

2014

# Improving Vascular Health of Patients with Diabetes Mellitus

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## Recommended Citation

Haroun, Pishoy, "Improving Vascular Health of Patients with Diabetes Mellitus" (2014). *Family Medicine Clerkship Student Projects*. 33.  
<https://scholarworks.uvm.edu/fmclerk/33>

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# Improving Vascular Health of Patients with Diabetes Mellitus

Berlin Family Medicine

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August/September 2014

Drs. Jensen, Kowalski, Stafford, Williams, Rodriguez

# Problem Identification

- Several diabetic patients are reluctant to take the extra step in their long-term health care, particularly problematic as it relates to cardiovascular disease.
- In addition to difficulty controlling blood glucose levels, several patients struggle maintaining an appropriate blood pressure. This is often due to a reluctance to maintain a proper diet, exercise regularly, and take certain medications.
- Studies have shown that compliance with exercise regimens falls from 80% at 6 weeks to 20% at one year.
- Many patients reluctant to start on a statin, and some physicians even hesitant to adhere to the new recommendations proposed by the AHA.

# Description of Need

- Because these other aspects of long term health oft go neglected, patients are at increased risk for vascular disease and resultant complications, including coronary heart disease.
- Often these patients are in for 15 minute follow-up visits, and much of the time present with other complaints. There is simply not enough time during the visit to address all the preventive measures and medications patients should be taking. More importantly, there isn't enough time to address their increased risk and explain why these measures and medications are important and beneficial.
- This project aims to create a tool that will address these issues, and advise patients on what they should be doing and why. It will be geared toward improving vascular health, and especially on supporting the new statin guideline for diabetics.

# Monetary Implications

- In the US, the lifetime cost for diabetes care is estimated to be between \$56,000 and \$125,000 dollars per patient, depending on when a patient is diagnosed. This amounts to several billions of dollars per year spend on US diabetic patient care.
- Diabetic complications account for 48%-64% of these lifetime costs. 57% of those costs can be attributed to treating stroke and coronary heart disease (macrovascular complications).

# Community Perspective

- I spoke with all 5 physicians at the practice, who thought this would be very helpful, reiterating that it is difficult to address patient complaints and give adequate teaching on diabetic health maintenance.
- They also reported many patients who are reluctant to take certain medications, such as statins, because they do not understand the benefits (especially long-term).
- I also spoke with registered nurse *Name Withheld*, who heads the community health efforts at BFH. He also stressed the importance of diabetes care, pointing out that at least over 30% of the patient population at BFH have a diagnosis of Diabetes Mellitus. He believed that a tool for patients to take home, such as this brochure, would be an excellent option to improve diabetes health management.

# Intervention and Methodology

- Developed a brochure to be used as an educational tool for diabetes patients, especially with regard to cardiovascular health.
- Included the following core concepts from the Health Belief Model to design brochure.
  - **Perceived Susceptibility**
  - **Perceived Severity**
  - **Perceived Benefits**
  - **Perceived Barriers**
  - **Cues to Action**
  - **Self -Efficacy**

# Results/Response

- Physicians at the practice were very pleased with the product, and put it into use same day it became available.
- Immediately was evident this saved time during the encounter, and provided patients the opportunity to take home readily available information to contemplate as they create and adjust action plans for their health management.
- Patients were very receptive to brochure, and found the checklist very useful.
- Future projects can assess quantitatively how helpful patients found the brochure, how helpful physicians found the brochure, and where or not a difference was made because of the brochure. This can be measured by actual improvement in health goals (BP, A1c, etc.) or with patient's assessment of general helpfulness in maintaining healthy habits.



# Effectiveness and Limitations

- + Convenient for physicians to pass along to patients (especially during shorter encounters, i.e. follow-up appointments).
  - + Encourages patients to be actively involved in their medical care (ACA)
  - + Brochures serve as effective tools in promoting patient-physician dialogue in high risk populations.
  - + Addresses a variety of diabetes patient needs
  - + Brochures provide a source of repetitive material to enforce health concepts and needs of diabetics
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- Linguistically appropriate health information (literacy level of brochure)
  - Intervention does not stand alone, must also include face to face communication with patient.
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- Not tested on patients and developed without patient feedback

# Recommendations for future projects

- Use this brochure in addition to face to face interaction with patient.
- Future projects should test the effectiveness of this brochure increasing health literacy of diabetes patients, as well as implementation of recommended treatments and prevention strategies. Assessment of patients achieving goals, such as target A1c, BP, etc. can also be performed.
- Future brochures should focus on the issues that both patients and physicians think are important.

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