

Report on a QI Project Eligible for MOC – ABMS Part IV and NCCPA PI-CME

Cardiovascular Center ACTIVATE (Advancing Care, Treatment Efficiency, Innovation, Value, and Teamwork for Cardiac Episodes) 10.27.2020

Instructions

Determine eligibility. Before starting to complete this report, go to the Michigan Medicine MOC website [<http://www.med.umich.edu/moc-qi/index.html>], click on “Part IV Credit Designation,” and review sections 1 and 2. Complete and submit a “QI Project Preliminary Worksheet for Part IV Eligibility.” Staff from the Michigan Medicine Part IV MOC Program will review the worksheet with you to explain any adjustments needed to be eligible. (The approved Worksheet provides an outline to complete this report.)

Completing the report. The report documents completion of each phase of the QI project. (See section 3 of the website.) Final confirmation of Part IV MOC for a project occurs when the full report is submitted and approved.

An option for preliminary review (strongly recommended) is to complete a description of activities through the intervention phase and submit the partially completed report. (Complete at least items 1-18.) Staff from the Michigan Medicine Part IV MOC Program will provide a preliminary review, checking that the information is sufficiently clear, but not overly detailed. This simplifies completion and review of descriptions of remaining activities.

Questions are in bold font. Answers should be in regular font (generally immediately below or beside the questions). To check boxes, hover pointer over the box and click (usual “left” click).

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

R. Van Harrison, PhD, Michigan Medicine Part IV Program Co-Lead, 734-763-1425, rvh@umich.edu

J. Kin, MHA, JD, Michigan Medicine Part IV Program Co-Lead, 734-764-2103, jkin@umich.edu

Tasha Vokally, JD, Michigan Medicine Part IV Program Co-Lead, tcronenw@umich.edu

Ellen Patrick, Michigan Medicine Part IV Program Administrator, 734-936-9771, partivmoc@umich.edu

Report Outline

Section	Items
A. Introduction	1-6. Current date, title, time frame, key individuals, participants, funding
B. Plan	7-8. Patient population, general goal 9-11. Measures, baseline performance, specific aims 12-15. Baseline data review, underlying (root) causes, interventions, who will implement
C. Do	16. Intervention implementation date
D. Check	17-18. Post-intervention performance
E. Adjust – Replan	19-22. Post-intervention data review, underlying causes, adjustments, who will implement
F. Redo	23. Adjustment implementation date
G. Recheck	24-26. Post-adjustment performance, summary of individual performance
H. Readjust plan	27-30. Post-adjustment data review, underlying causes, further adjustments, who will implement
I. Participation for MOC	31-33. Participation in key activities, other options, other requirements
J. Sharing results	34. Plans for report, presentation, publication
K. Organization affiliation	35. Part of UMHS, AAVA, other affiliation with UMHS

QI Project Report for Part IV MOC Eligibility

A. Introduction

1. **Date** (*this version of the-report*): 10/27/2020

2. **Title of QI effort/project** (*also insert at top of front page*): Cardiovascular Center ACTIVATE: Advancing Care, Treatment Efficiency, Innovation, Value, and Teamwork for Cardiac Episodes

3. **Time frame**
 - a. **MOC participation beginning date – date that health care providers seeking MOC began participating in the documented QI project** (*e.g. date of general review of baseline data, item #12c*): 05/07/2019

 - b. **MOC participation end date – date that health care providers seeking MOC completed participating in the documented QI project** (*e.g., date of general review of post-adjustment data, item #27c*): 08/11/2020

4. **Key individuals**
 - a. **QI project leader** [*also responsible for confirming individual's participation in the project*]
Name: Matthew Romano, MD
Title: Associate Professor of Surgery, Cardiac Surgery, Medical School
Organizational unit: Department of Cardiac Surgery
Phone number: 734-615-3296
Email address: maromano@med.umich.edu
Mailing address: Cardiac Surgery, 5144 CVC, 5864

 - b. **Clinical leader who oversees project leader regarding the project** [*responsible for overseeing/"sponsoring" the project within the specific clinical setting*]
Name: David Miller, MD
Title: Chief Clinical Officer, University Hospital and Cardiovascular Center
Organizational unit: Michigan Medicine
Phone number: 734-647-6313
Email address: dcmiller@med.umich.edu
Mailing address: Urology, 3747 Taubman Center, Ann Arbor MI 48109-5330

