Doctor of Nursing Practice Quality Improvement Project:

Non-operating Room Anesthesia (NORA) Process Improvement for Outpatient MRI at Oregon Health and Science University

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NURS 703A: DNP Project Planning

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December 2, 2020

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Abstract

BACKGROUND: Patients are referred to Oregon Health and Science University (OHSU) for MRI under anesthesia from a variety of care settings and geographic locations. Due to the unique nature of this service and care team, there is a gap in the existing peri-anesthesia systems at OHSU that results in patients more frequently arriving to their appointment improperly prepared to undergo general anesthesia than occurs in other non-operating room anesthesia (NORA) settings at OHSU.

METHODS: A Human-Centered Design (HCD) approach will be applied to describe the current processes, identify the source(s) of miscommunication/gaps in workflow, and understand the needs of all stakeholders at various stages of this integrated care event. After system gaps are identified, recommendations will be formulated by incorporating the user needs (identified through HCD methods) with standards of care from the literature.

INTERVENTION: Create evidence-based checklists and a scheduling protocol that will standardize the process of outside referrals to OHSU and patient preparation for MRI scans with anesthesia services.

RESULTS: Collection of retrospective and prospective data on patients who receive anesthesia in MRI will include the presence versus absence of a current H&P, current medication list, and patient instructions in their record at the time of their appointment as well as the type of provider appointment conducted at the Perioperative Medicine Clinic. This data will de de-identified and will be IRB-exempt.

CONCLUSIONS: These recommendations will be submitted for consideration to leadership in OHSU's NORA, Perioperative Medicine Clinic (PMC), and Diagnostic Imaging (DI) Radiology departments.

Keywords: NORA, MRI, checklists, pre-anesthesia evaluation, patient preparation, continuity of care, care integration, human-centered design

Non-operating Room Anesthesia (NORA) Quality Improvement for Outpatient MRI at Oregon Health and Science University

Problem Description

Currently, patients who are unable to undergo magnetic resonance imaging (MRI) scans while awake and thus require anesthesia services for their scans are referred to OHSU from a variety of care organizations across a wide geographic area. These patients are frequently referred to OHSU from outside facilities that do not always utilize the Epic charting system, and as a result, there have been logistical issues encountered in terms of gathering patient history, medical records, and other important clinical data that are necessary in order to safely administer monitored anesthesia care sedation or general anesthesia. Additionally, care of these patients has been fragmented and because no single entity within the OHSU system has taken full responsibility for the preparation and management of these patients. This lack of ownership results in variable attention to and completion of the essential steps of proper patient preparation including acquiring outside records, reviewing those records, recommending pre-anesthetic medical optimization or diagnostic testing as needed, and providing clear instructions to the patient on how to arrive to their appointment prepared to undergo general anesthesia. Workarounds have developed organically out of necessity, but they are not usually in keeping with ASA standards for pre-anesthetic evaluation or preparation for anesthesia. As a result, patients who come from outside facilities may arrive improperly prepared for their planned anesthetic, leading to delays and/or cancelations that are not only costly and inconvenient for the patient, but for the institution and providers as well.

Available Knowledge

Non-operating room anesthesia (NORA) is a growing arena of anesthesia practice that is fundamentally different from anesthesia performed in the operating room, in large part due to the differences in available equipment and supplies, including medications and monitoring modalities, but also due to the differences in personnel training and the often times remote locations within the hospital (Cheng & Urman, 2016). NORA cases are the most rapidly expanding area of anesthesia caseload and at present accounts for nearly 40% of anesthesia providers' workload (Bouhenguel et al., 2017). As procedural advances are made in interventional medicine, the demand to provide general anesthesia to more medically fragile patients on an outpatient basis is increasing and poses concerns and challenges for the anesthesia provider (Bouhenguel et al., 2017). Proper patient selection as well as pre-procedural medical optimization is as important in the NORA setting as it is in the main OR in order to ensure

tolerance of general anesthesia (Boggs et al., 2017). According to one review of the ASA closed claims database that looked specifically at complications arising in NORA locations, claims in radiology accounted for 11% of total claims, and within that group, 70% of radiology claims were for anesthetics provided in the MRI scanner (Metzner et al., 2009). Importantly, NORA claims were associated with more severe morbidity and mortality, were more commonly associated with older, sicker patients (ASA functional class 3-5), and most frequently were associated with monitored anesthesia care (MAC) sedation compared to general anesthesia (Metzner, 2009).

