

QUALITY IMPROVEMENT ACTIVITIES VS. RESEARCH

SUMMARY

Making the determination about whether a project meets the definition of a quality improvement project or is a human subjects research project is done by following a systematic set of steps. The Federal government has provided sequenced steps (see attached document) for determining what research is and then if it meets the definition of research whether human subjects are involved by definition, thus making it a human subjects research project (and thus necessitating IRB review).

Quality improvement or performance improvement typically does not meet the Federal definition of “research”. While a quality improvement project may be systematic, its boundaries for generalizability are the institution in which the project was implemented. Note that this does not mean that a quality improvement project may not be published in a respective Quality Improvement Journal. A quality improvement project by definition may not be generalized beyond the local boundaries from which it was created.

Seton, like most research institutions, suggests that the individual conducting the project check in advance, with the IRB office to make the correct determinations. This avoids instances of noncompliance, when a project is completed and then incorrectly submitted to the IRB. Note that by regulation, the IRB can only approve projects in advance (or prospectively). Thus, the IRB never grants approval for a project when it has already been completed, whatever the type of study.

Federal Definitions of Human Subjects Research

Any activity that meets either (a) the Department of Health and Human Services (DHHS) definition of both “research” and “human subjects” or (b) the Food and Drug Administration (FDA) definitions of both “clinical investigation” and “human subjects” requires review and approval by the SIRB.

Research: “A systematic investigation designed to develop or contribute to generalizable knowledge” [45CFR 46.102(d)].

Human Subjects (DHHS): “A living individual about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information” [45 CFR 46.102(f)].

- **Intervention:** includes physical procedures such as blood samples, x-rays; or the manipulation of the environment in order to stimulate certain types of behavior.
- **Interaction:** includes interpersonal communication between the investigator and subject through surveys, interviews, administration of educational tests etc.
- **Identifiable:** the identity of the subject is or may readily be ascertained by the investigator with the information obtained as part of the research.
- **Private information:** a context in which an individual can reasonably expect that no observation or recording is taking place or information that is provided for specific purposes by an individual and which the individual can reasonably expect will not be made public.

Clinical Investigation: “Involves use of a test article (i.e., drug, device, food substance or biologic), one or more human subjects, meets requirements for prior submission to FDA, or results are intended to be part of an application for research or marketing permit” [21 CFR 56.102]

Human Subjects (FDA): “An individual who is or becomes a participant in research, either as a recipient of the test article or as a control. A subject may be either a healthy individual or a patient.” [21 CFR 56.102(e)] (Drug, Food, Biologic)

Human Subjects (FDA for medical devices): “A human who participates in an investigation, either as an individual on whom or on whose specimen an investigational device is used or as a control. A subject may be in normal health or may have a medical condition or disease.” [21 CFR 812.3(p)] (Medical Devices) NOTE: This definition includes use of tissue specimens even if they are unidentified.

As defined in the Federal Regulations 45 CFR 46.102(d) and 45 CFR 164.501, research is “a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge. Activities which meet this definition constitute research under Seton policies.

Generalizable knowledge is ordinarily regarded in this context as knowledge that can be applied both to the population being studied and possibly to other populations.

Quality Improvement

Quality improvement has been described as follows by the National Bioethics Advisory Commission in its August 2001 document titled “Ethical and Policy Issues in Research Involving Human Participants” (page 37):

“These activities, generally referred to as program evaluation or quality improvement, are not intended to have any application beyond the specific organization in which they are conducted. As is true in the area of public health, because populations are the subject of study and because the methods used in program evaluation or quality improvement are the same as those used in research, it is often difficult to determine whether an activity is research that falls under the oversight system”.

An example of a quality improvement (QI) activity at Seton would be when an associate assesses current hospital practices, in order to implement a change in the practice, that is hypothesized to lead to an improvement in that practice within Seton.

Such a QI activity *may be* a systematic investigation designed to improve local practice, but it would not meet the federal definition of research if it is designed to develop or contribute to local knowledge. The local presentation of QI data in an effort to generalize - such as may occur during an in-house conference on hospital management strategies - is also not considered research requiring SIRB review if the process of generalizing is restricted to the specific local setting (such as within the several hospitals of Seton).

