received their diabetic retinopathy screening. At that time, the ophthalmology clinic was running monthly only at the Downtown clinic site. In 2010, when Baker Clinic started to provide ophthalmologic services monthly as well, screening rates improved to 54.4%. Once the project was implemented in 2011, 68.9% of diabetic patients received their dilated retinopathy exam that year. The year 2011, in fact, turned out to be the most successful year. All of the ophthalmology managers were working rigorously and following all of the new implementation rules precisely. Data tracking of confirmed patients, no-shows, and walk-ins were recorded at each clinic. Patients who were no-shows were called after each clinic, and most importantly, the number of clinics held during the summer of 2011 were increased dramatically, as ophthalmology clinic was held approximately weekly at DT and biweekly at Baker.

Weaknesses of Ophthalmology Free Clinic

By December 2011, the ophthalmology managers who had worked hard to implement the new changes, transitioned their leadership positions to new ophthalmology managers. The new managers were trained and received sheets discussing policies and procedures regarding

their roles as ophthalmology managers. However, the percentage of diabetic patients screened for diabetic retinopathy dropped to 51.6% during 2012. When looking at the data specifically though, the number of diabetic patients receiving their ophthalmology exams in 2012 as compared to 2011 dropped only by 19 patients (from 182 in 2011 to 163 in 2012). The big change was that there were a lot more active diabetic patients seen by General Free Clinic; the number of active diabetic patients jumped from 264 in 2011 to 316 in 2012. Another issue that arose in 2012 was that the frequency of clinics during the summer did not increase. In fact, ophthalmology clinic was only held two times during the summer of 2012 at Downtown, which was a huge decrease from the six clinics that were held at Downtown during the summer of 2011 (Tables 4 and 5). Much of that has to do with the availability of the ophthalmology managers, as some of them were out of town for extended periods of time during the summer.

While the number of diabetic patients screened for diabetic retinopathy seemed stable in 2011 and 2012, they unfortunately decreased dramatically to 97 patients in 2013, with an overall screening rate of 34.4%. One major factor in that decline is that there were fewer number of ophthalmologists that were able to volunteer their time. Whereas in 2011 when there were normally 4 -5 ophthalmologists per clinic, there were usually only 2 ophthalmologists in 2013. Some of that decrease was due to sick days, family emergencies, and uncertainty about whether ophthalmologists had malpractice coverage. Another big change was the amount of equipment available for use. One of the healthcare providers that used to volunteer his time in 2011 and 2012 but was no longer able to do so in 2013, used to bring his own equipment, which included an eye exam machine that took electronic pictures of patients' fundi. He could very quickly and easily determine if patients were suffering from even mild diabetic retinopathy. Currently, ophthalmologists must rely on their ophthalmoscopes and the one slit lamp provided by each clinic site. Examining a patient's retina takes much longer using a slit lamp than a fundus photography machine. Furthermore, ophthalmologists are often waiting for their turn to use the slit lamp, thereby reducing the number of patients they are able to screen in the same amount of time as before. Another significant change in 2013 was the implementation of an EMR called EPIC at Baker Clinic. Ophthalmology managers at Baker note that it takes much longer to see one patient since implementation of EPIC because the managers have to go through and update each section of the patient's medical record online. When paper charts were in use, managers only focused on the ophthalmologic related questions and filled out the eye exam, the assessment, and the plan sections of the chart for each patient. With EPIC, managers are now required to confirm medications, vital signs, and other items required by the EMR, resulting in the managers spending much more time on each patient. Lastly, another difference noted in 2013 was that the core faculty member overseeing the ophthalmology clinic was on maternity leave. For this reason, ophthalmology managers had stopped sending monthly reports to this faculty member, and problem-solving regarding the decline in diabetic patients screened for diabetic retinopathy only began halfway through 2013, after many months of only seeing 4 to 7 patients per clinic date.

Difficulties with the System

In general, there are some aspects of this project that have been difficult to improve and/or change. The goal of the implementation of this systematic approach was to improve screening rates of diabetic retinopathy, and in order to do that, managers and ophthalmologists had to be able to see as many patients as possible. In the process of seeing patients,

ophthalmologists were constantly teaching managers concepts about the eye exam, eye physiology, and disease pathology. After all, learning and integration are some of the core values of UCSD SRFCP. By applying the core values, ophthalmologists were limiting the number of patients that could be seen during clinic because they were spending some of their time teaching the medical students. Although we could perhaps see more patients if we created an “assembly line” of patients and ophthalmologists, we would not be respecting the values of the UCSD SRFCP.