The preoperative evaluation is a fundamental component and a rate-limiting step when preparing to safely administer general anesthesia. The standards of care for both the pre-operative and intra-operative phases of care are the same for anesthesia, regardless of the location where the anesthetic will be delivered (ASA, 2012; Bockstael et al., 2020). Adequate preprocedural evaluation includes a minimum of reviewing the patient's health history and conducting a physical examination to determining their current state of health (referred to as the H&P), reviewing current medications and reviewing available laboratory data and diagnostic studies (ASA, 2012). The goals of performing this evaluation prior to the day of the procedure are to identify any areas of concern that may warrant further diagnostic investigation or medical intervention to optimize the patient's health status prior to their procedure, reviewing the patient's current medication regimen, and providing patient education on how to manage their medications in the peri-anesthetic phase as well as how to properly prepare to undergo anesthesia, including NPO times and the need for a post-anesthesia escort home (Bockstael et al., 2020). The timing of this evaluation and the provider performing these tasks must be determined by the needs and resources of the institution, but the system of care must provide the anesthesia provider ready access to these data on the day of the proposed anesthetic (ASA, 2012).

Coordination of care and care integration are processes that have received much attention over the last decade in a push to improve value and reduce costs within our healthcare system. While there is little evidence in the literature around the transfer of care from the referring provider to a radiologist, we can borrow from the literature that does exist in transitions of care. A systematic review of this literature found that use of protocols and checklists were commonly employed techniques to improve the quality of information transfer and consistently showed improvement in transfer of information (Segall et al., 2012).

Checklists are an effective way to improve patient safety in the perioperative setting; their use as a communication tool between team members helps promote a consistent delivery and standard of care (Haugen et al.,

2019). The World Health Organization (WHO) Patient Safety Program developed the World Health Organization Surgical Safety Checklist in order to improve patient safety in the operating room and utilization of this checklist reduced overall complications and mortality consistently at different hospitals and in different countries (Haugen et al., 2019). In their *Patient-centered perianesthesia communication: Practice considerations* document, the American Association of Nurse Anesthetists (AANA) advocates for the use of checklists as a validated means of improving peri-anesthetic care, citing evidence that checklists increase the likelihood that recommendations are followed than if those same recommendations are delivered without a checklist. They also cite evidence that checklists that standardize which member of the team (who) is responsible for what, when and how, errors are reduced in both routine and emergent situations (Winters et al., 2009).

Rationale

Human-centered design (HCD) is a framework for the development of products or services that are suited to the needs of the end-user, rather than requiring adaption from the user to suit the design. There are three main phases of product or service design in HCD, which include inquiry, ideation, and prototyping with low-fidelity implementation over rapid cycles to ensure the design is working for users (Tolley, 2017). Importantly, this process is an iterative one that moves in a nonlinear fashion (Vagal et al., 2020) This framework is originally born of the private industry and design worlds, but has been successfully utilized for healthcare improvement in many projects. For example, leaders at Duke University employed HCD to create an OR-to ICU handoff standard workflow in order to increase safety, transfer of essential clinical information, and reduce variability (Segall et al., 2012).

In HCD, qualitative data collection may be obtained using many of the same techniques as may be employed for the purposes of qualitative research, however the goal is very different. The qualitative data obtained from potential users of the product is useful as a source of inspiration and insight to the product designers, rather than as evidence meant to generate a new scientific understanding of the topic of inquiry (Tolley, 2017). This method is applicable for the quality improvement project described herein because it engages the needs of the users with the goal of satisfying those needs in order to promote use of the product while avoiding the cumbersome aspects of qualitative data extraction and analysis. The products to be designed for this project include the master checklist of what must be done to properly prepare MRI patients for anesthesia, the specialized checklists for each stakeholder/venue, and the protocol algorithm for scheduling these patients for preprocedural evaluation and optimization. This is essentially a workflow that involves a multitude of players, each with their own tasks,

resources, and context. These authors believe that this framework will prove to be successful in achieving our aims because of its demonstrated utility in other healthcare improvement projects executed in similar healthcare environments with diverse stakeholders.

