QI Project Application for Part IV MOC Eligibility

Complete the following project description to apply for UMHS approval for participating physicians to be eligible to receive Part IV MOC credit through the Multi-Specialty Part IV MOC Pilot program. Actions regarding the application depend on the stage of the project, as described below. As stages are accomplished, you may submit updates of the application with the description of planned activities replaced by descriptions of actual activities performed. An application describing the completed project is required. Submitting earlier versions helps assure that when planned activities are carried out, they will meet Part IV requirements.

Preliminary approval. Plans have developed for the expected activities, but little actual work has been performed.

Part IV credit designation. Baseline data have been collected and the intervention performed, with completion of both steps documented on an application (or application update). The project has demonstrated its operational feasibility and the likelihood that subsequent data collections and adjustment will be performed.

Participation ("attestation") forms provided. The project has been completed with the expected sequence of activities performed and documented on an application (or application update), which is the "final report" on the project.

The introductory section asks for basic operational information. The next four sections ask about the project's activities organized within a basic sequential Plan–Do–Check–Act /Adjust–Recheck outline. The following section asks how physicians participate in the project. The last section asks about the relationship of this project to other UMHS institutional QI initiatives. Questions are in bold fond and answers should be in regular font (generally immediately below the questions). To check boxes electronically, either put an "X" in front of a box or copy and paste "☒" over the blank box.

For further information and to submit completed applications, contact either:
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A. Introduction

1. Date *(this version of the application):* 11/12/12

2. Title of QI project: Pregnancy Risk Assessment for Women with Congenital Heart Disease

3. Time frame

a. At what stage is the project?

☐ Design is complete, but not yet initiated
☒ Initiated and now underway
☐ Completed *(UMHS Part IV program began 1/1/11)*

Note: an *Annual Project Progress Report* form must be submitted annually in January while the project is underway and a final one submitted at the project's conclusion.

b. Time period

(1). Date physicians begin participating (may be in design phase):
(**2). End date**: ☐ actual _____ ☒ expected ___10/31//2012_____

4. QI project leader *[responsible for attesting to the participation of physicians in the project]:*

a. Name: Timothy Cotts,M.D.
b. Title: Clinicall Assistant Professor
c. Institutional/organizational unit/affiliation: Departments of Internal Medicine and Pediatrics
d. Phone number: (734) 936-1619
e. Email address: cottstim@umich.edu
f. **Mailing address**: Michigan Congenital Heart Center 1540 E. Hospital Drive Ann Arbor MI 48109-4204

5. What specialties and/or subspecialties are involved in this project? Pediatric Cardiology, Adult Congenital Cardiology.

6. Will the funding and resources for the project come only from internal UMHS sources?

☒ Yes, only internal UMHS sources

☐ No, funding and/or resources will come in part from sources outside UMHS, which are: _____

The Multi-Specialty Part IV MOC Program requires that projects engage in change efforts over time, including at least three cycles of data collection with feedback to physicians and review of project results. Some projects may have only three cycles while others, particularly those involving rapid cycle improvement, may have several more cycles. The items below are intended to provide some flexibility in describing project methods. If the items do not allow you to reasonably describe the methods of your specific project, please contact the UMHS Part IV MOC Program office.

B. Plan

7. General goal

a. Problem/need. What is the "gap" in quality that resulted in the development of this project? Why is this project being undertaken?

Woman with congenital heart disease often do not receive proper counseling regarding cardiovascular risks of pregnancy. Women with significant heart disease often present well into pregnancy in situations where a pre-pregnancy evaluation or therapeutic regimen might have improved the pregnancy outcome. It is the recommendation the 2008 American College of Cardiology/American Heart Association guidelines for the care of adults with congenital heart disease that women undergo pre-conception counseling and risk stratification prior to pregnancy.

b. Project aim. What aspects of the problem does this project aim to improve?

The aim of the project is to improve communication of risks of pregnancy to women with congenital heart disease as well as other physicians caring for these patients, including primary care physicians and obstetricians.

8. Patient population. What patient population does this project address?

The project includes women aged 18-45 with congenital heart disease. The project will involve women seen in the adult congenital cardiology clinic as well as adult women followed within the pediatric cardiology clinics. The physician will be responsible for identifying women aged 18-45 in their clinic. The average interval of follow-up for adults with congenital heart disease is one year, so it is not likely that there will be significant duplication of patients.