Another difficulty that continues to trouble ophthalmology free clinic, as well as most specialty services at the UCSD SRFCP, is the number of no-shows. Although we have reduced the no show rate, we are continually trying to determine ways to decrease our no-show rate. Before starting this project, we experienced no-show rates as high as 100%. During the length of this project, the average no-show rate per clinic was 30.6% with a no-show rate range of 0 to 60%. That is to say that if a clinic had confirmed 10 patients, about 3 of those confirmed patients were likely to not show up. One of the helpful changes we made was to have a designated Spanish-speaking caller call the patients to confirm appointments and to explain to the patients the importance of getting screened for diabetic retinopathy even if they are asymptomatic. This form of education before even arriving to clinic convinced diabetic patients that they should get screened. Although the designated caller did a great job confirming patients, there were still some clinic days where instead of confirming a goal of 10-15 patients, we were only able to confirm 5-7 patients. Often, patients change phone numbers, refuse to pick up phone calls from strangers/unknown numbers, or lose their phone service because they are unable to pay it. Given our patient population, this does not seem to be a problem we can readily remedy. And even when we do confirm patients, some of the patients that are confirmed do not have the resources to arrive to clinic. Studies have shown that closer proximity to safety net providers increases access to care for uninsured populations (Hadley). It is not surprising that one of the big problems UCSD SRFCP patients face in trying to arrive to free clinic is finding a form of transportation (Table 6). Again, unless we are able to gather the funds to pick up patients from their homes and bring them to free clinic, it is unlikely we are going to be able to help the patients who have difficulty with transportation to free clinic. Perhaps having ophthalmology clinic available on-site more frequently so that patients can more often have same day retina screening while awaiting their primary care visits could be a possible goal.

Strengths of the Project

While we have discussed the problems encountered during this project, it is important to highlight some of the strengths and successes. When the project was initiated, we saw a significant increase in the number of diabetic patients being screened for diabetic retinopathy from 124 in 2010 to 182 in 2011 (Table 3). Things that worked well once they were implemented were the Diabetes Flow Sheet (Appendix 1) and the Diabetic SOAP Note (Appendix 2), both of which allowed managers to quickly see which patients needed an ophthalmology exam. Other improvements that were successful were the priority lists, the referral system, proactively calling patients who needed exams using a Spanish-speaking designated caller, making reminder phone calls a couple days before clinic to confirm appointments, and educating patients while at Free Clinic using a handout written in both English and Spanish describing the symptoms and risks of diabetic retinopathy (Appendices 3 and 4). One of the core tenets of UCSD SRFCP is patient

empowerment, and by educating patients, patients are able to understand that diabetic retinopathy is a disease that requires annual screening even if the patient is asymptomatic. We believe that patient education helped reduce the no-show rate.

Recommendations for the Future

After completing this project and meeting with the ophthalmology managers and the attending physician who oversees the ophthalmology clinic, we realize we still have much more work to do. Given our dwindling number of ophthalmology faculty volunteers, we recommend recruiting more ophthalmologists to help volunteer their time. In December 2013, we placed an ad in the San Diego County Medical Society Magazine to recruit more physicians (Appendix 5), and have recently been contacted by two ophthalmologists who saw the ad and would like to volunteer at free clinic. This will bring our number of ophthalmologists from 3 to 5, which would significantly increase the number of clinics we can hold and the number of patients we can see. We will continue recruiting more ophthalmologists.

We also recommend having quarterly meetings between the ophthalmology managers and attending physicians to reinforce the importance of tracking of the data, to strategize which patients to call (i.e. calling patients that are more likely to show up to clinic if they have confirmed appointments), and to discuss any problems that need to be addressed. This will allow for better sustainability of this project in the future. We also recommend getting two designated Spanish-speaking interpreters to help at both DT and Baker ophthalmology clinics. DT clinic has recently started using two designated interpreters and the managers have noticed improvements in the flow of clinic. We also recommend trying to hold “catch up clinics” during the summer when medical students have more free time in order to try to screen as many patients for diabetic retinopathy. We also suggest a patient focus group or a project related to improving the show rate for clinics. Lastly we propose trying to raise money for funds to buy one more slit lamp at each clinic and eventually expanding to an ophthalmology clinic at a third site of the UCSD SRFCP. An ophthalmologist and slit lamp at three sites would decrease the amount of time ophthalmologists spend waiting to use the slit lamp, thereby allowing for greater overall efficiency. An ophthalmology clinic at three sites, and occurring more frequently, would allow patients better access to specialists at a clinic they are already familiar with and would hopefully decrease the no-show rate.