Specific Aims

The purpose of this project is to ensure outpatients who are scheduled to receive anesthesia for their MRI scans at OHSU are properly prepared when they arrive to their MRI appointment. The system is currently designed so that the technically responsible provider at OHSU is the radiologist, who has never and likely will never meet the patient. Practically speaking, those providers are not participating in the coordination of care for these patients, and as a result, important tasks and preparation for the procedure are not completed or complete ad hoc. Specifically, the patient is scheduled for an appointment at PMC with an inappropriate type of provider, records are not obtained and/or made available within Epic, an H&P is not completed, medication reconciliation is not completed, and/or the patient does not receive or understand instructions for NPO times, medication management, or the need for an escort home from the hospital.

In order to solve this problem, a set of checklists and protocols that are customized for the needs and resources of the interdisciplinary team will be provided in order to standardize the workflow when outpatients are referred to OHSU to receive anesthesia services for their MRI scans. This process begins with the referral for MRI with anesthesia and continues through to appointment scheduling, the PMC pre-anesthesia evaluation, records requests, EHR data availability and presentation, patient education, and finally to the point of anesthesia care in the MRI suite at OHSU.

Aim #1: Engage stakeholders in collaboration to define the gaps in the system and identify potential solutions for all affected workflows

Aim #2: Develop an evidenced-based pre-MRI checklist that details what must be done and by whom to ensure outpatients receiving anesthesia services are properly prepared prior to their MRI scan

Aim #3 Revise the current algorithm and process for scheduling PMC preop appointments for this population

Aim #4: Educate PAS and PMC staff about these revisions

Aim #5: Implement new algorithm and checklist. By April 1, 2021, 100% of outpatients who receive anesthesia for their MRI at OHSU will have an H&P completed within 30 days, including documentation in their chart, prior to the day of the MRI scan.

Methods

Context

At OHSU, patients are referred by providers who are outside the OHSU system to have MRI scans performed under anesthesia. The Director of NORA at OHSU has requested a process improvement project to address the preparation of these patients who she has observed to be arriving unprepared for anesthesia, which is causing wasteful delays and cancellations of scans, as well as having a detrimental impact on provider satisfaction. The authors have begun to investigate this issue and believe that the issue is at least in part related to the unique nature of their care, which is not compatible with existing systems of patient preparation for undergoing anesthesia at OHSU.

Specifically, the responsible provider for these patients at OHSU for the purposes of their scan is the radiologist, but unlike a surgeon or a proceduralist, these physicians have no contact with or knowledge of these patients, including on the day of their scan. As a result, aspects of care coordination that are completed by the analogous provider in other settings (surgeon, interventionalist, and etc.) are not completed. As a downstream consequence of this issue, other stakeholders involved in the care of these patients have created work arounds that are disjointed and frustrating for them and that do not meet the standards of care for pre-anesthetic evaluation and preparation. In addition, because the needs for the patient are not being expressly identified by a responsible provider, they are assumed to all have the same preparation needs, such as only needing an RN phone call appointment at PMC, and inaccurate perceptions of appropriate preparation have developed, including the perception that a current H&P is not necessary.

Intervention(s)

The authors utilized informal interview techniques with relevant stakeholders, including the Director of Non-OR Anesthesia, the Nursing Manager of Diagnostic Imaging, which includes MRI, a registered nurse and the Assistant Nurse Manager from the Perioperative Medicine Clinic, and a perioperative patient scheduler. Additional stakeholders will be interviewed as well, including radiology, anesthesia staff, MRI technicians and the Procedural Care Unit (PCU). The themes that arose from the interviews conducted include unfamiliarity with what kind of

patient preparation is required for a patient who will have anesthesia but not surgery, confusion about who is responsible for managing these patients, and frustration with the current methods by which these patients are managed. Another issue identified is that incorrect instructions were given about patient management, which may be the result of a lack of familiarity with pre-anesthetic care standards.