9. Targeted causes. What are the primary underlying/root causes for the problem (see 6.a) that the project can address?

a. Unaware. Physicians caring for adults with congenital heart disease have often been trained in pediatric cardiology, and may not be aware of the necessity for risk stratification. They also may not be educated about methods of risk stratification, including the CARPREG risk score.
b. Calculation difficulty. The process for calculating risk scores can be difficult to for clinicians to remember.
c. No standard process. There is a lack of uniformity in provision of pre-conception counseling and risk stratification.

10. What is the experimental design for the project?

- ☒ Pre-post comparisons (baseline period plus two or more follow-up measurement periods)
- ☐ Pre-post comparisons with control group
- ☐ Other: _____

11. Baseline measures of performance:

a. What measures of quality are used? If rate or %, what are the denominator and numerator?

The measure will be documentation of the CARPREG score, a well-accepted method for risk stratification of women with heart disease. The numerator will be the number of patients for whom the CARPREG score is documented in the clinic letter. The denominator will be the number of women aged 18-45 seen by the physician practitioner. Both of the 2 adult congenital physician practitioners will participate in the project. All pediatric cardiologists who frequently see adult patients (>2-3 per month) will be encouraged to participate. For pediatric cardiologists, the pre-intervention compliance rate will be assumed to be O as pediatric cardiologists have not been educated as to pregnancy risk assessment tools.

b. Are the measures nationally endorsed? If not, why were they chosen?

Pre-conception counseling is nationally endorsed by the 2008 American College of Cardiology/American Heart Association guidelines for the care of adults with congenital heart disease. The CARPREG score is the standard risk assessment tool used across North America.

c. What is the source of data for the measure (e.g., medical records, billings, patient surveys)?

Medical records (Outpatient clinic notes). Participating physicians will review their outpatient clinic letters for documentation of the CARPREG score. Pregnancy risk will be documented in standardized position in the medical record. With the current use of the CareWeb electronic medical record, this will be included in the detailed diagnosis list which appears in all pediatric cardiology and adult congenital program outpatient notes. After the implementation of MiChart, and a dropdown list will be added to the note templates for the proper CARPREG scores. Individual clinicians will review their clinic lists on CareWeb, identify women aged 18-45, and track their numerator and denominator on a form provided by the project lead. The form will require documentation of the numerator and denominator for the baseline period, post-intervention period, and post-adjustment period.

d. How reliable are the data being collected for the purpose of this project?

The data are very reliable.

e. How are data to be analyzed over time, e.g., simple comparison of means, statistical test(s)?

The data will be analyzed as simple comparison of compliance rates.

f. To whom are data reported?

The data will be reported to the members of the adult congenital program as well as cardiovascular center and pediatric cardiology leadership. The data will be reported by individual physicians.

g. When did the baseline data collection occur?

September 1, 2011-December 31/2011.

12. Specific performance objectives

a. What is the overall performance level(s) at baseline?

Time Period	Eligible Women Seen (Aged 18-45 with Congenital Heart Disease)	
	N	% with CARPREG Score
Baseline: 9/1/11 – 12/31/11	150	3%

b. What are the targets for future performance on the measures?

The target for compliance is 80%.

c. How were the performance targets determined, e.g., regional or national benchmarks?

There are no regional or national benchmarks. The goal compliance of 80% was considered a realistic target.

13. Which Institute of Medicine Quality Dimensions are addressed? *[Check all that apply.]*

☒ Safety ☐ Equity ☒ Timeliness
☒ Effectiveness ☒ Efficiency ☒ Patient-Centeredness

C. Do

14. Intervention(s).

a. Describe the interventions implemented as part of the project.

Education and calculation worksheet. The initial phase of the intervention consisted of an education phase in which clinicians were educated regarding the CARPREG score. Participating physicians received the original paper describing the justification for the score, as well as how to calculate the score. They were also instructed in how to use a worksheet to simplify calculating the score. The physician lead for the project (TC) provided the physician education.

Process for identifying relevant patients and recording scores. The operational process differed slightly between the adult congenital clinic and the pediatric cardiology clinic because clinic processes and resource vary. Implementing the process involved educating other health care team members regarding the process.

Adult Congenital Program Process

- The adult congenital program assistant reviewed the clinic list for the day and identified women aged 18-45.
- The clinic nurse brought this patient list to clinic. As patients were brought back, the clinic nurse affixed the CARPREG calculation worksheet to the patients' paperwork.
- The attending physician calculated the CARPREG score at the time of the visit, and dictate the CARPREG score into the diagnosis list of the clinic letter.

Pediatric Clinic Process

- Currently, pediatric cardiologists review their patient list the day prior to or the morning of clinic and note what studies the patients will require at their visit. This is then written on a dry erase board next to the patients name during clinic.