However, when results from a systematic quality improvement activity are contemplated to have applicability outside of the local setting and planned to presented elsewhere as broadly applicable, whether in published form or not, such as at a regional meeting on hospital management or in an editorial in a medical or hospital management journal, this would meet the federal definition of research as a systematic investigation designed to develop or contribute to generalizable knowledge. If the data to be analyzed and presented outside of the local setting as broadly applicable were to include identifiable private information – information linked to one or more living individuals (for example, patients whose data were included in the QI initiative) – then the research would involve a human subject (45 CFR 46.102(f)), and a protocol must be submitted to the SIRB and approved **before analysis and presentation**.

Examples:

1. The Pediatric Trauma Registry is required by law to include identifiable information in its database. And by law, identifiable trauma information is sent by Seton to DSHS for collection and analysis. These data transfers do not require IRB review, as they are mandated by law and covered under a separate data sharing agreement for mandated public health programs.
2. A staff person at Dell Children’s Hospital wishes to access the Pediatric Trauma Registry and extract personal information from the registry and accompanying patient information from medical records to review (for example) the requirements for “Level 2 Activations” in the Trauma Center in order to examine how efficient and effective the current clinical service system is for determining which children are activated to be released from the hospital vs. admitted to the hospital. Since the purpose of the project is to improve the service at one Hospital and thus is not intended to be generalized

beyond Seton, this project would be classified as a QI project and would not need IRB approval.

3. The same staff person at Dell Children's Hospital wishes to access the Pediatric Trauma Registry, by completing a one-time pull of completely de-identified information from the registry for a project in which the sample will be statistically analyzed and reviewed to determine whether certain apriori hypotheses are supported. The staff person plans on presenting these data, if positive, to a national Trauma conference. Does this project need IRB approval prior to data collection? No. While the project met the definition of research, there were no identifiable data, and thus does not meet the Federal definition of human subjects research. (Not QI, not humans subjects research)
4. However, if this same project, using the same variables had included one patient identifier (e.g., medical record number), in order to link the extracted trauma data to medical record data to check these same hypotheses for analysis and generalization at an external Trauma conference, the project would require IRB approval in advance of the data collection. This holds true because the project is conducting a systematic inquiry with an intent to generalize beyond the boundaries of Seton and because, private information is included in the data collection.
5. Suppose the staff person described in No. 2 above, decides a year later that the Level 2 Activation Project had some additional potential for generalization. Since the project had been classified as QI, it had not been reviewed by an IRB as either exempt, expedited or full board. What should this staff person do?

Call the ORA office and talk to the SIRB staff. The project should now be submitted either as a prospective study under an expedited IRB category, collecting new data using the same hypotheses, or as a retrospective study without patient identifiers (if possible) (exempt IRB category 4) utilizing a new data extraction.

The final determination of whether an activity is research requiring IRB review will be made by the SIRB. To obtain an authoritative determination of whether an activity might meet the definition of research with humans, investigators and other Seton associates must consult with the IRB Chair, or Senior Director of the Office of Research Administration.

A helpful suggestion in interpreting the Federal regulations of 45 CFR 46 is understanding what is meant by the word "exempt". Exempt means the research project involves very little risk, and must fit into one of the six exempt categories defined by DHHS. An institution may decide who reviews "exempt" protocols. At Seton, an IRB member is elected to be the designated reviewer for all exempt protocols. Rules for exempt protocols may be found in the SIRB IRB manual (https://www.seton.net/medical_services_and_programs/clinical_research/irb/). Thus, exempt does not mean complete exemption from review or oversight from human research protection guidelines.

Table 1: Examples of What Does and Does Not Require SETON IRB Review and Approval Prior to Initiation of Research.

