Abstract: The Diabetes Network of St. Louis (DNSL) is a model for chronic disease management that emphasizes community resources. Our current medical system lacks the necessary manpower to ensure adequate patient literacy regarding diabetes. This program trains lay people in diabetes education, who then lead support groups through a series of informative discussions. Working within our current infrastructure, the goal of this program is to improve health care outcomes via a community based, sustainable model. Thus far, 7 groups have been established. Over the course of 12 weeks, the support groups utilize structured information sessions to change diabetes behavior. Pre and post biometric data, consisting of hemoglobin A1cs (HbA1c), blood pressures, and weights, are obtained in order to objectively measure program efficacy. Thus far, our initial biometric analysis supports the utility of the DNSL as a tool for addressing the chronic care of diabetes. In particular, those patients with no prior diabetes education have benefited the most, as demonstrated by a reduction in HbA1c of 0.43 (p<0.037).

Introduction: In 2006, the St. Louis Diabetes Coalition completed an MFH-funded community health assessment project called The Assessment of Missouri’s Capacity to Achieve Self-management of Type 2 Diabetes. Among the findings were that hospitals have nearly all of the structured diabetes education programs in the region and that these programs were not sufficient to meet demand. While hospital-based programs offer initial assessment of self-management skills for admitted patients, less than 60% provide individual follow-up or group education services. In addition, access to hospital-based programs is limited by location, referral patterns, and fees, thereby making self-management education inaccessible for most patients with diabetes. While community-based organizations hold much promise for meeting demand, they have been disenfranchised by the traditional medical model of diagnosis and treatment. A new paradigm is necessary to expand the community infrastructure and capacity for meeting the support needs of patients with diabetes.

Methods: Using the social network established by the Washington University Diabetes Center (WUDC) and its community partners, recruitment of lay leaders and of participating individuals from the greater St. Louis area began in 2008. Lay leaders underwent extensive training by the WUDC. Participants were then placed into support groups that met bi-weekly over a 12 week course, and each session included: a review of blood sugars, a 10 minute audiovisual presentation on diabetes management, a group discussion, and construction of a personalized action plan. In addition, sessions 1 and 6 included measurements of weight, blood pressure, and HbA1c, as well as depression surveys and self-assessment quizzes on diabetes knowledge.

Results: The primary endpoint was improved blood glucose control, as identified by HbA1c’s. The paired student’s t-test was used for analysis of statistical significance.

Discussion: The DNSL represents an approach to diabetes management in the St. Louis area that utilizes community resources. Thus far, over 100 people have been enrolled, and of that number, 52 have completed the three month training program and provided demographic data. Collectively, these individuals demonstrated a trend toward improved blood glucose control, as shown in Figure 1. Further analysis reveals a statistically significant improvement in HbA1c in those individuals without any prior diabetes education, suggesting that the DNSL is particularly powerful in establishing baseline control for those people with limited access to health care (Figure 1; P<0.05). Conversely, for those patients who already have a history of diabetic education, our data analysis indicates that the DNSL does not significantly affect the HbA1c (Figure 1; p=0.612 with a slight increase from 7.22 to 7.29). This may indicate that for this subgroup, improved glycemic control requires management from health care professionals. As for other targets of improved health, both body mass index and blood pressure were decreased after completion of the DNSL program, and this trend suggests that a chronic care model like the DNSL may be of benefit to individuals with diabetes, though this was not statistically significant (Figure 2).

Conclusion: Initial results from the DNSL have been quite promising, with improvements in HbA1c, BMI, and BP seen in our target population. Particularly important is the improved glycemic control demonstrated by those individuals with no prior diabetic education, as they seem to extract the most benefit from the program. Conversely, those patients with prior exposure to diabetes education likely need interaction with health care professionals to further improve their diabetes management. Further analysis of a larger population is needed before more definitive statements regarding the DNSL can be made, but we remain hopeful that this community based approach to augmenting the current medical system infrastructure will prove beneficial.