- When pediatric cardiologists reviewed their patient lists, they identified women aged 18-45 and noted "CARPREG" next to the patients name
- The medical assistants then transcribed this to the dry erase board. This served as a reminder to do the CARPREG assessment
- CARPREG calculators were made available in bins in the clinic team rooms. This was done by the physician lead (TC)
- The attending physician calculated the CARPREG score at the time of the visit, and dictated the CARPREG score into the diagnosis list of the clinic letter. If a fellow performed the dictation, the fellow would dictate the CARPREG score.

b. How do the interventions address underlying/root causes (see #9)?

a. Unaware. The establishment of the project and the initial education of clinicians increased awareness as to the importance of pregnancy risk assessment and providing pre-conception counseling.
b. Calculation difficulty. The use of the worksheet assists in remembering the risk scoring system.
c. No standard process. Systematic processes in the clinics help assure routine identification of relevant patients, calculation of their scores, counseling, and recording of scores for future reference.

15. Who is involved in carrying out the intervention(s) and what are their roles?
Physicians were responsible for carrying out the intervention and assessing compliance. The worksheets were made available in the clinic team rooms. Individual physicians record the results of the risk assessment in their clinic notes.
Program assistants (Adult congenital Program) and medical assistants (Pediatric Clinic) helped with identifying or listing relevant patients.

16. When will/did the intervention(s) occur? The intervention began on March 16, 2012.

D. Check

17. Post-intervention performance measurement. Is this data collection to follow the same procedures as the initial collection of data described in #11: population, measure(s), and data source(s)?

☒ Yes ☐ No – If no, describe how this data collection

18. Data collection following the intervention.

a. The collection of performance data following the intervention either:

The collection of performance data occurred between April 1, 2012 and June 30, 2012.

b. If the data collection has occurred, what is post-intervention performance level?

Time Period	Eligible Women Seen (Aged 18-45 with Congenital Heart Disease)	
	N	% with CARPREG Score
Baseline: 9/1/11 – 12/31/11	150	3%
Post-intervention 4/1/12 – 6/30/12	117	74%

E. Act/Adjust

19. Following the collection of post-intervention data:

a. When did/will the review of post-intervention data and plans for adjustments occur?
July 15-31, 2012

b. How did/will the following processes occur:
- **Review the most recent performance data to identify current problems**
- **Analyze the current underlying causes of those problems**
- **Redesign the intervention to address underlying causes**

The compliance rate was reviewed, and barriers to compliance were discussed with participating clinicians in the first two weeks of July.

B**arriers to compliance** were identified:

Adult Congenital Clinic
- Many of the dictations are performed by fellows or nurse practitioners as opposed to the attending physician. Although the physician reviews the final dictation, the attending did not always remember to add the CARPREG score.
- The clinic nurse was not adequately taught the process of placing the worksheet with the patient's data.

Pediatric Cardiology Clinic
- Not all attending physicians were aware of the need to document the CARPREG score in the clinic note
- Not all attending physicians felt that the CARPREG tool is useful for certain cardiac diagnoses. (Single ventricle patients, patients with prosthetic heart valves, patients with Eisenmenger syndrome)
- Fellows dictating the notes forgot to dictate the CARPREG score despite the attending cardiologists instructing them to do so.

Modifications to the Intervention:

Adult Congenital Clinic
- The clinic nurse has been re-educated regarding the clinic process
- Rotating fellows will be instructed in the project as part of their orientation to the rotation.

Pediatric Cardiology Clinics
- The need to document the CARPREG score has been clarified with all faculty
- In order to make the project more meaningful, we will exempt Fontan patients, Eisenmenger physiology patients, and prosthetic heart valve patients from a formal CARPREG assessment. Instead, a statement "pregnancy risks were discussed with the patient" will suffice in these situations.
- The fellows were individually educated regarding the project.

c. When did/will the adjustment (second intervention) occur?

Occurred July 15-July 31, 2012

d. If the adjustment has occurred, (1) what problems were identified in the review and (2) what adjustments/interventions occurred to addressed those problems?

See Above.

20. Data collection following the adjustment(s).

a. The collection of performance data following the adjustment(s) either:

Will occur on:
Has occurred on: August 1, 2012-October 31, 2012

b. If the data collection has occurred, what is post-adjustment(s) performance level?