The number of different providers and/or systems that are involved in providing an outpatient MRI with anesthesia are surprisingly numerous. In order to conceivably design a referral and patient preparation system that could work for all of these different stakeholders, the authors decided that each stakeholder would need to be consulted and be offered a chance to influence the design of the end-product. After engaging with each stakeholder independently, the authors will facilitate an interdisciplinary workshop to allow stakeholders to engage with one another as well as with the recommendations for solutions that will be presented to them during the workshop. This workshop and the recommendations from the authors will be implemented using Human-Centered Design techniques in order to ensure recommendations and process changes are responsive to and useful for the end-users, namely, the stakeholders.

Based on identified need of the system and stakeholders, as well as the available literature, a checklist that outlines the necessary patient preparation will be created. From this checklist, venue appropriate checklists for each stakeholder will be created so that each stakeholder group knows which items are their responsibility. The authors anticipate that task ownership by appropriate stakeholders will improve the process of outpatient referral for MRI under anesthesia and will result in properly prepared patients arriving for their scheduled scan, ultimately reducing cancelations and delays.

Study of the Intervention(s)

The below described measures will be collected pre-intervention and post-intervention and compared using the Student's T-test to detect statistical significance.

Measures

The authors will conduct both retrospective and prospective chart reviews for outpatients undergoing anesthesia for their MRI as the means of data collection. Pre-intervention data will be collected for the month of August 2020 and may possibly include September 2020 in order to achieve a minimum number of 20 patients. Post-intervention measures will be collected by prospective chart review for as long as necessary after the intervention to review an equivalent number of patient charts as in the pre-intervention dataset. Data collected will include the

following: 1) presence or absence of an H&Ps completed within 30 days, 2) whether the patient is scheduled with an RN, NP/PA, or MD at the PMC, 3) appropriate medication reconciliation completed, and 4) appropriate patient instructions are given to the patient and documented in their chart prior to the scheduled MRI time. Methods for conducting the chart reviews will be completed systematically. The previously mentioned data points will be quantified as either present or absent. There will only be two individuals who conduct the chart reviews.

Analysis

The authors expect to see an increase in the presence of H&Ps, medication reconciliation, documented appropriate preanesthetic instructions and an increase in the number of LIP visits at PMC relative to RN phone visits if the interventions implemented are successful. Scheduling and PMC staffing changes during the implementation process may cause variation within the data.

Ethical Considerations

Protected Health Information (PHI) collected during retrospective and prospective chart reviews will de-identified when recorded into datasets. This information will be kept in a password-protected Excel spreadsheet that will be saved to OHSU's approved and encrypted cloud storage system, Box. A Request for Determination will be submitted to the OHSU Institutional Review Board. The authors have no conflicts of interest to disclose.

Results

Results

Evolution of the intervention and details of process measures

Initial steps of the interventions and their evolution over time, including modifications made to the intervention during the project

Details of process measures and outcomes

Contextual elements and unexpected consequences

Contextual elements that interacted with the interventions

Observed associations between outcomes, interventions, and relevant contextual elements

Unintended consequences such as unexpected benefits, problems, failures, or costs associated with the interventions.

Quantitative results

Missing data

Details about any missing data

Discussion

Summary

Key findings, including relevance to the rationale and specific aims

Particular strengths of the project

Interpretation

Nature of the association between the intervention(s) and the outcomes

Comparison of results with findings from other publications

Impact of the project on people and systems

Reasons for any differences between observed and anticipated outcomes, including the influence of context

Costs and strategic trade-offs, including opportunity costs

Limitations

Limits to the generalizability of the work

Factors that might have limited internal validity such as confounding, bias, or imprecision in the design, methods, measurement, or analysis

