

**Project Title**

***Community Pharmacy Participation in Health Screening and Medication Therapy Management***

**Author and Location**

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**Objectives**

- 1- Expand screening and initiate medication therapy management program for American Heart Association (AHA) Women Health Conference to participants throughout the year.
- 2- Establish collaboration with Medical Clinics with one clinic providing weekend services
- 3- Extend the screening and medication therapy management to males in the community
- 4- Increase the number of pharmacy students performing health screening and medication counseling at the conference and extend their activities though out the year.

**Project update****1- Objective #2**

**Three Medical Clinics** are in collaboration with our practice.

***Clinic one: Harbor Health Clinic (HHC)***

This clinic was chosen because of its affiliation with Cigna Health insurance and the university of Tennessee Medical center. The clinic serves Methodist Hospital employee. The PI started the negotiation with the clinic manager in May 2007. Diabetes patients are referred to WPCC by the physicians for diabetes management provided by the PI.

***Method & design:***

A protocol was designed where HHC set an enrollment health event where members of the Cigna Health insurance sign up for health services with HHC. HHC provides health assessment which include general health screening and physical fitness assessment. The results of the initial assessment were sent to the PI for reviewing the

medication list provided by the enrollees. PI evaluates the medical records regarding MTM and provides an assessment plan. The HHC-physicians meet the patients and refer diabetic patients to the PI for education and diabetes management. The PI set 6 group diabetes classes at WPCC site and met on Saturdays during the last quarter of 2007 till Jan. 2008.

***Results:***

The program started in the second week of July, 2007. The diabetes education and management started in the last quarter of 2007 till now (Jan.2008)

The PI reviewed 245 charts and diabetic patients were identified and referred for diabetes education and management. Patients clinical and lab analysis records were sent to the PI along with the referral papers signed by the physician.

PI started diabetes group classes on Saturdays as all the referred patients are week day's employees. 5-10 diabetes patients attended the group sessions. Some of the family members joined the sessions. Total of 40 patients were identified by the physician to be referred to the program out of which 24 scheduled and attended the group classes with 100% attendance.

Each patient had one individualized session with the pharmacist in the following Saturdays after the group session attendance. 15 patients received the individualized education session and the rest are scheduled for appointments with the PI in Jan and feb.2008.

Patients were asked to email the PI with their daily blood glucose and food diary. The follow up sessions ranged between 90 – 240 min per patient.

We continue collaboration with Medical clinics and receive referrals from the physicians. The referrals were on diabetes education and management.

***Clinic Two:***

***Pleasant View Medical clinic*** (weekend clinic)

The PI has been receiving patients from the providing physicians. PI has 5 diabetes patients from the clinic. They had individualized visits. They did not receive group sessions. Each patient met with the PI between 120 – 200 min each for one – three sessions' average during October 2007 – Jan. 2008. All patients were compliant with all the appointments as scheduled.

Update:

Medical director of the clinic has moved to Chicago for another job offer. The referral from this clinic has decreased significantly.

***Clinic Three***

***Health-first Family Care, PLLC***

The PI continued collaboration with this clinic through the grant. The physician was a collaborator with the PI through hospital organization since 2003, before opening

his private practice. This new phase of collaboration results in additional 48 patients to be added to the program.

The PI feels that this new phase of collaboration will strengthen the study as more data results will be added for higher statistical power upon peerreview publications. Patients referred by the physician are seen by the PI at the physician office once a week and every day in the WPCC including Saturdays and Sundays by appointments.

### **2-Objective #3,**

In July 9<sup>th</sup>. The AHA decided to cancel their annual event because of lack of funding. The PI (Dr. Sahar Rashed) is a member of the planning committee for AHA community activities. The PI set several community screening in Walgreens stores during last quarter of 2007. Screening was done by PI and pharmacy students every Saturday in October and November. The turn out was estimated 110 participants. Male and female subjects were screened for hypertension and diabetes.

### **3- Objective #4**

Pharmacy students participated in the screening events as part of an ambulatory selective class taught by the PI.

A Pharm.D, Ph.D student was hired by Walgreens to work with the PI on this grant. The student will follow with patient education protocol and data collection for publication. The student is in training on the computer system of Walgreens and the PI anticipates his participation with the grant in the next few weeks.

