QI Project Application/Report for Part IV MOC Eligibility

Instructions

Complete the project application/report 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. Questions are in bold font 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.

Only a final application describing the completed project is required. However, submitting an earlier version helps assure that planned activities will meet Part IV requirements. 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.

Preliminary approval. Plans are developed for the expected activities, but little actual work has been performed. (Complete at least items 1-11, 13a, 16-18a, 19a, 20a, 21, 22a, 23a, 27-33.)

Part IV credit approval. 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. (Complete at least items 1-18a, 19a, 20a, 21, 22a, 23a, 27-33.)

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

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

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Application/Report Outline

Section	Items	
A. Introduction	1-6.	Current date, title, time frame, project leader, specialties/subspecialties involved, funding
B. Plan	7-10.	General goal, patient population, IOM quality dimensions addressed, experimental design
	11-12.	Baseline measures of performance, specific performance objectives
	13.	Data review and identifying underlying (root) causes
C. Do	14-16.	Intervention(s), who is involved, initiated when
D. Check	17-18.	Post-intervention performance measurement, data collection, performance level
E. Adjust – Replan	19.	Review, continuing/new underlying causes,
F. Redo	20.	Second intervention
G. Recheck	21-22.	Post-adjustment performance measurement, data collection, performance level
H. Readjust plan	23.	Review, continuing/new underlying causes to address
I. Future plans	24-26.	Subsequent PDCA cycles, standardize processes, "spread" to other areas
J. Physician involvement	27-31.	Physician's role, requirements, reports, reflections, participation, number
K. Project Organization	32-34.	Part of larger initiative, organizational structure, resources, oversight, Part IV opportunity

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A. Introduction

1. Date *(this version of the application):*
07/2014

2. Title of QI project: Documenting and assessing head circumference in children less than two years of age presenting to the outpatient pediatric neurology clinic.

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)*

b. Time period

(1) Date physicians begin participating (may be in design phase): March 2013
(**2) End date**: ☒actual __06/26/2014_____ ☐ expected _____

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

a. Name: Rani Singh, MD
b. Title: Clinical Assistant Professor
c. Institutional/organizational unit/affiliation: Department of Pediatrics, Division of Pediatric Neurology
d. Phone number: 734-936-4179
e. Email address: ranising@med.umich.edu
f. **Mailing address**: 12-733 CS Mott Children's Hospital, 1540 E Hospital Drive- SPC 4279, Ann Arbor, MI 48109

5. What specialties and/or subspecialties are involved in this project?
Pediatrics, Pediatric Neurology, Sleep, Clinical Neurophysiology

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?

Measuring head circumference in infants and young children is considered an important and essential part of the pediatric neurology exam. Screening head circumference in this age group provides essential information and may rule in or out several pathologies. Since the advent of the new charting system (MiChart), it is possible that the head circumference is measured but percentiles are not always adequately documented and addressed. Thus there is concern that abnormalities may be missed.

b. Project goal. What outcome regarding the problem should result from this project?
The goal of this project is to improve the practice of documentation and screening of head circumference to assess for CNS pathology in infants and young children.

8. Patient population. What patient population does this project address.
This project includes infants and young children up to the age of 2 years who present to the outpatient pediatric neurology clinic for evaluation. Screening head circumference in relation the body habitus can provide clues and aid in diagnosis for CNS disease.

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

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

10. What is the experimental design for the project?

X 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 measures will be documentation (1) of the actual head circumference measurement and (2) of the percentile of head circumference for age-matched children. (Head circumference percentiles < 5% or > 95% are considered abnormal and require additional assessment and evaluation.)
The denominator for both measures is the number of infants and young children (up to the age of 2 years) who present to the outpatient pediatric neurology clinic for evaluation.
(1) For the measure of head circumference documentation, the numerator is the number of these children for whom head circumference is measured and documented in the medical record.
(2) For the measure of percentile of head circumference, the numerator is the number for whom the percentile of head circumference is documented.