Efforts made to minimize and adjust for limitations

Conclusions

Usefulness of the work

Sustainability

Potential for spread to other contexts

Implications for practice and for further study in the field

Suggested next steps

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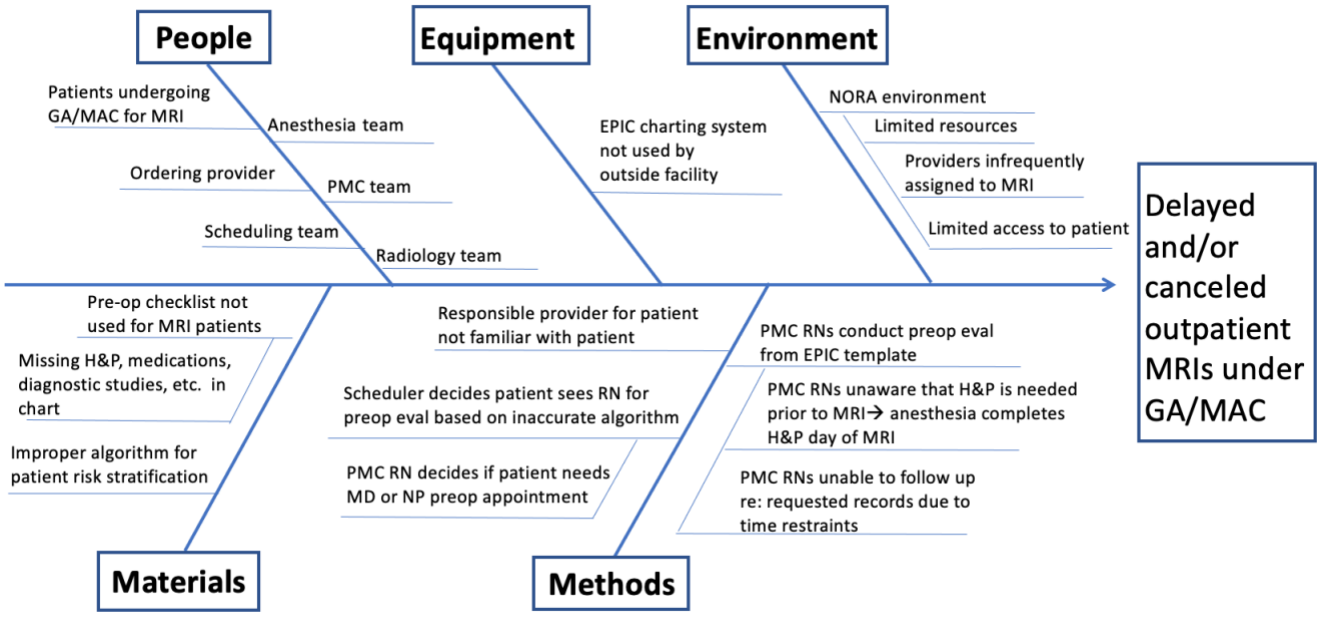
Appendices

Project Timeline

	Dec	Jan	Feb	March	April	May	June	July
Finalize project design and approach (703A)	X							
Complete IRB determination or approval (703A)	X							
Develop protocols, checklist, and survey		X						
Initial chart review		X	X					
PDSA Cycle 1 (703B)			X	X				
Final data analysis (703B)					X			
Write sections 13-17 of final paper (703B)						X	X	
Prepare for project dissemination (703B)								X

Cause and Effect Diagram



IRB Application

Request for Determination Form

OREGON HEALTH & SCIENCE UNIVERSITY
Research Integrity Office
Mail Code L106-RI
Portland, Oregon 97239-3098
Phone: 503.494.7887
Fax: 503.346.6808

Version 1.1
Updated 5.28.2019

PI Name Dr. Mikelle Adamczyk eIRB
Project Title Quality Improvement in MRI for GA

INSTRUCTIONS

Use this form when:

- *You are not sure if your project requires IRB oversight, or*
- *You would like a formal determination from the IRB as to whether the project requires IRB oversight, or*
- *You are conducting research with samples or data that are not individually identifiable to the research team, but the project involves genetic research.*

Complete the entire form unless your response to a particular question instructs you to skip ahead.

Upload the form to the eIRB in place of, or in addition to, a protocol.

If your project meets the definition of Research (Section 1), includes Human Subjects (Section 2), and OHSU is Engaged in the research (Section 3), you should submit a new study with a full protocol instead of submitting this form.