5. **Participants. Approximately how many physicians (by specialty/subspecialty and by training level) and physicians' assistants participated for MOC?**

Participating for MOC	Primary Specialty	Subspecialty, if any	Number
Faculty physicians	Cardiac Surgery		9
Faculty physician	Cardiology		1
Faculty physician	Urology		1
Faculty physician	Thoracic Surgery		1
Faculty physician	Anesthesia		2
Residents/Fellows	Anesthesia		10
Physician Assistants	Cardiac Surgery		17

6. How was the QI effort funded? (Check all that apply.)

- Internal institutional funds (e.g., regular pay/work, specially allocated)
- Grant/gift from pharmaceutical or medical device manufacturer
- Grant/gift from other source (e.g., government, insurance company)
- Subscription payments by participants
- Other source (*describe*):

The Multi-Specialty Part IV MOC Program requires that QI efforts include at least two linked cycles of data-guided improvement. Some projects may have only two cycles while others may have additional cycles – particularly those involving rapid cycle improvement. The items below provide some flexibility in describing project methods and activities. If the items do not allow you to reasonably describe the steps of your specific project, please contact the UMHS Part IV MOC Program Office.

B. Plan

7. Patient population. What patient population does this project address (e.g., age, medical condition, where seen/treated): Adult (age ≥ 18) patient population undergoing coronary artery bypass (CAB) surgery and surgical valve procedures, including: isolated CAB, isolated valve surgery (aortic, mitral, tricuspid, pulmonic), valve plus CAB, aortic surgery plus valve.

8. General purpose.**a. Problem with patient care (“gap” between desired state and current state)**

(1) What should be occurring and why should it occur (benefits of doing this)?

There should be a standard practice to follow to help with clinical decision-making and patient throughput after cardiac surgery. By establishing standard guidelines and metrics to follow, patients receive consistent, standard care, and the residents, Advanced Practice Teams (APTs, including Physician Assistants and Nurse Practitioners), and physicians can be educated and feel empowered to independently act on the next clinical steps.

Patients should be moving from the operating room to the Intensive Care Unit (ICU), and then to one of the Cardiac Surgery “step down” units when they no longer require ICU level care. Surgeons should be following “best practices” in a standard way in order to reduce complications and create equity in care.

(2) What is occurring now and why is this a concern (costs/harms)?

Patient care and outcomes are being impacted by capacity constraints, variance in clinical practice, and communication barriers. Patients who no longer require ICU level care must often stay in the ICU due to lack of bed availability on the stepdown unit; due to different geographic locations, this can create communication barriers between the ICU and cardiac surgery providers. In addition, varying practice among surgeons has led to variance in meeting certain milestones needed for advancement and discharge, such as chest tube removal and pacer wire removal. A standard approach would help identify best practice care milestones and help standardize our care approach, reduce length of stay (LOS), and promote earlier discharge to help with stepdown unit bed availability.

b. Project goal. What general outcome regarding the problem should result from this project?

(State general goal here. Specific aims/performance targets are addressed in #11.)

The goal is to reduce LOS, readmission rate, and discharges to Skilled Nursing Facilities (SNFs) for ACTIVATE patients by creating best practices in patient care to facilitate safe patient flow throughout the episode of care.

9. Describe the measure(s) of performance: (*QI efforts must have at least one measure that is tracked across the two cycles for the three measurement periods: baseline, post-intervention, and post-adjustment. If more than two measures are tracked, copy and paste the section for a measure and describe the additional measures.*)

Measure 1

- **Name of measure** (*e.g., Percent of . . ., Mean of . . ., Frequency of . . .*):
Median LOS of ACTIVATE patients
- **Measure components** – *describe the:*
Denominator (*e.g., for percent, often the number of patients eligible for the measure*):
Number of ACTIVATE patient inpatient hospital days total

Numerator (*e.g., for percent, often the number of those in the denominator who also meet the performance expectation*):
Number of ACTIVATE patient inpatient stays/events total
- **The source of the measure is:**
 An external organization/agency, which is (*name the source, e.g., HEDIS*):
 Internal to our organization
- **This is a measure of:**
 Process – activities of delivering health care to patients
 Outcome – health state of a patient resulting from health care