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

c. What is the source of data for the measure (e.g., medical records, billings, patient surveys)?
Medical records- outpatient clinic notes documented in MiChart, which is the new electronic medical record system..

d. What methods were used to collect the data (e.g., abstraction, data analyst)?
The project leader reviewed all clinicians' clinic visits over a 3 month time to identify children ages two years or younger and reviewed whether head circumference measurements were taken and appropriately documented both as measurements and percentiles. It was also reviewed whether measurements were abnormal or not (per 11a) and if abnormal, whether the abnormalities were being addressed and further evaluated.

e. How reliable are the data being collected for the purpose of this project?
The data are very reliable.

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

g. To whom are data reported?
The data were reported to the pediatric neurology faculty at a divisional meeting which all attended in December 2013.

h. For what time period is the sample collected for baseline data?
3 months: 3/1/2013-5/31/2013

12. Specific performance objectives

a. What is the overall performance level(s) at baseline? *(E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)*

Time Period	Number	Head circumference measured (ages 2 and under in outpatient pediatric neurology clinic)	Head circumference percentiles documented (ages 2 and under in outpatient pediatric neurology clinic)
Baseline 3/2013-5/2013	119	112 (94%)	33 (28%)

b. Specific aim: What is the target for performance on the measure(s) and the timeframe for achieving the target?
Target performance for documenting:
(1) head circumference measurement is 95%
(2) percentiles of head circumference is 85%

c. How were the performance targets determined, e.g., regional or national benchmarks?
Regional and national benchmarks are not clearly established and vary widely. However it is recommended practice in this field to include head circumference measurements and percentiles in all children less than two years of age. Thus a goal of 95% was considered reasonable for measurement and 85% was considered reasonable for the additional step of checking and documenting the percentile.

13. Data review and identifying underlying (root) causes.

a. Who will be/was involved in reviewing the baseline data, identifying underlying (root) causes of the problem(s), and considering possible interventions ("countermeasures") to address the causes? Briefly describe who is involved, how *(e.g., in a meeting of clinic staff)***, and when.**
All pediatric neurology faculty and fellows were present in a divisional meeting held December 2013 when the baseline data of the QI project was reviewed. All faculty were present. We considered underlying problems, then proposed and considered various interventions including: education, modifying responsibilities for members of the clinical team (medical assistants, house officers, and prompts on the medical record system -MiChart).

b. What are the primary underlying/root causes for the problem(s) that the project can address? *(Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately. How the intervention(s) address each primary underlying cause will be explained in #14.c.)*

Unaware. Not all physicians were aware of the extent of the problem with documenting the percentile of head circumference, the changes in the new EMR and how head circumference percentiles were being measured, and where they were being documented (paper versus in the EMR directly). We also have many rotating adult neurology residents who were not aware of the changes.
No standard process. There was a lack of uniformity among providers in both assessing and documenting head circumferences. Some dictated the clinic visits, and some typed the clinic visits. Some manually measured the percentiles and some used the charts available in the EMR. If head circumferences were measured, the percentile was not readily available to calculate or review. Hence the significant discrepancy between actual measurements and percentiles documented.

C. Do

14. Intervention(s).

a. Describe the interventions implemented as part of the project.
Performance feedback. Data demonstrating poor performance in recording percentile of head circumference were shared at the initial group meeting December 2013.
New tool in electronic medical record. Dr. Singh and Dr. Leber developed a new tool for the EMR, a smartphrase that would pull into the clinic progress note automatically information for children less than 2 years of ages' vital signs, height, weight and head circumference measurements and percentiles based on standard WHO (World Health Organization data).
Education. In order to communicate the existence and utility of the smartphrase, over the next two months providers (physicians, nurse practitioners, and residents) in the pediatric neurology group were educated and reminded about it. The smartphrase was shared and accessible to all providers in the division. Emails, flyers, and discussions (both individually and in group meetings) reminded all providers of this tool and how to use and implement it.

b. How are underlying/root causes *(see #13.b)* **addressed by the intervention(s)?** *(List each cause, whether it is addressed, and if so, how it is addressed.)*
Unaware.
- Feedback. Feedback on performance demonstrated need for the intervention.
- Education. Education about the importance of measuring percentile of head circumference reinforced the need to address the problem. A new tool (smartphrase) was created and shared with all providers in the clinic. Physicians were educated on how to use this and enter this in a simple step-by-step process.