Section One – Research

Research is a **systematic investigation**, including research development, testing and evaluation, designed to develop or contribute to **generalizable knowledge**.

☐ This project is research. → **Skip to Section Two.**

☒ I don't think this project is research, or I am not sure. → **Answer the questions below:**

1.1. Is this a case study of a single patient or a case series of three or fewer patients? If so, describe.
Note: Inclusion of more than three patients is generally considered research.
No

1.1.1. If yes, will it involve testing of biological specimens for non-clinical purposes? If so, describe.
N/A

1.2. Is this a quality improvement/quality assurance, program evaluation, or public health project? If so, explain. (*These types of activities may not meet the definition of research. See the Quality Improvement or Research? Quick Guide on the IRB Policies and Forms web page for more information.*)
Yes, this is a quality improvement project that involves improving the process when preparing patients for their MRI under anesthesia.

1.3. Will individuals, groups, or institutions/organizations be randomized or otherwise designated to receive different interventions that will be compared? If so, explain. *Note: Randomization or comparison against a control tends to indicate a systematic investigation, which may be research.*
No

1.4. What are you hoping to learn from this project? Will the knowledge you gain be generalizable to other contexts or situations?

This project will not generate new knowledge.

1.5. What will you do with the results? *Note: Whether you intend to publish does not itself determine whether your project is research.*

Results of quality improvement interventions may provide targets for further quality improvement efforts at OHSU. We may seek to publish or otherwise share what we have learned as part of a health systems issue quality improvement project.

Section Two – Human Subjects

A **human subject** is a **living individual** about whom an investigator conducting research obtains:
- Data through **intervention** or **interaction** with the individual, or
- **identifiable private information** (*information is identifiable if the identities of the subjects are **readily ascertainable** to the investigator, either directly or indirectly through a coding system*)

☐ This project involves human subjects. → **Skip to Section Three.**

☒ This project is not research. → **Skip to Section Five.**

☐ This project is or may be research, but I don't think it involves human subjects, or I am not sure. → **Answer the questions below:**

2.1. Are all of the subjects in the research known to be deceased? *Note: Decedents are not considered human subjects.*

2.2. Describe the data and/or specimens to be used for the project.

2.3. Are all of the data and/or specimens pre-existing or going to be collected for some purpose other than this project?

If yes:

2.3.1. What is the original source of the data and/or specimens? How will they be provided to the investigators?

2.3.2. Are all of the data and/or specimens de-identified such that none of the investigators working on the project could readily ascertain the identities of the subjects, either directly or indirectly through a coding system? Explain. *Note: If investigators have a way of identifying individual subjects, the project likely involves human subjects.*

If no:

2.3.3. How will the investigators (at OHSU or another institution) collect the data and/or specimens? *Note: If investigators will intervene (including both physical procedures and manipulations of the subject or subject's environment) or interact (including all forms of communication or interpersonal contact) with individuals in order to collect information about them, this project likely involves human subjects.*

Section Three – Engagement in Research

OHSU is **engaged** in a research project if **OHSU employees, students, or other agents** do any of the following:
- **Intervene or interact** with human subjects for the research,
- Obtain **individually identifiable private information** about human subjects for the research, or
- Obtain the **informed consent** of individuals for participation in the research.

There are exceptions for certain recruitment activities and for performance of some protocol-required procedures as a commercial service or on an emergency or temporary basis.

- ☐ This project is research and OHSU is engaged in the research project. → **Skip to Section Four. If the project also involves human subjects, STOP and complete a new study submission.**
- ☒ This project is not research, or it is research that does not involve human subjects. → **Skip to Section Four.**
- ☐ This project is or may be human research, but I don't think OHSU is engaged in the project, or I am not sure. → **Answer the questions below:**

3.1. Describe OHSU's and any other institutions' roles in the research, including which investigators will interact with human subjects, obtain subjects' identifiable private information, or obtain informed consent for the research. *Note: If OHSU investigators will do any of these things, OHSU is probably engaged in the research.*