ACTIVITIES	DESCRIPTION	SUBMISSION REQUIRED TO IRB
Clinical Research	Involves research to increase scientific understanding about normal or abnormal physiology, disease states or development and to evaluate the safety, effectiveness or usefulness of a medical product, procedure, or intervention. Vaccine trials, medical device research and cancer research are all types of clinical research.	YES
Medical Practice	Standard practice, innovative care, or off-label use of FDA-approved drugs, biologics, devices and other articles or substances that are used in the normal course of medical practice, provided the activity does not involve systematic collection of safety or efficacy data, and is limited to prevention, diagnosis, mitigation, treatment, or cure of disease in affected individuals.	NO
Emergency Use of an Investigational Drug or Device	<p>Institutional Policies do not permit research activities to be started, even in an emergency, without prior IRB acknowledgement.</p> <ol style="list-style-type: none"> 1. This does not limit the physician's ability to deliver emergency care. The physician may deliver such care, but the data derived from such care may not be used in any prospectively conceived research. 2. Emergency care involving investigational drugs, devices or biologics must meet the Food and Drug Administration (FDA) criteria. 	IRB Chair or designee notification
Repositories (e.g., data, specimen, etc.), Pre-Review of Clinical Data Sets	Preliminary activities typically designed to help the Investigator refine data collection procedures. This data is to be included in the publication.	YES
	A storage site of mechanism by which identifiable human tissue, blood, genetic material or data are stored or archived for research by multiple investigators or multiple research projects.	YES
	Activities (e.g., review of medical data, queries, etc.) intended only to assess the feasibility of future research. <i>Note that Seton or other</i>	NO

	<i>"covered entity" might need to obtain researcher certifications for a review preparatory to research for HIPAA compliance purposes.</i>	
Humanitarian Use Device (HUD)	Clinical and investigational use of a HUD device.	YES
Epidemiological Research	Focuses on health outcomes, interventions, disease states and conclusions about cost-effectiveness, efficacy, efficiency, interventions, or delivery of services to affected populations. This research may be conducted through surveillance, monitoring, and reporting programs. Other methods are retrospective review of medical, public health and/or other records.	YES
Research Involving Only Decedents	Research involving only data or tissue obtained from individuals who are deceased prior to the conduct of the research. There must not be any interaction or intervention with living individuals, or collection of private data or specimens associated with living individuals. Under HIPAA regulations, researchers within the Seton or other "covered entity" must obtain a HIPAA waiver of authorization for review of identifiable protected health information (PHI).	NO <i>(contact Privacy Officer for HIPAA requirements)</i>
Standard Diagnostic or Therapeutic Procedures	The collection of data about a series of established and accepted diagnostic or therapeutic procedures, or instructional methods for dissemination or contribution to generalizable knowledge. (See Case Report for exceptions)	YES
	An alteration in patient care or assignment for research purposes.	YES
	A diagnostic procedure added to a standard treatment for the purpose of research.	YES
	An established and accepted diagnostic, therapeutic procedure or instructional method, performed only for the benefit of a patient or student but not for the purposes of research. (See Case Studies)	NO
Case Report - Clinical	Report about three or less clinical experiences or observations identified in the course of clinical care, provided that FDA regulations requiring IRB approval do not apply such as use of: articles (e.g., drugs, devices, and biologics) that have not been approved for use in humans; articles requiring exemption from FDA oversight; articles under an IND/IDE. Case reports are generally done by retrospective review of medical records and highlights a	NO