No standard process.
- New tool. The new smartphrase provided a standard process by which all care providers could ensure the infants' and young children's head circumferences and percentiles were being measured, documented, and appropriately addressed when abnormal. All clinicians agreed on implementing the new standardized process.
- Education. Physicians, nurse practitioners, and residents who were to use the tool were educated about its use and provided written and verbal reminders regarding using it and how to use it.

15. Who is involved in carrying out the intervention(s) and what are their roles?
Physician lead. The physician who led the project:
- abstracted and reported performance data
- led the group's discussion of the data, underlying causes, and plans to address them
- with Dr. Leber created the smarttext phrase
- oversaw the development and implementation of changes in process, including the related educational activities (e.g. flyers and worksheet examples in the clinic team rooms) and reminders (e.g., email messages and discussions throughout the time period)

Physicians and nurse practitioners. Clinicians:

- attended the data review and planning discussions
- participated in the educational sessions related to implementing the smartphrase
- implemented the use of the smartphrase
- received reminders to use the smart phrase

Residents/Fellows:

- participated in the educational sessions related to implementing the smartphrase
- implemented the use of the smartphrase
- received reminders to use the smart phrase

16. The intervention will be/was initiated when? (For multiple interventions, initiation date for each.)
The intervention began on February 10, 2014.

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)?

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

18. Performance following the intervention.

a. The collection of the sample of performance data following the intervention either:
Will occur for the period:
Has occurred for the period: 02/10/2014-04/09/2014

b. If the data collection has occurred, what is post-intervention performance level? *(E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)*

Time Period	Number	Head circumference measured (ages 2 and under in outpatient pediatric neurology clinic)	Head circumference percentiles documented (ages 2 and under in outpatient pediatric neurology clinic)
Baseline 3/2013-5/2013	119	112 (94%)	33 (28%)
Post-intervention 2/10/2014-4/11/2014	93	90 (97%)	74 (80%)

E. Adjust – Replan

19. Review of post-intervention data and identifying continuing/new underlying causes.

a. Who will be/was involved in reviewing the post-intervention data, identifying underlying (root) causes of the continuing/new problem(s), and considering possible adjustments to interventions ("countermeasures") to address the causes? Briefly describe who is involved, how *(e.g., in a meeting of clinic staff)***, and when.**
Participating physicians were involved. The project lead met again in a divisional meeting with all faculty, nurse practitioners, and residents in the clinics to review the compliance rate and discuss

barriers in April 2014. For those who could not attend the meeting this information was relayed in person and via email. It was found that while documentation of head circumference improved, we were still lagging behind in documenting the percentiles.

b. **What are the primary underlying/root causes for the continuing/new problem(s) that the project can address?** *(Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately. How the intervention(s) address each primary underlying cause will be explained in #20.c.)*
Pediatric Neurology New patient clinic
*Residents and fellows were unaware. Nearly all of the dictations in the new patient clinic are performed by house officers. House officers rotate as often as every two weeks. Although the physician reviews the final dictation/note, the attending did not always remember to add the smartphrase for documenting head circumference percentiles.

Unaware
*A couple of the attendings who see less patients and were not always at the meetings had to be continuously reminded of the smartphrase tool and how to incorporate this into the patient's record.

Importance. Not all attending physicians felt that the smartphrase tool was as useful and forgot to use it.

Off site clinics.
The system for documenting head circumference in the off-site clinics (ie Canton Health System) was different. It was noted that head circumference was not always being measured in MAs had to be educated to properly measure and document head circumference in children less than two years of age.

F. Redo

20. Second intervention.

a. **The second intervention will be/was initiated when?** (For multiple interventions, initiation date for each.) The second intervention was initiated April-May 2014.

b. **If the second intervention has occurred, what interventions were implemented?**
Unaware:
Pediatric Neurology New patient clinic:
Rotating residents and fellows were informed and educated about the use and implementation of the smartphrase tool at the beginning of the rotation in person in clinic and via email. This occurred with each new rotation which was usually every two weeks.