Time Period	Eligible Women Seen (Aged 18-45 with Congenital Heart Disease)	
	N	% with CARPREG Score
Baseline: 9/1/11 – 12/31/11	150	3%
Post-intervention 4/1/12 – 6/30/12	117	74%
Post-adjustment 9/1/12 – 10/31/12	96	80%

21. Following the third (post-adjustment) collection of data:

a. When did/will the review of post-adjustment data occur?
November 1-7, 2012

b. How did/will the following processes occur:
- **Review the most recent performance data to identify current problems**
- **Analyze the current underlying causes of those problems**
- **Redesign the intervention to address underlying causes**

The compliance rate was reviewed, and barriers to compliance were discussed with participating clinicians in the first week of November.

c. If the post-adjustment review has occurred, what problems were identified in the review?
The primary problem noted during the review was related to implementation of MiChart. This resulted in a lower number of visits during this period of time. A template was ultimately created for use in MiChart which was distributed to all participating physician. This resulted in compliance rates greater than 90% for the final month.

22. How many subsequent PDCA cycles are to occur?

No further PDCA cycles will occur.

23. How will the project standardize processes to maintain improvements?

The continued reminder to physicians to document the CARPREG score should make the process sustainable. Although the patient population is relatively stable, new patients will be seen which will require documentation. Additionally, a woman's clinical status can change, prompting revision of the CARPREG score.

24. Do other parts of UMHS face a similar problem? If so, how will the project be conducted so that improvement processes can be communicated to others for "spread" across applicable areas?

This project could be potentially applicable to the high risk obstetrics service. The high risk obstetric service often becomes involved in the care of patients with congenital heart disease. The same risk stratification process would be helpful to the obstetricians in terms of developing follow up and delivery plans.

F. Physician Involvement

Note: To receive Part IV MOC a physician must both:

a. Be actively involved in the QI effort, including at a minimum:
- *Work with care team members to plan and implement interventions*
- *Interpret performance data to assess the impact of the interventions*
- *Make appropriate course corrections in the improvement project*

b. Be active in the project for the minimum duration required by the project

25. Physician's role. What are the requirements for meaningful physician participation as part of this QI effort?

Physicians are responsible for assessing their baseline performance, performing the intervention, and assessing results of the intervention. Physicians assess the efficacy of the intervention and identify barriers to improvement in compliance rates. Physician receive the educational portion of the intervention, and assist in redesigning the intervention if necessary after the first review.

26. If not addressed in #25, in conjunction with each cycle of data collection, what local (physician-level or practice/unit-level) feedback report and what overall project level report will be provided to physicians?

Physician feedback occurs at meetings scheduled at times described above (after initial and follow-up data review). A wrap up meeting is held at the conclusion of the cycle. Physicians not present at the meetings receive feedback via direct individual contact.

27. If not addressed in # 25, how are reflections of individual physicians about the project utilized to improve the project?

Physicians have an opportunity at the meetings to make adjustments and improve the project.

28. How will the project ensure meaningful participation by physicians who subsequently request credit for Part IV MOC participation?

Physicians remain responsible for assessing their compliance, performing the intervention, and assessing efficacy of the intervention.

29. What is the approximate number of physicians anticipated to participate in this project?
[Provide number or range – by specialties and/or subspecialties if more than one.]
Adult Congenital Cardiology – 2-3
Pediatric Cardiology 4-5

G. Project Organizational Role and Structure

30. Is this project part of a larger UMHS institutional or departmental initiative?
☐ Yes ☒ No *If No, go to #31.*

a. What UMHS unit/group is overseeing or coordinating the larger initiative?

b. What is the larger initiative?

c. How does this project advance it?

d. Is this project coordinated with related quality improvement activities?

e. Has someone at a higher institutional level authorized/approved this project? If so, who?

31. What is the organizational structure of the project? *[Include who is involved, their general roles, and reporting/oversight relationships.]*

Dr. Cotts is the physician lead for the project and will oversee the overall administration of the project and data collection. His oversight will be by Dr. John Charpie, director of pediatric cardiology.

32. Are resources needed beyond those under the control of the project lead(s) ?
☐ Yes ☒ No *If No, go to #33.*

a. What types of resources are needed and who has agreed to provide them?

33. To what oversight person or group will project-level reports be submitted for review?

Project-level reports will be submitted to Dr. John Charpie, chief of pediatric cardiology, for review.

34. Have UMHS physicians who will participate in this project had the opportunity to participate in a UMHS Part IV project within the past two years?
☐ Yes ☒ No

a. If "Yes," why do these physicians need more frequent opportunities for Part IV credit *(e.g., board gives additional credit for more Part IV activities in a time period; qualify for CMS incentive payment)*?