Project Option 1.3.1 - C12 UT Physicians Chronic Disease Registry - Implement a Chronic Disease Management Registry

Unique RHP Project Identification Number: 111810101.1.4

Performing Provider Name/TPI: UTHealth, UTPhysicians / 111810101

Project Description:
UT Physicians will implement and use chronic disease management registry functionalities.

Data entered into a unique chronic disease registry will be used to pro-actively contact, educate, and track patients by disease status, risk status, self management status, community and family need. Reports drawn from the registry will be used to develop and implement targeted QI plans for diabetes, hypertension, asthma, COPD, and CHF. Utilization of registry functionalities helps care teams to actively manage patients with targeted chronic conditions because the disease management registry will include clinician prompts and reminders, which would aid in the delivery of proactive care to patients with chronic diseases.

Goal and Relationship to Regional Goals:
To track key patient information, thereby enabling physicians and other members of a patient's care team to identify and reach out to patients who may have gaps in their care in order to prevent complications, which often lead to more costly care interventions.

By establishing disease specific registries, providers will have the benefit of a rich information source on the dynamics/progress of patients under their care. This taps into the regional goal that aims to "transform health care delivery from a disease-focused model of episodic care to a patient-centered, coordinated delivery model that improves patient satisfaction and health outcomes, reduces unnecessary or duplicative services, and builds on the accomplishments of our existing health care system."

Challenges:
Need: 1) Lack of care coordination and unnecessary duplication of services due to insufficient implementation and use of electronic health records. 2) High rates of chronic disease and inadequate access to treatment programs and services for illnesses associated with chronic disease.
Implementation: 1) Recruitment and training of case managers to run the registries. 2) Capacity to act on data output from registry. In addition to the high rates of chronic diseases in the population, the failure to make maximum use of the support of clinical information technology has hampered the effective management of such diseases. Information technology, which is part of Wagner's chronic care model, has been shown to contribute positively to the delivery of a proactive care that keeps patients healthy as much as possible and achieve stable states in disease conditions by yielding timely actionable information.

5-Year Expected Outcome for Provider and Patients:
Chronic disease registries will have been created and incorporated into the care models for the targeted diseases for the delivery of proactive and coordinated care for patients with chronic diseases, such as cardiovascular disease/hypertension. We expect that improved care for these patients will result in better outcomes and less need for acute episodic care, thereby lowering ED utilization for patients with cardiovascular disease/hypertension.

Starting Point/Baseline:
To be determined during DY3.

Rationale:

Utilization of registry functionalities helps care teams to actively manage patients with targeted chronic conditions because the disease management registry will include clinician prompts and reminders, which would aid in the delivery of proactive care to patients with chronic diseases. The following statistics on select chronic diseases demonstrate the need for tools and processes that assist in the management of these diseases, such as the chronic disease registry.

Asthma is increasing every year in the US; the proportion of people with asthma in the United States grew by nearly 15% in the last decade. There is significant disparities in asthma prevalence in the US. Adults with an annual household income of $75,000 or less are more likely to have asthma than adults with higher incomes. (Asthma's Impact on the Nation: Data from the CDC National Asthma Control Program. Available at: http://www.cdc.gov/asthma/impacts_nation/AsthmaFactSheet.pdf. Accessed 10/15/12). Hence the Medicaid population has a higher prevalence of asthma. Asthma costs the US about $3,300 per person with asthma each year from 2002 to 2007 in medical expenses. Medical expenses associated with asthma increased from $48.6 billion in 2002 to $50.1 billion in 2007. About 2 in 5 (40%) uninsured people with asthma could not afford their prescription medicines and about 1 in 9 (11%) insured people with asthma could not afford their prescription medicines. More than half (59%) of children and one-third (33%) of adults who had an asthma attack missed school or work because of asthma in 2008. On average, in 2008 children missed 4 days of school and adults missed 5 days of work because of asthma (CDC 2011: Asthma in the US. Available at: http://www.cdc.gov/vitalsigns/Asthma/#. Accessed 10/15/12). People with asthma can prevent asthma attacks if they are taught to use inhaled corticosteroids and other prescribed daily long-term control medicines correctly and to avoid asthma triggers. In 2008 less than half of people with asthma reported being taught how to avoid triggers. (CDC 2011: Asthma in the US. Available at: http://www.cdc.gov/vitalsigns/Asthma/#. Accessed 10/15/12).