Unaware:
Physicians were continually reminded in person and via email about the smartphrase tool by the project leader and educated about the importance of standardizing this process.
In the off-site clinics MAs were educated to properly measure and document head circumference in children less than two years of age and enter it in the Michart record so the smartphrase could be utilized.

c. **How are continuing/new underlying/root causes** *(see #19.b)* **addressed by the intervention(s)?** *(List each cause, whether it is addressed, and if so, how it is addressed.)*
Unaware.

- Feedback. Feedback on performance demonstrated need for the intervention. At the beginning of the rotation new residents were educated about the access and implementation of the smartphrase.
- Education. Education about the importance of measuring percentile of head circumference reinforced the need to address the problem.

Importance
- All physicians were reminded of the new smartphrase provided a standard process by which all care providers could ensure the infants' and young children's head circumferences and percentiles were being measured, documented, and appropriately addressed when abnormal. All clinicians agreed on implementing the new standardized process.
- Physicians, nurse practitioners, and residents who are to use the tool were educated about its use and provided written and verbal reminders regarding how to use it.

G. Recheck

21. Post-second 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)?

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

22. Performance following the second intervention.

a. The collection of the sample of performance data following the intervention(s) either:
Has occurred for the period: 5/12/2014-6/26/2014

b. If the data collection has occurred, what is the performance level? *(E.g., for each measure: number of observations or denominator, numerator, percent. Can display in a data table, bar graph, run chart, or other method. Can show here or refer to attachment with data.)*

Time Period	Number	Head circumference measured (ages 2 and under in outpatient pediatric neurology clinic)	Head circumference percentiles documented (ages 2 and under in outpatient pediatric neurology clinic)
Baseline 3/2013-5/2013	119	112 (94%)	33 (28%)
Post-intervention 2/10/2014-4/11/2014	93	90 (97%)	74 (80%)
Post-adjustment 5/12/2014-6/26/2014	49	48 (98%)	42 (86%)

H. Readjust

23. Review of post-second intervention data and identifying continuing/new underlying causes.

a. Who will be/was involved in reviewing the data, identifying underlying (root) causes of the continuing/new problem(s), and considering additional possible adjustments to interventions

("countermeasures") to address the causes? Briefly describe who is involved, how *(e.g., in a meeting of clinic staff)***, and when.**

Participating physicians were involved. The project lead met with them in-person in clinic and by email. A divisional meeting was held on July 23, 2014 when all faculty were present and the final results of the second intervention were discussed and changes were made.

b. What are the primary underlying/root causes for the continuing/new problem(s) that the project can address? *(Causes may be aspects of people, processes, information infrastructure, equipment, environment, etc. List each primary cause separately.)*

Unaware of smartphrase and its use. Though a smartphrase was created to standardize the process of documenting head circumference and percentiles, not all clinicians were aware of the tool and how to utilize it. In addition to physicians, patients are seen in the clinic by nurse practitioners and rotating residents and fellows. Several of these individuals are new to/rotating through the clinic and were not part of previous education efforts.

If no additional cycles of adjustment are to be documented for the project for Part IV credit, go to item #24.

If a few additional cycles of adjustments, data collection, and review are to be documented as part of the project to be documented, document items #20 – #23 for each subsequent cycle. Copy the set of items #20 – #23 and paste them following the last item #23 and provide the information. When the project to be documented for Part IV credit has no additional adjustment cycles, go to item #24.

If several more cycles are included in the project for Part IV credit, contact the UM Part IV MOC Program to determine how the project can be documented most practically.

I. Future Plans

24. How many subsequent PDCA cycles are to occur, but will not be documented as part of the "project" for which Part IV credit is designated?

No further PDCA cycles will occur

25. How will the project sustain processes to maintain improvements?

The new project leader (Dr. Erin Neill) will resume the role of regularly reminding clinicians, physicians, nurse practitioners, and rotating residents of the availability of the smartphrase tool to make the process sustainable. With the direction of Dr. Leber, all rotating residents and new faculty members, and clinicians will be provided access to the smartphrase. As residents will continue to rotate to the clinic, we have added the importance of this MOC project and its results and the smartphrase tool to the informational packet they receive on the first day of the rotation.