Measure 2

- **Name of measure** (*e.g., Percent of . . ., Mean of . . ., Frequency of . . .*):
Percent of ACTIVATE patients Utilizing SNFs upon discharge for ACTIVATE patients
- **Measure components** – *describe the:*
Denominator (*e.g., for percent, often the number of patients eligible for the measure*):
Number of ACTIVATE patients discharged total

Numerator (*e.g., for percent, often the number of those in the denominator who also meet the performance expectation*):
Number of ACTIVATE patients discharged to SNFs
- **The source of the measure is:**
 An external organization/agency, which is (*name the source*):
 Internal to our organization and it was chosen because (*describe rationale*):
- **This is a measure of:**
 Process – activities of delivering health care to patients
 Outcome – health state of a patient resulting from health care

(If more than two measures are tracked across the two cycles, copy and paste the section for a measure and describe the additional measures.)

Measure 3

- **Name of measure** (e.g., Percent of . . . , Mean of . . . , Frequency of . . .):
Percent of 30-Day Hospital readmissions

- **Measure components** – describe the:
 - Denominator (e.g., for percent, often the number of patients eligible for the measure):
Number of ACTIVATE patient total discharges
 - Numerator (e.g., for percent, often the number of those in the denominator who also meet the performance expectation):
Number ACTIVATE patients re-admitted within 30 days of discharge date

- **The source of the measure is:**
 - An external organization/agency, which is (name the source):
 - Internal to our organization and it was chosen because (describe rationale):

- **This is a measure of:**
 - Process – activities of delivering health care to patients
 - Outcome – health state of a patient resulting from health care

(If more than two measures are tracked across the two cycles, copy and paste the section for a measure and describe the additional measures.)

10. Baseline performance

- a. **What were the beginning and end dates for the time period for baseline data on the measure(s)?** CY18 (01/01/2018 – 12/31/2018)

- b. **What was (were) the performance level(s) at baseline?** Display in a data table, bar graph, or run chart (line graph). Can show baseline data only here or refer to a display of data for all time periods attached at end of report. Show baseline time period, measure names, number of observations for each measure, and performance level for each measure.

	LOS Baseline	SNF Utilization Baseline	30 – Day Readmission Baseline
CAB	6.0 days	18.6%	11.8%
Valve	6.0 days	18.0%	17.0%

11. Specific performance aim(s)/objective(s)

- a. **What is the specific aim of the QI effort?** “The Aim Statement should include: (1) a specific and measurable improvement goal, (2) a specific target population, and (3) a specific target date/time period. For example: We will [improve, increase, decrease] the [number, amount percent of [the process/outcome] from [baseline measure] to [goal measure] by [date].”
Our specific aims are to decrease LOS to <=5 days, decrease utilization of SNFs to <15%, and decrease 30-day readmissions to <10% by January 1, 2020.

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

Metrics were determined by looking to calendar year 2018 data from the Society of Thoracic Surgery National Registry and comparing to internal historical data.

12. Baseline data review and planning. Who was involved in reviewing the baseline data, identifying underlying (root) causes of problem(s) resulting in these data, and considering possible interventions (“countermeasures”) to address the causes? (Briefly describe the following.)

a. Who was involved? (e.g., by profession or role) Physicians (Attendings, Fellows, Residents), Advanced Practice Providers (APPs: Physician Assistants and Nurse Practitioners), Respiratory Therapists, nurses, unit clerks, bed management staff, clinical informatics staff, and Michigan Medicine administration.

b. How? (e.g., in a meeting of clinic staff) Weekly ACTIVATE meetings

c. When? (e.g., date(s) when baseline data were reviewed and discussed) 02/12/2019

Use the following table to outline the plan that was developed: #13 the primary causes, #14 the intervention(s) that addressed each cause, and #15 who carried out each intervention. This is a simplified presentation of the logic diagram for structured problem solving explained at <http://ocpd.med.umich.edu/moc/process-having-part-iv-credit-designation> in section 2a. As background, some summary examples of common causes and interventions to address them are:

Common Causes	Common Relevant Interventions
<i>Individuals: Are not aware of, don't understand.</i>	<i>Education about evidence and importance of goal.</i>
<i>Individuals: Believe performance is OK.</i>	<i>Feedback of performance data.</i>
<i>Individuals: Cannot remember.</i>	<i>Checklists, reminders.</i>
<i>Team: Individuals vary in how work is done.</i>	<i>Develop standard work processes.</i>
<i>Workload: Not enough time.</i>	<i>Reallocate roles and work, review work priorities.</i>
<i>Suppliers: Problems with provided information/materials.</i>	<i>Work with suppliers to address problems there.</i>

13. What were the primary underlying/root causes for the <u>problem(s)</u> at baseline that the project can address?	14. What intervention(s) addressed this cause?	15. Who was involved in carrying out each intervention? (List the professions/roles involved.)
Barriers in communication between teams caring for patients	Held weekly ACTIVATE team meetings	Physicians, APPs, nursing leadership, nurses, respiratory therapists, Michigan Medicine administration
Variance in clinical practice	Set goals for standard practices in the ICU setting (extubation time, line pull time, request for bed order) and stepdown unit setting (early discharge) with some interventions crossing both units (chest tube and pacer wire removal) 1. Extubation within 4 hours	Faculty, residents, APPs, nurses, respiratory therapists, discharge planners, unit clerks, Michigan Medicine administration.

	<ol style="list-style-type: none"> 2. Line removal order placed by 0430 post-op day (POD) 1 3. Lines removed by 0600 POD 1 4. Request for bed by 0830 POD 1 5. Chest tubes removed POD 2 6. Pacer wires removed POD 3 7. Discharge order entered by 0930 8. Discharge by 1100 	
Variance in surgeon practice	Set goals for care processes throughout patient stay for surgeons to meet and have surgeons agree to goals (chest tube output per shift).	Faculty, residents, APPs, nurses, respiratory therapists, Michigan Medicine administration.
Frequent use of SNFs as discharge destinations for follow up care may have led to more frequent readmissions.	Anticipate and address post-discharge plan with patient and family at pre-operative visit. Establish and assign a family member who will act as a support coach. Incorporate discharge planning, physical therapy at clinic visit for patients with more risk factors who may require extra support after discharge.	Faculty, residents, APPs, nurses, Michigan Medicine administration, discharge planners, physical therapy, clinic team.
Barriers in handoff process from ICU to stepdown unit/floor team.	Work to establish a common rounding and handoff tool addressing needs from both ICU and floor teams.	Physicians, APPs.

Note: If additional causes were identified that are to be addressed, insert additional rows.

C. Do

16. By what date was (were) the intervention(s) initiated? (If multiple interventions, date by when all were initiated.) 05/07/2019

D. Check

17. Post-intervention performance measurement. Are the population and measures the same as those for the collection of baseline data (see item 9)?

Yes No – If no, describe how the population or measures differ:

18. Post-intervention performance

a. What were the beginning and end dates for the time period for post-intervention data on the measure(s)? 05/07/2019 – 02/26/2020

b. What was (were) the overall performance level(s) post-intervention? Add post-intervention data to the data table, bar graph, or run chart (line graph) that displays baseline data. Can show baseline and post-intervention data incrementally here or refer to a display of data for all time periods attached at end of report. Show baseline and post-intervention time periods and measure names and for each time period and measure show number of observations and performance level.

	LOS Post-Intervention	SNF Utilization Post-Intervention	30 – Day Readmission Post-Intervention
CAB	5.0 days	9.0%	7.0%
Valve	6.0 days	10.0%	11.0%

c. Did the intervention(s) produce the expected improvement toward meeting the project’s specific aim (item 11.a)?

Yes, the measures of ACTIVATE helped to improve our outcomes of LOS, SNF utilization, and readmissions. However, due to manual data collection, as well as inefficient processes that impacted care milestones, there was an opportunity for further improvement.

E. Adjust – Replan

19. Post-intervention data review and further planning. Who was involved in reviewing the post-intervention data, identifying underlying (root) causes of problem(s) resulting in these new data, and considering possible interventions (“countermeasures”) to address the causes? (Briefly describe the following.)

a. Who was involved? (e.g., by profession or role)

Same as #12? Different than #12 (describe):

b. How? (e.g., in a meeting of clinic staff)

Same as #12? Different than #12 (describe):

c. When? (e.g., date(s) when post-intervention data were reviewed and discussed)

02/26/2020

Use the following table to outline the next plan that was developed: #20 the primary causes, #21 the adjustments/second intervention(s) that addressed each cause, and #22 who carried out each intervention. This is a simplified presentation of the logic diagram for structured problem solving explained at <http://ocpd.med.umich.edu/moc/process-having-part-iv-credit-designation> in section 2a.