Hispanics have a 66% higher risk of being diagnosed with diabetes than non-Hispanic whites and non-Hispanic blacks have a 77% higher risk. (2011 National Diabetes Fact Sheet, National Center for Chronic Disease Prevention and Health Promotion, Division of Diabetes Translation, Centers for Disease Control and Prevention. http://www.cdc.gov/diabetes/pubs/estimates11.htm#8 Last reviewed and updated May 23, 2011. Accessed 10-11-12.). About 40% of Harris County residents are of Hispanic origin (U.S. Census Bureau, 2010 Census Summary File 1), compared to 16.3% of the US population. Uncontrolled diabetes can result in complications with dire consequences for the patient. For example, the risk of stroke is 2 - 4 times higher among people with diabetes; diabetes is the leading cause of new onset blindness among adults aged 20 - 74 years in the US; nearly half of all cases of kindey failure can be attributed to diabetes; and more than half of all caes of nontraumatic lower limb amputations are because of poorly controlled diabetes. Diabetes also predisposes patients to dental diseases, pregnancy complications, among other problems. Overall, the risk for death among people with diabetes is about twice that of people of similar age but without diabetes. Studies in the United States have shown that improved glycemic control benefits people with either type 1 or type 2 diabetes. In general, every percentage point drop in A1c blood test results (e.g., from 8.0% to 7.0%) can reduce the risk of microvascular complications (eye, kidney, and nerve diseases) by 40%. After adjusting for population age and sex differences, average medical expenditures among people with diagnosed diabetes were 2.3 times higher than what expenditures would be in the absence of diabetes. Hence achieving good glycemic control among our diabetic patients will save the health system a lot of resources.

Around 5.8 million people in the United States have heart failure and about 670,000 people are diagnosed with it each year. About one in five people who have heart failure die within one year from diagnosis but early diagnosis and treatment can improve quality of life and life expectancy for people

who have heart failure. Heart failure results in significant costs to the system; it cost the US nearly $40 billion in 2010 (CDC 2010: healrt failure facts. Available at: http://www.cdc.gov/dhdsp/data_statistics/fact_sheets/docs/fs_heart_failure.pdf. Accessed on 10/15/12).

Chronic lower respiratory diseases, primarily COPD, are the third leading cause of death in the United States, and 5.1% of U.S. adults report a diagnosis of emphysema or chronic bronchitis (Morbidity and Mortality Weekly Report (MMWR) March 2, 2012 / 61(08);143-146. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6108a3.htm?s_cid=mm6108a3_w. Accessed 10/15/12). Excess health-care expenditures are estimated at nearly $6,000 annually for every COPD patient in the United States (Deaths from Chronic Obstructive Pulmonary Disease - United States, 2000--2005. November 14, 2008 / 57(45);1229-1232. Available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5745a4.htm. Accsessed 10/15/12), Uncontrolled COPD leads to deterioration in lung function and eventually death.)

In 2009-2010, the age-adjusted percentage of US adults with hypertension whose blood pressure was contolled was 53.3%. So nearly half of all hypertensive patients have poor blood pressure control.Yet hypertension is a leading cause of stroke, coronary artery disease, heart attack, and heart and kidney failure in the United States, all of which contribute to the rising costs of health care. Aggressive treatment of hypertension, significantly decreases the risk of coronary artery disease, congestive heart failure, stroke, and resulting disability. For example, a 12-point to 13-point reduction in blood pressure can lower the risk of heart attack by 21%, stroke by 37%, and total cardiovascular deaths by 25% (Rein DB, Constantine RT, Orenstein D, Chen H, Jones P, Brownstein JN, et al. A cost evaluation of the Georgia Stroke and Heart Attack Prevention Program. Prev Chronic Dis [serial online] 2006 Jan [date cited]. Available from: URL: http://www.cdc.gov/pcd/issues/2006/jan/05_0143.htm. Accessed on 10/15/12). Low-income individuals without prescription drug coverage are significantly more likely to skip doses to save money or make their hypertension medication prescriptions last longer. (Rein DB, Constantine RT, Orenstein D, Chen H, Jones P, Brownstein JN, et al. A cost evaluation of the Georgia Stroke and Heart Attack Prevention Program. Prev Chronic Dis [serial online] 2006 Jan [date cited]. Available from: URL: http://www.cdc.gov/pcd/issues/2006/jan/05_0143.htm. Accessed on 10/15/12).