### **Additional activities at the WPCC**

HHC collaboration resulted in referrals **26** patients (as of Jan.12). Patients had to have their prescriptions with Walgreens in order for them to receive the diabetes management service. Patients are seen every Saturday morning and Sunday afternoon.

HHC was rated 96% patient satisfaction as I have been doing chart review for all patients before the physician sees them. I did over 150 chart review. I think this should be a service paid to the pharmacist. I did it as part of the screening of the grant. These patients are Cigna Patients. I am hoping to get their outcomes and present it to Cigna for a service contract.

We have so far **38** patients from the Catholic diocese of Memphis. I am in the process of getting their out comes and give it to Mr. Arnold with smith premier to present it in the SIIA meeting next month. They have it early this year.

Blue Cross Blue shield of Ark. We have 15+ patients seen by two pharmacists in the overlap time. We just renewed our collaboration for the 4<sup>th</sup> year.

Health Loop patients are **48** patients. The physicians used to work with the Health loop are having their own private offices and they are referring patients to me. I am in the process of getting 5 years outcomes on them.

**Manuscript and publications:**

Manuscript was prepared for publication at the American journal of Managed care, Pharmacy benefits. The work was presented at the following conferences

1. **Sahar Rashed**, Sandra Goldstein, Elizabeth Tolley, and Barbara Wilson-Relyea. Clinical and Medical cost outcomes of diabetes education service in specialized community pharmacy. American Federation of Medical research, Southern region, Feb. 2009.
2. **Sahar Rashed**, Sandra Goldstein, Elizabeth Tolley, and Barbara Wilson-Relyea. Clinical and Medical cost outcomes of diabetes education service in specialized community pharmacy. Self-insure institution of America SIIA, Florida, September. 2009.

**The abstract of the work is summarized below,**

Clinical and medical cost outcomes of diabetes education in a specialized community pharmacy

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Objective: The aim of this retrospective pilot study was to investigate clinical outcomes and medical costs resulting from a comprehensive diabetes education and management service offered in a specialized community pharmacy.

Study design: Cost-effective analysis of diabetes managed care.

Methods: Diabetes education and management service was offered to patients enrolled in a self-insured health plan. A community-based clinical pharmacist provided one-on-one comprehensive education sessions. Outcome measures included clinical data along with total costs of medical and prescription claims before and during the intervention period of 3 years. Similarly, data were collected for a cost comparison group over the same time period.

Results: In the intervention group (n=22), mean A1c decreased from 8.99% ± 2.2 to 6.78% ± 0.9 (2.2-point decrease, p<0.001). Participants' mean lipid profile improved from baseline; triglyceride level decreased (64 ± 78 mg/dl, p=0.002), HDL level increased (8 ± 6 mg/dl, p=0.020), and total cholesterol and LDL levels decreased to (179.2 ± 24.1 and 105.8 ± 21.5, respectively; p=0.243 and p=0.220, respectively). Mean year incidence of antibiotic-utilization declined from 3.2 to 1.4 incidents/year (p=0.057).

Weight loss between 5- 37 pounds was achieved in 14 patients, and 8 patients had no change. Mean health insurance costs in the intervention group decreased by \$3033 ± 1549 with decrease in medical and physician costs and increased prescription cost. In parallel, costs increased in the comparison group by \$11,960 ± 10,927 with increase in medical and physician cost and decrease in prescription cost.

Conclusion: Comprehensive diabetes education and management in a specialized community pharmacy resulted in improved clinical outcomes with an overall decrease in medical costs. Future plans include testing the hypothesis in a formal, randomized control study.

### **Take-away Points**

This study of diabetes management in a specialized community pharmacy examined clinical and economic outcomes over a three year period.

1. The outcomes measured for one group of patients managed by one pharmacist.
2. A1c decreased from 8.9% ± 2.2 to 6.7% ± 0.9 and controlled level was sustained for over 2 years.
3. Lipid profile and weight improved over time.
4. Antibiotic-utilization incidence declined 65%
5. Medical plus physician costs decreased by 55%, medication costs increased 150% from baseline and total cost per patient decreased 35% from baseline.
6. Program saved \$177,213 for 22 patients over 3 years.

### **Acknowledgment**

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I would like to thank the foundation for the support provided to this project and hope to have more future successful collaborations with the foundation to present the work nationally and internationally in support of the foundation mission to improve pharmacy profession.