Off-site clinics: Our group will continue participation in off-site clinics including Northville and Canton. We will educate the MA's on the importance of measuring and documenting head circumference such that we may continue to utilize the smartphrase tool in the off-site clinics.

26. Do other parts of the organization(s) 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 genetics service and developmental and behavioral pediatricians. Both groups see patients of this age for similar concerns of developmental delay and/or underlying neurologic disease. Sharing the smartphrase tool with these other services may allow further standardization of documenting and improve compliance for documenting head circumference and percentiles in these children age two or younger.

J. 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

27. Physician's role. What are the minimum requirements for physicians to be actively involved in this QI effort?

a. Interpreting baseline data and planning intervention:
Attended divisional meeting in December 2013. (If could not attend the meetings, discussed separately in person and/or email and attested to agree to participate in the intervention).

b. Implementing intervention:
Attended educational sessions during the divisional meetings or met informally with the project lead to ensure understanding and accessibility of the smartphrase tool to standardize documentation of head circumference and percentiles. Implement use of the smartphrase and of the other further changes described in #14.b.

c. Interpreting post-intervention data and planning changes:
Attended divisional meeting in April 2014. (If could not attend the meeting, discussed separately in person and/or via email and attested to agree to participate in the intervention).

d. Implementing further intervention/adjustments:
Reinforce the availability and accessibility of the smartphrase tool with nurse practitioners, rotating house officers, and the other further changes described in #19.b.

e. Interpreting post-adjustment data and planning changes:
Discussed result in person in clinic and via email with the project leader. A divisional meeting was held on July 23, 2014 when all faculty were present and the final results of the second intervention were discussed and changes were made.

28. How are reflections of individual physicians about the project utilized to improve the overall project?
The project lead led the meetings where physicians interpreted data and make recommendations for changes. The project lead incorporated this information into overall project planning.

29. How does the project ensure meaningful participation by physicians who subsequently request credit for Part IV MOC participation?
The project lead monitored the participation of the physicians involved.

30. What are the specialties and subspecialties of the physician anticipated to participate in the project and the approximate number of physicians in each specialty/subspecialty?
Pediatric Neurology-8
Pediatrics- 4-7
Clinical Neurophysiology-3
Sleep- 1

K. Project Organizational Role and Structure

31. UMHS QI/Part IV MOC oversight – this project occurs within:

X **University of Michigan Health System**

- **Overseen by what UMHS Unit/Group?**

Pediatrics, Division of Pediatric Neurology

- **Is the activity part of a larger UMHS institutional or departmental initiative?**

  X No ☐ Yes – the initiative is:

☐ **Veterans Administration Ann Arbor Healthcare System**

- **Overseen by what AAVA Unit/Group?**

- **Is the activity part of a larger AAVA institutional or departmental initiative?**

  ☐ No ☐ Yes – the initiative is:

☐ **An organization affiliated with UMHS to improve clinical care**

- **The organization is:**

- **The type of affiliation with UMHS is:**

  ☐ **Accountable Care Organization type** *(specify which):*

  ☐ **BCBSM funded, UMHS lead Collaborative Quality Initiative** *(specify which):*

  ☐ **Other** *(specify):*

- **Who is the individual at UMHS responsible for oversight of the QI project regarding Part IV requirements?**
  Name:
  Title:
  Institutional/organizational unit/affiliation:
  Phone number:
  Email address:

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

The project lead (Dr. Singh) oversaw the project. She is a faculty member in the Division of Pediatric Neurology in the Department of Pediatrics. She led the project, collected the data, analyzed it and interpreted it and discussed results and led meetings with the participating physicians. (See descriptions of intervention and adjustments for details of specific roles.) Dr. Singh carried out the QI initiative with the approval of the Chief of Pediatric Neurology.

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

The project results were reported to the Chief of Pediatric Neurology and the rest of the division. Dr. Singh will submit the final report and collect the physican reports to submit all for review.