Through the Chronic Disease Registry Program, we propose to meet all required project components listed below.

a) Enter patient data into unique chronic disease registry
b) Use registry data to proactively contact, educate, and track patients by disease status, risk status, self-management status, community and family need.
c) Use registry reports to develop and implement targeted QI plan
d) Conduct quality improvement for project using methods such as rapid cycle improvement.

For the Chronic Disease Registry Program, we have chosen the below milestones and metrics based upon the above project components and relationship to project goals and population needs. All baselines and goals will be determined during DY2.

Milestones & Metrics

Process Milestones and Metrics:

- Milestone 1 [P-1]: Identify one or more target patient populations diagnosed with diabetes, hypertension, asthma, COPD, or CHF.
- Metric 1 [P-1.1]: Proportion of patients with diabetes, hypertension, asthma, COPD, and CHF targeted and entered into the registry
- Milestone 2 [P-3]: Develop cross-functional team to evaluate registry program.
- Metric 1 [P-3.1]: Documentation of personnel (clinical, IT, administrative) assigned to evaluate registry program

Improvement Milestones and Metrics:

- Milestone 3 [I-15]: Increase the percentage of patients enrolled in the registry.
- Metric 1 [I-15.1]: Percentage of patients in the registry
- Milestone 4 [I-16]: Increase the number of patient contacts recorded in the registry relative to baseline rate.
- Metric 1 [I-16.1]: Total number of in-person and virtual (including email, phone and web-based) visits, either absolute or divided by denominator.

Unique community need identification numbers the project addresses:

This project addresses community needs CN.11 (High rates of chronic disease and inadequate access to treatment programs and services for illnesses associated with chronic disease) and CN.24 (Lack of care coordination and unnecessary duplication of services due to insufficient implementation and use of electronic health records).

How the project represents a new initiative or significantly enhances an existing delivery system reform initiative:

The Chronic Disease Management Registry project represents a new initiative, since this does not currently exist. This initiative will improve our ability to provide pro-active patient-centered care for those with chronic diseases, track these patients, and ensure adherance to treatment plans.

Related Category 3 Outcome Measure(s):

OD-9 Right Care, Right Setting
IT-9.2 ED appropriate utilization (Stand-alone measure) (Cardiovascular Disease/Hypertension)
Reduce Emergency Department visits for Cardiovascular Disease /Hypertension

Relationship to other Projects:

1.1 (C3) - Expanded primary care capacity will enable the effective use of the outputs of the disease management registries to bridge gaps for at-risk patients.
1.7 (A1) - Reports from the disease management registry can be transmitted to a specialist at a distant site using telemedicine facilitating quality care.
1.9 (C4) - The disease management registry will serve as a useful resource to every specialty provider involved in managing the enrolled patients.
1.10 (MS1) - The chronic disease registries will make available useful QI data that will be used to populate the QI dashboards under project MS1.
2.1 (C1-2) - The disease management registry will serve as a useful resource to every member of the medical home care team involved in managing the enrolled patients.
2.2 (CL3, C5 - C9) - The disease management registry (Information Technology support) is a very improtant component of Wagner's Chronic Care Model being implmented in these projects.
2.11 (C10) - The disease management registries and the medication management project will complement each other to ensure patients with chronic diseases, especially those with multiple chronic conditions, get optimal care with minimal errors and sustained active follow up.
2.12 (A3, CL1, CL2, MS4) - The disease management registry will provide important technological support to the care transitions projects with the aim of tracking patients to ensure adequate, sustained follow up.

Relationship to Other Performing Providers' Projects in the RHP: TBD

Plan for Learning Collaborative: UTHealth will participate in a region-wide learning collaborative(s) as offered by the Anchor entity for Region 3, Harris Health System. Our participation in this collaborative with other Performing Providers within the region that have similar projects will facilitate sharing of

challenges and testing of new ideas and solutions to promote continuous improvement in our Region's healthcare system.