Note: Initial intervention(s) occasionally result in performance achieving the targeted specific aims and the review of post-intervention data identifies no further causes that are feasible or cost/effective to address. If so, the plan for the second cycle should be to continue the interventions initiated in the first cycle and check that performance level(s) are stable and sustained through the next observation period.

<p>20. What were the primary underlying/root causes for the <u>problem(s)</u> following the</p>	<p>21. What adjustments/second intervention(s) addressed this cause?</p>	<p>22. Who was involved in carrying out each adjustment/second intervention? (List the</p>
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intervention(s) that the project can address?		<i>professions/roles involved.)</i>
Manual data collection via MBox	Development of Care Path within MiChart (EHR)	Physicians, APPs, respiratory therapists, nurses, HITS, Michigan Medicine administration
Barriers in communication between teams caring for patients	Revise Situation, Background, Assessment, Request/Recommendation (SBAR) and revisit SBAR handoff process, Floor status care subgroup	Physicians, APPs, nurses, respiratory therapists, Michigan Medicine administration
Consistently low numbers for "Lines pulled by 0600 POD 1" metric	Change goal to 0700 to align with nursing shift change	Physicians, APPs, nurses, Michigan Medicine administration
Initial conservative output for chest tube removal criteria due to initial lack of consensus among faculty	Change chest tube output minimum to 100 mL/shift per tube (from 80 mL/shift per tube).	Physicians, APPs, nurses, Michigan Medicine administration

Note: If additional causes were identified that are to be addressed, insert additional rows.

F. Redo

23. By what date was (were) the adjustment(s)/second intervention(s) initiated? *(If multiple interventions, date by when all were initiated.)* 02/26/2020

G. Recheck

24. Post-adjustment performance measurement. Are the population and measures the same as indicated for the collection of post-intervention data (item #19)?

Yes No – If no, describe how the population or measures differ:

25. Post-adjustment performance

a. What were the beginning and end dates for the time period for post-adjustment data on the measure(s)? 06/26/20 – 07/26/20. Note: Data collection paused Spring 2020 due to COVID.

b. What was (were) the overall performance level(s) post-adjustment? *Add post-adjustment data to the data table, bar graph, or run chart (line graph) that displays baseline and post-intervention data. Can show here or refer to a display of data for all time periods attached at end of report. Show time periods and measure names and for each time period and measure show the number of observations and performance level.*

	LOS	SNF Utilization	30 – Day Readmission
CAB	4.0 days	10.0%	5.0%
Valve	6.0 days	0.0%	7.1%

- c. **Did the adjustment(s) produce the expected improvement toward meeting the project’s specific aim (item 11.a)?** Yes, the interventions allowed for sustainment of ACTIVATE and provided re-engagement, as providers were not having to manually collect data anymore. As an aside, there was also a follow up ACTIVATE socialization in 09/2020 post-COVID to re-engage the teams and re-orient them to this process after the first COVID wave.

H. Readjust

26. Post-adjustment data review and further planning. Who was involved in reviewing the post-adjustment data, identifying underlying (root) causes of problem(s) resulting in these new data, and considering possible interventions (“countermeasures”) to address the causes? (Briefly describe the following.)

a. **Who was involved?** (e.g., by profession or role)

- Same as #19? Different than #19 (describe):

b. **How?** (e.g., in a meeting of clinic staff)

- Same as #19? Different than #19 (describe):

c. **When?** (e.g., date(s) when post-adjustment data were reviewed and discussed) 08/11/2020

Use the following table to outline the next plan that was developed: #27 the primary causes, #28 the adjustments(s)/second intervention(s) that addressed each cause, and #29 who would carry out each intervention. This is a simplified presentation of the logic diagram for structured problem solving explained at <http://ocpd.med.umich.edu/moc/process-having-part-iv-credit-designation> in section 2a.