Table 7. In Conclusion: Strengths, Weaknesses, and Recommendations for the Future

Strengths	Difficulties/Weaknesses	Recommendations for the Future
<ul style="list-style-type: none"> ● Improved data tracking of confirmed patients, no-shows, and walk-in patients ● Increased frequency of clinics in the summer 	<ul style="list-style-type: none"> ● Insufficient teaching/training of new managers during the transition period ● Too few ophthalmologists ● Decreased efficiency when 	<ul style="list-style-type: none"> ● More and improved teaching for new ophthalmology managers during the transition period ● Raise money to buy another slit lamp ● Provide resources (i.e. bus fare) for patients to be able to arrive at clinic

<ul style="list-style-type: none"> • Use of a Spanish-speaking caller • Improved referral system and priority lists • Updated and improved Diabetes Flow Sheet and Diabetic SOAP Note • Reminder phone calls made a couple days before patients' appointments • Patient education using an English and Spanish handout 	<p>using the new EMR Epic</p> <ul style="list-style-type: none"> • Core faculty leader in charge of Ophthalmology Free Clinic was on maternity leave • Spanish-speaking caller only confirmed 5-7 patients instead of 10-12 patients 	<ul style="list-style-type: none"> • Recruit more ophthalmologists • Have quarterly meetings between ophthalmology managers and attendings • Assign 2 designated Spanish-speaking interpreters per ophthalmology clinic • Increase the frequency of ophthalmology clinics during the summer • Expand ophthalmology free clinic to a third site (besides DT and Baker) • Patient focus group or initiation of a quality improvement project to improve the show rate for clinics
---	--	---

Conclusion

In conclusion, the systematic implementation of a population-based approach helped to increase the rates of diabetic retinopathy screening at the UCSD Student-run Free Clinic Project initially, but rates have decreased with the transitioning of new managers and the implementation of a new EMR. Although many changes have been effective in increasing screening rates, there is much more work to be done to make the system more efficient and to reach our goal of screening all of our diabetic patients for diabetic retinopathy. During the last four years, 566 individual diabetic patients received retina screening in an effort to detect, treat, and prevent the most common cause of blindness in the United States. These individuals were all uninsured and otherwise had no access to care. A copy of this ISP will be presented to each new first year medical student ophthalmology manager, who will continue to meet quarterly with the ophthalmologist and Co-Medical Director of the UCSD SRFCP to ensure that ongoing efforts will be made to continue to track and improve ophthalmology screening rates in diabetic patients.

Acknowledgments

I would like to give a very warm thank you to my Independent Study Project committee Dr. Sunny Smith, Dr. Paul Michelson, and Dr. Ellen Beck. Dr. Smith has been my mentor and has continually offered her support and insights not only throughout this project, but throughout all of medical school. She has been an excellent role model and really exemplifies the caring and compassionate doctor I hope to one day become. Thank you to Dr. Michelson for his patience in teaching me about the ophthalmologic exam and ophthalmologic pathophysiology. His kindness

to and care for patients has been superb. Thank you to Dr. Beck for founding the UCSD SRFCP and for instilling the values of respect, trust, integration, empowerment, among many others, in the patients, volunteers, and healthcare providers at free clinic. Her vision for free and accessible medical and preventive care has given hope and health to so many uninsured patients in San Diego. I would also like to thank Carol Eames for accessing and querying the database, and for trying to help me extract whatever data I needed. Lastly, I want to thank all of the free clinic volunteers, interpreters, and managers who have helped to implement this project at ophthalmology free clinic.

REFERENCES

Beck, Ellen. The UCSD Student-Run Free Clinic Project: Transdisciplinary Health Professional Education. *Journal of Health Care for the Poor and Underserved*. 2005 May; 16(2): 207-219.

Berenson, Robert A., et al. A House is not a Home: Keeping Patients at the Center of Practice Redesign. *Health Affairs*. 2008; 27:1219-1230.

Cheung, Ning, et al. Diabetic Retinopathy. *Lancet*. 2010 July; 376: 124-136.

Durham, Jennifer and Ira Herman. Microvascular Modifications in Diabetic Retinopathy. *Current Diabetes Reports*. 2011 August; 11: 253-264.

Frank, Robert N. Diabetic Retinopathy. *New England Journal of Medicine*. 2004 Jan; 350:48-58.

Fong, Donald S., et al. Understanding the Value of Diabetic Retinopathy Screening. *Arch Ophthalmol*. 2001 May; 119: 758 - 760.

Gardner, Thomas W., et al. An Integrated Approach to Diabetic Retinopathy Research. *Arch Ophthalmol*. 2011 Feb; 129: 230 - 235.