Project Valuation:

The anchor, Harris Health, provided a spreadsheet which contained 6 criteria, which could be rated on a 10-point scale each project. The ratings for each criteria were weighted, summed for each project to arrive at a total score (value weight) for each project. The sum of all the project's total scores were then divided by the percent of total DSRIP funds available for that year to arrive at a dollar value multiplier to be applied towards each project's total score (value weight), thereby allocating a greater proportion of available funds towards those projects valued highest based upon the 6 criteria. UTHealth used this approach, with a couple of exceptions. First, we did not use two of the criteria and second, we began with a 5-point scale for each criteria rated, then doubled the score to put it on a 10-point scale. Following are the criteria, the way points were awarded for projects using that criteria, and the reasons two of the criteria were not used:

1. Transformational Impact (Weight = 20%): Points were awarded for projects that meet the community benefit criteria. Score – 1 point for each of the following: improves access; improves quality; improves costs (long-term cost-savings); transformative (Innovative), collaborative (partners with other organization(s)).

   This project's score for this criteria: 2 X 2 = **4**

2. Population Served/Project Size (Weight = 20%): Points were awarded based on the size of the population affected and whether the target population is uninsured or on Medicaid. Score - Four points for the whole population, 3 points for a relatively large population, 2 points for a moderate-sized population, and 1 point for a relatively small population. If a significant proportion of the target population is uninsured/Medicaid, add 1 additional point.

   This project's score for this criteria: 3 X 2 = **6**

3. Aligned with Community Needs (Weight = 20%): Points were awarded based on judgments in two categories: whether or not the CNA indicates a need in the area of the project and the severity of the health/healthcare need(s) the project addresses. Score A - CNA indication: 2 points for strong support (bottom 25%), 1 point for moderate support. Score B - Severity: 3 points for issues judged to have significant impact on population health, healthcare access, and quality; 2 points for moderate severity issues.

   This project's score for this criteria: 3 X 2 = **6**

4. Cost Avoidance (Weight = 15%): Points were awarded based on judgment of project's cost effectiveness relative to similar projects. Score – 5 points for very low cost per person, 4 points for low cost per person, 3 points for moderate cost per person, 2 points for high cost per person, 1 point for very high cost per person.

   This project's score for this criteria: 4 X 2 = **8**

5. Partnership/Collaboration (Weight = 10%): ***This was not rated***, because UTHealth plans to partner with Harris Health to perform many similar projects, so the rating would have been the same for all projects. This would have diluted the scores, hiding the more significant variations in other value criteria.

6. Sustainability (Weight = 15%): ***This was also not rated***, because UTHealth does not consider any of the projects to be unsustainable, or at the very least do not consider one project less sustainable than another, so giving the projects the same, or very similar ratings on this criteria would have again had a diluting effect, hiding the more significant variations in other value criteria.

Total Valuation Score for this project: **4.4**

111810101.1.4	***OPTION 1.3.1***		***C12 UT PHYSICIANS CHRONIC DISEASE REGISTRY***	
UTHealth, UTPhysicians				*111810101*
Related Category 3 Outcome Measure(s):	*111810101.3.6*	*IT-9.2*	*ED appropriate utilization (Stand-alone measure) (Cardiovascular Disease/Hypertension)*	
Year 2 (10/1/2012 – 9/30/2013)		**Year 3 (10/1/2013 – 9/30/2014)**	**Year 4 (10/1/2014 – 9/30/2015)**	**Year 5 (10/1/2015 – 9/30/2016)**
Milestone 1 [P-1]: Identify one or more target patient populations diagnosed with diabetes, hypertension, asthma, COPD, or CHF. Metric 1 [P-1.1]: Proportion of patients with diabetes, hypertension, asthma, COPD, and CHF targeted and entered into the registry Baseline/Goal: TBD Data source: UT Physicians' records/documentation and registry Milestone 1 Estimated incentive payment: $ 2,072,464		Milestone 2 [P-3]: Develop cross-functional team to evaluate registry program. Metric 1 [P-3.1]: Documentation of personnel (clinical, IT, administrative) assigned to evaluate registry program Baseline/Goal: TBD Data source: Team roster and minutes from team meetings Milestone 2 Estimated incentive payment: $ 2,275,823	Milestone 3 [I-15]: Increase the percentage of patients enrolled in the registry. Metric 1 [I-15.1]: Percentage of patients in the registry Goal: TBD Data Source: Registry and HER Milestone 3 Estimated incentive payment: $ 2,434,601	Milestone 4 [I-16]: Increase the number of patient contacts recorded in the registry relative to baseline rate. Metric 1 [I-16.1]: Total number of in-person and virtual (including email, phone and web-based) visits, either absolute or divided by denominator. Goal: TBD Data source: Internal clinic records/documentation Milestone 4 Estimated incentive payment: $ 2,352,272
Year 2 Estimated Milestone Bundle Amount: $2,072,464		Year 3 Estimated Milestone Bundle Amount: $2,275,823	Year 4 Estimated Milestone Bundle Amount: $2,434,601	Year 5 Estimated Milestone Bundle Amount: $2,352,272
TOTAL ESTIMATED INCENTIVE PAYMENTS FOR 4-YEAR PERIOD*:* $9,135,160				

