THE 16TH ANNUAL EVERETT V. FOX STUDENT CASE COMPETITION TEAM N (RUSH UNIVERSITY) - EXECUTIVE SUMMARY

The Background & Problem

The prevalence of diabetes in Jefferson County (11%, 2008) is higher than the national average (6.3%, 2002). Prevalence is even higher in those ages 55-65 (19% of our population, 22.5% prevalence rate) and those over 65 (13% of our population, 22.6% prevalence rate). Additionally our community has risk factors that increase the risk of diabetes including obesity (30% of the community), lack of exercise (29%), and poverty (15% below the federal poverty line).

Birmingham General Health System (BGHS) has a high readmission rate for diabetic patients. These patients utilize resources that could be reallocated to serve others. This is exacerbated by poor care coordination and an inability to electronically exchange patient information between providers. The Strategic Business Development Group has been asked to design a patient-centered medical home (PCMH) model to better manage our diabetes patients.

The Team N Plan

Our plan is to develop each of our five private outpatient family practices into a PCMH ("PCMH site"). Using a staggered approach (one site in 2013, two in 2014 and two in 2015) we will work with each partner to redesign care delivery in compliance with National Center for Quality Assurance 2011 standards and help move them to an electronic medical record ("EMR"). The goal is to shift diabetes care from an episodic to a patient-centered, holistic approach.

Effective use of health information systems is critical. We will create a registry populated with only diabetic patients in both our inpatient EMR and at each of our PCMH sites. By connecting these registries via a health information exchange ("HIE") we will better track patients to quickly identify those who are noncompliant. We will also use innovative home telemetry tools, such as Bosch Health Buddy® and an interactive voice response system ("home telemetry devices"), to monitor patients and intervene before their diabetes becomes uncontrolled.

We will assemble an interdisciplinary team to assume responsibility for providing diabetic patients with proper care, training and education to adopt lifestyle changes and self-manage effectively. This team will include social workers, nurse practitioners, a certified diabetes educator, a registered dietician, and community health workers. Working together, they will implement enhanced discharged planning procedures to ensure inpatient diabetic patients have a PCP provider, a follow-up appointment scheduled and are enrolled in education programs prior to discharge.

We will divide our diabetic patients, both outpatient and those migrating from inpatient to outpatient, into two groups. The top 20% ("Group A") – those who drive 80% of the costs – will be seen by a nurse practitioner within 2 weeks post-discharge. The remainder will be seen by a physician within 2-3 weeks post-discharge. Those in Group A will also receive four education sessions and a monthly call from a social worker. A select portion of Group A will be visited at home by a community health worker, every other week for two months post-discharge, and once a month thereafter. Finally, we will build key community partnerships to ensure patients have a strong support network.

Financial Projections

Based on an assumed per physician patient volume, a growth factor of 6% and using a conservative CMS reimbursement rate, we expect \$484,242 in outpatient revenue in 2013. This number is derived from billable patient care provided by our interdisciplinary care team. Expected expense for 2013 is \$548,000 which includes:

- operating costs (salaries, physician EMR incentives, medication fund for indigent patients, and community programs)
- capital costs (home telemetry devices, outpatient and inpatient EMR integration and HIE costs)

While some costs are one-time expenditures (e.g. Bosch Health Buddy® device purchase), most are recurring. In 2013, our expected operating margin is -13%. By paying our PCMH sites fair market rent (\$40,000 per year) for space and equipment used by our nurse practitioner, we will minimize any legal (Stark, anti-kickback and antitrust) issues. By 2015, our operating margin is 3% (increasing to 4% in 2016) – making this model self-sustaining going forward.

In 2013 our savings are \$371,831 based on a projected inpatient to outpatient migration of 207 patients and a \$150 decrease per beneficiary per month from reduced hospital readmissions, emergency department use, and other provider use. Repurposing this additional capacity to serve heart disease patients, for example, could result in additional revenue of \$1.85M in 2013(based on CMS reimbursement of \$9,000 per case).

Conclusion

We successfully address our high readmission rate by leveraging unique technologies to facilitate the development of a PCMH model and by redesigning care from the patient's perspective. This model also demonstrates substantial inpatient savings from readmission reduction. Finally, our self-sustaining model and community partnerships will allow us to continue to serve our diabetic patients while improving care and health outcomes.