Hadley, Jack and Peter Cunningham. Availability of Safety Net Providers and Access to Care of Uninsured Persons. *Health Services Research*. 2004 Oct; 39(5): 1527-1546.

Larson, Eric B; Reid, Robert. The Patient-Centered Medical Home Movement. *The Journal of the American Medical Association*. 2010; 303(16): 1644-1645.

Patient-Centered Medical Homes. *Health Affairs*. 14, Sept. 2010. (PCMH)

Paulus YM et al. Diabetic retinopathy: a growing concern in an aging population. *Geriatrics*. 2009 Feb; 64(2):16–20.

Riordan-Eva, Paul. "Chapter 7. Disorders of the Eyes & Lids" (Chapter). McPhee SJ, Papadakis. MA: *CURRENT Medical Diagnosis & Treatment* 2011:
<http://www.accessmedicine.com/content.aspx?aID=2002>.

Smith SD, Marrone L, Johnson ML, Gomez A, Edland S, Beck E. Clinical Outcomes of Diabetic Patients at a Student-Run Free Clinic. *Family Medicine*. 2014; 46(3): 198-203.

Appendix 1.

**UCSD Student-Run Free Clinic Project
DIABETES LAB & EXAM SCHEDULE**

Patient Name: _____ **Patient ID:** _____

Ophthalmology screening

Date	Diabetic retinopathy?		IF yes,			Comments (include other findings, plans)	Next Exam Due
	Yes	No	Mild	Mod	Severe		

Date of Diabetes Diagnosis: _____

Nephropathy: Y N
 Neuropathy: Y N
 CAD/MI Y N
 HTN Y N
 Dyslipidemia Y N

Laboratory Exams

See reverse for laboratory schedule

HbA1c	Microalb/Cr	Cr	LDL	HDL	TG	TSH	ALT
date/result	date/result	date/result	date/result	date/result	date/result	date/result	date/result
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/
/	/	/	/	/	/	/	/

Annual Tests and Specialty Exams

	2011		2012		2013	
	Date	Result	Date	Result	Date	Result
BMI						
Depression Screen						
Flu Shot						
Dental Exam						

Appendix 1 continued

Aspirin 81mg	ALL DIABETICS should get these! Unless allergic or Hx PUD or <30 y.o. if hx MI use 325mg	Pt has it? Y N
ACE I	All DM2 >55 y.o. All Patients with Alb/Cr >30	Y N
Metformin	Unless BMI <24 <u>or</u> ALT 3x ULN <u>or</u> CHF <u>or</u> Cr >1.4	Y N
Statin	Unless LDL <100 <u>or</u> ALT 3x ULN all DM >40 y.o.	Y N
Foot/ wound care	Education at every visit! Be sure to note a) sensation; b) biomechanics; c) increased pressure; d) bone deformity; e) pedal pulses; f) ulcers; g) severe nail pathology	
Diet/exercise	Education at every visit	
Smoking cessation	Explore for readiness & plan at every visit	

LAB TESTING	
HbA1c	q 3 months if not at goal; q6 months if at goal
Microalbumin/Cr	q year
Creatinine	q year (<i>q 6 months if patient is taking Metformin</i>) test more often if worsening renal function
Lipids (LDL/HDL/TG)	q year when LDL <100 (q 6 months if LDL>100)
ALT	q 2 months first year on statin/thiazolidine (TDZ) 0, 6, & 12 weeks on starting statin, then q 6 months
TSH	q year
CBC	q year, more often if worsening renal function

<p>HYPOGLYCEMIC SX</p> <p>Sweating Rapid Heart Rate Palpitations Dizzy Faint Coma Weakness</p>	<p>DEPRESSION SCREENING</p> <p>Sad Interest Guilt Energy Concentration Appetite (↑/↓ weight) Psychomotor Suicidal Ideation Sleep patterns</p>	<p>CARDIAC SCREENING RISK FACTORS</p> <p>Gender: M Age: Women > 65 Men > 55 Hypertension Diabetes LDL >100 CAD (previous MI or CABG) Family history of CAD: W<65 M<55 Tobacco use</p>
<p>HYPERGLYCEMIC SX</p> <p>Blurred vision Thirst Weakness Frequent urination Hunger</p>		

Progress/SOAP Notes For DIABETIC PATIENTS

Today's Date: ___/___/___

BP: ___/___ Heart Rate: ___ RESP: ___ Patient Name: _____

Temp: ___ WGT: ___ HGT: ___ BMI: ___ DOB: ___/___/___ Age: _____

ALLERGIES and nature of reaction: _____ **CURRENT** Phone Number: (____)____-_____

AND other contact information: _____

Medications with dosages at beginning of visit:
(i.e. medications patient is taking on arrival at clinic)

Medications with dosages at end of visit:
(i.e. medications patient will be taking at end of visit) (Note # of tablets dispensed)

Patient's Chief Concern:

Subjective/Objective/Assessment/Plan:

Diabetes Questions

Fasting glucose range: _____

Random glucose range: _____

Hypoglycemic symptoms: Y N

Polyuria: Y N

Polydipsia: Y N

Polyphagia: Y N

Weight changes:

Last HbA1C: _____ Date: _____

Medication changes since last HbA1c:

Foot numbness: Y N

Performs regular foot checks?