Title of Outcome Measure (Improvement Target): OD-9 Right Care, Right Setting

Unique RHP outcome identification number(s): 111810101.3.6

Outcome Measure Description:

IT-9.2 ED appropriate utilization (Stand-alone measure) (Cardiovascular Disease/Hypertension) Reduce Emergency Department visits for Cardiovascular Disease /Hypertension

Process Milestones:

- DY2:
  - P-1 Project planning - engage stakeholders, identify current capacity and needed resources, determine timelines and document implementation plans
- DY3:
  - P-3 Develop and test data systems
  - P-2 Establish baseline rates

Outcome Improvement Targets for each year:

- DY4:
  - IT-9.2 Reduce by 3% the percentage of Emergency Department visits for cardiovascular disease/hypertension.
- DY5:
  - IT-9.2 Reduce by 5% the percentage of Emergency Department visits for cardiovascular disease/hypertension.

Rationale:

The disease management registry aims to improve care for patients with chronic diseases such as cardiovascular diseases, diabetes, hypertension, asthma, and so on. When a patient's chronic disease is well managed, there is less need for acute episodic care. Therefore, it is expected that there would be a decrease in ED utilization, including for cardiovascular disease and hypertension for patients whose providers were using this tool to manage their disease, or condition. Patients would get the right care, at the right time, and in the right setting, with a key objective to reduce inappropriate utilization of the ED.

Outcome Measure Valuation:

Using the same project valuation scores assigned to the projects, the dollars allotted for each year were distributed across the projects' related Category 3 measures. For demonstration year 2 the amount was 5%, and for DYs 3, 4, and 5, the proportion of the funds allotted were 10%, 10%, and 20%, respectively.

111810101.3.6	*3.IT-9.2*	*ED appropriate utilization (Stand-alone measure) (Cardiovascular Disease/Hypertension)*	
UTHealth, UTPhysicians			*111810101*
Related Category 1 or 2 Projects:	*111810101.1.4*		
Starting Point/Baseline:	*To be determined during DY3.*		
Year 2 (10/1/2012 – 9/30/2013)	**Year 3 (10/1/2013 – 9/30/2014)**	**Year 4 (10/1/2014 – 9/30/2015)**	**Year 5 (10/1/2015 – 9/30/2016)**
Process Milestone 1 [P-1]: Project planning - engage stakeholders, identify current capacity and needed resources, determine timelines and document implementation plans Data Source: Project reports and documents Process Milestone 1 Estimated Incentive Payment*:* $ 109,077	Process Milestone 2 [P-2]: Establish baseline rates Data Source: Provider reports Process Milestone 2 Estimated Incentive Payment: $ 126,434 Process Milestone 3 [P-3]: Develop and test data systems Data Source: Project reports, EMR, claims Process Milestone 3 Estimated Incentive Payment: $ 126,435	Outcome Improvement Target 1 [IT-9.2]: Reduce by 3% the percentage of Emergency Department visits for cardiovascular disease/hypertension. Data Source: EMR, Claims Outcome Improvement Target 1 Estimated Incentive Payment*:* $ 270,511	Outcome Improvement Target 2 [IT-9.2]: Reduce by 5% the percentage of Emergency Department visits for cardiovascular disease/hypertension. Data Source: EMR, Claims Outcome Improvement Target 2 Estimated Incentive Payment*:* $ 588,068
Year 2 Estimated Outcome Amount: $ 109,077	Year 3 Estimated Outcome Amount: $ 252,869	Year 4 Estimated Outcome Amount: $ 270,511	Year 5 Estimated Outcome Amount: $ 588,068
TOTAL ESTIMATED INCENTIVE PAYMENTS FOR 4-YEAR PERIOD*:* $ 1,220,525			