3.2. Will OHSU employees, students, or agents obtain ***only de-identified data or specimens*** (that is, the data/specimens are completely anonymous or the data/specimens are coded and OHSU investigators will not have access to the key to the code)? *If so, OHSU is probably not engaged in the research.*

3.3. Will OHSU employees, students, or agents ***only release pre-existing data or specimens*** to investigators at another institution (that is, OHSU investigators will have no part in testing of specimens or data analysis)? *If so, OHSU is probably not engaged in the research.*

Section Four – Oregon Genetic Privacy Law

Genetic Research is research using human DNA samples, genetic testing, or genetic information. **Genetic Information** is information about an individual or the individual's blood relatives obtained from a genetic test. For more details, see our Genetic Research web page.

- ☒ This project does not involve genetic research. → **Skip to Section Five.**
- ☐ This project involves genetic research. → **Answer the questions below:**

4.1. The specimens/data are (check one):

- ☐ Anonymous (meaning the identity of the individuals or their blood relatives cannot be determined by anyone, including through a code or other means of linking the information to a specific individual)
- ☐ Coded (meaning that some link exists that would allow re-identification of the data/specimens, even if the OHSU investigators will not have access to it)

NOTE: If the specimens or data are individually identifiable, you are likely conducting human research. ***STOP and complete a new study submission.***

4.2. For coded data/specimens, describe the method of coding and steps you will take to ensure data security. (See HRP-461 WORKSHEET – Oregon Genetic Research – Anon-Coded on the IRB Policies and Forms web page for specific criteria regarding coded genetic research.)

4.3. In Oregon, the individuals who originally provided the data/specimens must have consented to genetic research, or you must verify that the individuals have not "opted out" of genetic research at OHSU (see our Genetic Research web page for more information). Indicate how your project complies with this requirement (check one):

- ☐ Subjects consented for this project specifically
- ☐ Subjects consented for future genetic research generally
- ☐ Subjects did not consent, but we will exclude any subjects who opted out of coded/anonymous genetic research – Describe your plan to verify opt-out status:

- ☐ None of the specimens/data are from subjects in Oregon
- ☐ Other – Describe:

Section Five – HIPAA

Protected Health Information (PHI) = health information + one or more of the 18 identifiers. See our HIPAA and Research web page for more details.

Even if your project is not human research or OHSU is not engaged in the research, you may have requirements under HIPAA if you are using, obtaining, or releasing/disclosing PHI.

All HIPAA forms linked below are available on the IRB Policies and Forms web page. Upload them on the ***Recruitment, Consent and Authorization*** page of the IRQ.

- ☐ This project does not collect any health information. → **Stop here, no HIPAA requirements.**
- ☒ This project collects health information, but does not involve access to or recording of any of the 18 individual identifiers, and therefore does not involve PHI. → **Stop here, no HIPAA requirements.**
- ☐ Investigators on this project will only have access to data/specimens already at OHSU and that meet the definition of a Limited Data Set *(no direct identifiers such as name, MRN, initials, or street address, but may include dates and geographic subdivisions smaller than a state*), and the Limited Data Set will NOT be sent outside OHSU. → **Stop here, no additional HIPAA requirements.**
- ☒ PHI will be accessed, used, and/or sent outside OHSU, but not for research purposes (examples: case reports, QA projects, public health reporting). → **Stop here, comply with OHSU HIPAA policies for non-research activities.**

  Investigators who wish to publish a case report that is not completely de-identified to the standards of the HIPAA Privacy Rule (contains any of the 18 individual identifiers, photos or illustrations that contain identifiable features such as pictures of a patient's face or tattoos), must first obtain each patient's authorization. In the case of deceased individuals, consent might be obtained from the next of kin.
  Authorization to Use and Disclose Protected Health Information Form
- ☐ PHI will be accessed only for purposes preparatory to research, such as preparing a protocol or compiling a recruitment list, and the PHI will not be released outside OHSU. → **Prep to Research form required.**
- ☐ This project is research and will collect and use PHI, but all subjects are known to be deceased. → **Decedents Representation form required.**
- ☐ This project is research and will collect PHI, but only for the purpose of preparing a Limited Data Set to send outside OHSU. → **Data Use Agreement required.**
- ☐ This project is research and OHSU will receive a Limited Data Set from another institution for this project. → **Data Use Agreement may be required by the other institution. If so, submit DUA for review and signature to the office that handled the contract for the project (if there was one, or to OPAM if there was no contract). DUAs for OPAM should be directed to Contract-triage@ohsu.edu.**
- ☐ This project is research, PHI will be accessed, used, and/or sent outside OHSU for purposes of this study, and none of the above options apply. → **You most likely need a Waiver or Alteration of Authorization. Any disclosures outside OHSU must be tracked in the Accounting of Disclosures System.**
- ☐ Other – Explain:

Letter of Support

Letter of Support from Clinical Agency

Date: ***11/22/2020***

Dear Emma Staniels and Grace Pariseau,

This letter confirms that I, Dr. Mikelle Adamczyk, allow Emma Staniels and Grace Pariseau (OHSU Doctor of Nursing Practice Students) access to complete their DNP Final Project at our clinical site. The project will take place from approximately January 2021 to July 2021.

This letter summarizes the core elements of the project proposal, already reviewed by the DNP Project Preceptor and clinical liaison (if applicable):

- **Project Site(s)**:
  - Oregon Health and Science University
    - 3181 SW Sam Jackson Park Road, Portland, OR 97239
  - OHSU Anesthesia and Perioperative Medicine Clinic, South Waterfront
    - Center for Health & Healing Building, 3484 S Bond Ave, 2 8th Floor, Portland, OR 97239
- **Project Plan:**

Outpatients who are scheduled to undergo general anesthesia for MRI scans are arriving inadequately prepared, leading to delays and/or cancelations that are not only costly and inconvenient for the patient, but for the institution and providers as well. The relevant stakeholder for the care processes involved in preparing these patients include the referring provider, the scheduling staff, the Preoperative Medicine Clinic (PMC) staff, the Diagnostic Imaging staff, and the Radiology and Anesthesiology departments at OHSU. The Human Centered Design (HCD) approach will be used to identify the specific needs and available resources of these stakeholders to inform process improvement change recommendations and interventions to ensure they are acceptable and useful for all parties involved. Specific aims of this project include engaging stakeholders to define gaps within the system, developing an evidence-based pre-anesthesia for MRI checklist, revising the current algorithm and process for scheduling this patient population at PMC, and educating staff about these changes. Overall, by April 1, 2021, 100% of outpatients who receive anesthesia for their MRI at OHSU will have a current (within 30 days) H&P, current medication lists, and appropriate patient instructions documented in their chart prior to the day of the MRI scan. A review of all available and relevant literature will be conducted to derive a definition of proper patient preparation before undergoing anesthesia in MRI. In keeping with the identified needs and

resources of each stakeholder, the necessary care tasks involved in achieving proper patient preparation will be allocated to the appropriate stakeholder/responsible entity and specialized checklists for each will be provided. These checklists will help to clarify responsibility for certain preparation tasks to specific departments or individuals, which will increase the likelihood they are completed. The efficacy of these interventions will be measured by comparison of pre- and post-intervention data collected via retrospective and prospective chart review, respectively. Data collection will include the presence or absence of a current (within 30 days) H&P, which type of provider was seen at PMC, presence or absence of completed medication reconciliation, and documentation of appropriate patient instructions in the EHR. Protected Health Information collected during retrospective and prospective chart reviews will be de-identified when recorded into datasets. This information will be kept in a password-protected Excel spreadsheet that will be saved to OHSU's approved and encrypted cloud storage system, Box. Support sites agree to participate in informal interviews and implement proposed workflow changes as previously described in project interventions.

During the project implementation and evaluation, Emma Staniels and Grace Pariseau will provide regular updates and communicate any necessary changes to the DNP Project Preceptor.

Our organization looks forward to working with this student to complete their DNP project. If we have any concerns related to this project, we will contact Emma or Grace and Dr. Lisa Osborne Smith (student's DNP Project Chairperson).

Regards,

_____ _____

DNP Project Preceptor Job Title

_____ _____

Signature Date Signed