Past or current foot wounds: _____

Monofilament test today: Normal Abnormal

Cardiac (chest pain, SOB, palpitations):

Erectile dysfunction (if male): Y N

Ophthalmology Exam Date: _____

Result: _____

Next ophthalmology exam due: _____

Vision changes: _____

Date

MS I/II: _____ ___/___/___

(Print): _____ ___/___/___

MS III/IV: _____ ___/___/___

(Print): _____ ___/___/___

NP/Int/Res: _____ ___/___/___

(Print): _____ ___/___/___

Attending: _____ ___/___/___

(Print): _____ ___/___/___

Diabetes and Your Eyes

Appendix 3

You can have diabetic eye disease and not know it.

Many times people with diabetes aren't aware they have diabetic eye disease. In the early stages of the disease, few symptoms may appear until after damage has occurred. Even people with good vision can suffer from diabetic eye disease.

Annual eye exams help prevent diabetes-related vision loss.

An annual dilated eye exam is important if you have diabetes. It gives your eyecare provider a better view inside your eyes to look for vision problems related to diabetes, as well as other health conditions too.

In fact, most diabetes-related blindness can be prevented when patients receive an annual eye exam.¹

Are you at risk for diabetes?

Check out these leading risks for diabetes:

- Overweight or obesity
- Physical inactivity
- Family history of diabetes
- People of African American, Hispanic, Native American, Asian, and Pacific Islander ethnicities
- Women who had diabetes during pregnancy or had a baby weighing more than nine pounds

Seeing is believing.

As many as 24,000 people with diabetes lose their eyesight to diabetic eye disease each year.²



Sight with healthy eyes



Sight with diabetic retinopathy

Prevent this from happening to you.

See your eyecare provider for an annual dilated eye exam.

La diabetes y sus ojos

Appendix 3

Usted puede tener enfermedad diabética de los ojos y no saberlo.

Muchas veces las personas con diabetes no saben que tienen enfermedad diabética de los ojos (retinopatía diabética). En las primeras etapas de la enfermedad es posible que pocos síntomas no aparezcan sino hasta después de que ya haya habido algún daño. Incluso las personas con buena vista pueden tener la enfermedad diabética de los ojos.

Los exámenes anuales de la vista ayudan a prevenir la pérdida de la vista relacionada con la diabetes.

Si tiene diabetes es importante que le realicen un examen con las pupilas dilatadas una vez al año. Su proveedor de atención de la vista puede revisar mejor el interior de sus ojos, por si tuviera problemas de la vista relacionados con la diabetes, así como otros problemas de salud también.

De hecho, gran parte de la ceguera relacionada con la diabetes se puede prevenir cuando los pacientes reciben un examen anual de la vista.¹

¿Está usted en riesgo de diabetes?

Revise estos riesgos importantes de la diabetes:

- Sobrepeso u obesidad
- Inactividad física
- Antecedentes familiares de diabetes
- Personas que pertenecen a uno de estos grupos étnicos: afroamericano, hispano, indígena americano, asiático y de las islas del Pacífico
- Mujeres que tuvieron diabetes durante el embarazo o tuvieron un bebé que pesó más de nueve libras

Ver para creer.

Cada año hasta 24,000 personas con diabetes pierden la vista debido a la enfermedad diabética de los ojos.²



Vista con ojos sanos



Vista con retinopatía diabética

Evite que esto le suceda a usted.

Vaya al proveedor de atención de la vista para que le realice un examen anual de la vista con las pupilas dilatadas

Appendix 5

The UCSD Student-run Free Clinic Project is looking for energetic ophthalmologists who love teaching to volunteer their time to act as attending physicians at the Ophthalmology Free Clinic. Attendings would have the choice to volunteer at 2 different clinic sites: the First Lutheran Church in Downtown San Diego and/or Baker Elementary School. Both clinics are 4 hours long, are held monthly, and provide services to the uninsured patient population of San Diego. Monthly commitment is not required. Malpractice is covered by UC Regents via a voluntary faculty appointment. For more information, please contact SunnyDSmith@gmail.com