Note: Adjustments(s) may result in performance achieving the targeted specific aims and the review of post-adjustment data identifies no further causes that are feasible or cost/effective to address. If so, the plan for a next cycle could be to continue the interventions/adjustments currently implemented and check that performance level(s) are stable and sustained through the next observation period.

27. What were the primary underlying/root causes for the <u>problem(s) following the adjustment(s)</u> that the project can address?	28. What further adjustments/ intervention(s) might address this cause?	29. Who would be involved in carrying out each further adjustment/intervention? (List the professions/roles involved.)
Familiarity with MiChart Care Path	Education on Care Path process	Physicians, APPS, nurses, respiratory therapists, Michigan Medicine administration
Barriers in communication between teams caring for patients	Revise SBAR and revisit SBAR handoff process, Floor status care subgroup	Physicians, APPs, nurses, respiratory therapists, Michigan Medicine administration

Note: If additional causes were identified that are to be addressed, insert additional rows.

30. Are additional PDCA cycles to occur for this specific performance effort?

- No further cycles will occur.

- Further cycles will occur, but will not be documented for MOC. *If checked, summarize plans:*
Goal for metrics will continue to be evaluated based on performance, in addition to continued improvements in communication and processes to facilitate ACTIVATE pathway.

I. Minimum Participation for MOC

31. Participating directly in providing patient care.

a. Did any individuals seeking MOC participate directly in providing care to the patient population?

- Yes No *If "No," go to item #32.*

b. Did these individuals participate in the following five key activities over the two cycles of data-guided improvement?

- Reviewing and interpreting baseline data, considering underlying causes, and planning intervention as described in item #12.
- Implementing interventions described in item #14.
- Reviewing and interpreting post-intervention data, considering underlying causes, and planning intervention as described in item #19.
- Implementing adjustments/second interventions described in item #21.
- Reviewing and interpreting post-adjustment data, considering underlying causes, and planning intervention as described in item #26.

- Yes No *If "Yes," individuals are eligible for MOC unless other requirements also apply and must be met – see item # 33.*

32. Not participating directly in providing patient care.

a. Did any individuals seeking MOC not participate directly in providing care to the patient population?

- Yes No *If "No," go to item 33.*

b. Were the individual(s) involved in the conceptualization, design, implementation, and assessment/evaluation of the cycles of improvement? (E.g., a supervisor or consultant who is involved in all phases, but does not provide direct care to the patient population.)

- Yes No *If "Yes," individuals are eligible for MOC unless other requirements also apply and must be met – see item # 33. If "No," continue to #32c.*

c. Did the individual(s) supervising residents or fellows throughout their performing the entire QI effort?

- Yes No *If "Yes," individuals are eligible for MOC unless other requirements also apply and must be met – see item # 33.*

33. Did this specific QI effort have any additional participation requirement for MOC? (E.g., participants required to collect data regarding their patients.)

- Yes No *If "Yes," describe:*

Individuals who want their participation documented for MOC must additionally complete an attestation form, confirming that they met/worked with others as described in this report and reflecting on the impact of the QI initiative on their practice or organizational role. Following approval of this report, the UMHS QI MOC Program will send to participants an email message with a link to the online attestation form.

J. Sharing Results

34. Are you planning to present this QI project and its results in a:

- Yes No Formal report to clinical leaders?
- Yes No Presentation (verbal or poster) at a regional or national meeting?
- Yes No Manuscript for publication?

K. Project Organizational Role and Structure

35. UMHS QI/Part IV MOC oversight – indicate whether this project occurs within UMHS, AAVA, or an affiliated organization and provide the requested information.

- University of Michigan Health System**
- Overseen by what UMHS Unit/Group? (*name*): UH/CVC
 - Is the activity part of a larger UMHS institutional or departmental initiative?
 - No Yes – the initiative is (*name or describe*): ACTIVATE Initiative
- Veterans Administration Ann Arbor Healthcare System**
- Overseen by what AAVA Unit/Group? (*name*):
 - 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 (*name*):
 - The type of affiliation with UMHS is:
 - Accountable Care Organization** (*specify which member institution*):
 - BCBSM funded, UMHS lead state-wide Collaborative Quality Initiative** (*specify which*):
 - Other** (*specify*):