	unique treatment, case or outcome.	
Case Report - Other	Report about experiences or observations associated with three or less individuals.	NO
Quality Assurance and Quality Improvement Activities - Clinical or Procedures	Systematic, data-guided activities designed to implement promising ways to improve clinical care, patient safety and health care operations. The activity is designed to bring about immediate positive changes in the delivery of health care, programs, or business practices at Seton. There must be no plans to disseminate the knowledge beyond Seton.	NO
Quality Assurance and Quality Improvement Activities - Non-Clinical	Data collected with the limited intent of evaluating and improving existing services and programs or for developing new services or programs at Seton. There must be no plans to disseminate the knowledge beyond Seton. Examples include teaching evaluations or customer service surveys.	NO
Innovative Procedures, Treatment, or Instructional Methods	Systematic investigation of innovations in diagnostic, therapeutic procedure or instructional method in multiple participants [more than three (3)]. The investigation is designed to test a hypothesis, permit conclusions to be drawn, and thereby develop or contribute to generalizable knowledge.	YES
	The use of innovative interventions that are designed solely to enhance the well being of an individual patient or client and have a reasonable expectation of success. The intent of the intervention is to provide diagnosis, preventive treatment, or therapy to the particular individual.	NO <i>(unless FDA regulations requiring IRB approval apply such as use of: articles (e.g., drugs, devices, biologics) that have not been approved for use in humans; articles requiring exemption from FDA oversight; articles under an IND/IDE)</i>
Pilot Studies	Pilot studies involving human subjects are considered human subjects research.	YES
Research Using Publicly Available Data Sets	Use of publicly available data sets that do not include information that can be used to identify individuals. "Publicly available" is defined as information shared without conditions on use. This may include data sets that require payment	NO

	of a fee to gain access to the data.	
Research on Organizations	Information gathering about organizations, including information about operations, budgets, etc. from organizational spokespersons or data sources. Does not include identifiable private information about individual members, employees, or staff of the organization.	NO
Community Service Projects	Donated service or activity that is performed by someone or a group of people solely for the benefit of the public or its institutions.	NO <i>(but if human subjects data are collected during the activity to be used for research protocols, submission is required to the IRB)</i>
Secondary use of research data	Analysis of data gathered for a previous research protocol not related to current proposal and the data are de-identified. De-identified means removal of the 18 identifiers recognized by the HIPAA regulations which can be found under the HIPAA De-identification Certification Form at the following link: http://www.research.Setony.edu/ori/MedicalFullReviewApplication.htm#HIPAA	NO <i>(but if data has direct or indirect identifiers, submission is required to the IRB)</i>
Behavioral and Social Sciences Research	Focuses on individual and group behavior, mental processes, or social constructs and usually generates data by means of surveys, interviews, observations, studies of existing records, and experimental designs involving exposure to some type of stimulus or environmental intervention.	YES
Student Practicum and Internship (Professional schools within SETON which actively seek opportunities for their students to become involved in "real world" activities or work assignments that will introduce them to and, in some cases, provide practical experiences in their chosen profession)	A practicum/internship that falls within the work scope of a local, state, or federal agency (e.g. Public Health Agency) or employment by private industry involving data collection for non-research purposes. No <i>a priori</i> research design or intent.	NO <i>(but professional standards apply)</i>
	Use of or access to human subjects data previously collected for non-research purposes (perhaps through a circumstance like the one above) in a systematic investigation designed to contribute to generalizable knowledge, one indicator of which is publication.	YES
	Independent research project not falling within the scope of a previously approved project.	YES
	Participation with or providing services to a SETON PI conducting IRB-approved research. No work outside the scope of the IRB approval.	YES <i>(Modification to protocol to add</i>

		<i>student if providing research assistance at level of study personnel)</i>
Classroom Assignments/ Research Methods Classes	Activities designed for educational purposes that teach research methods or demonstrate course concepts. The activities are not intended to create new knowledge or contribute to generalizable knowledge (e.g. published or disseminated at a capstone or conference).	NO (but instructors have an obligation to ensure students meet professional and ethical standards)
Internet Research	Research involving online interactions with human subjects where identifiers are known or can be ascertained such as email addresses, certain websites and bulletin boards. Also includes data collected where an individual cannot be directly identified and data are collected through intervention or interaction with research subjects	YES
	Research involving online interactions with/data collection from human subject internet community members that may expect a level of privacy and confidentiality such as vulnerable populations (HIV patients, alcoholics anonymous, sexual abuse survivors etc.). Also includes data collected where an individual cannot be directly identified and data are collected through intervention or interaction with research subjects.	YES

- Excerpted from The University of Michigan IRB website

The following information is guidance from the Office of Human Research Protections, the Federal office that provides compliance for 45 CFR 46. It is provided as additional information to the researcher as they develop their research project and make determinations about whether their project is a QI project or a research project that requires IRB review. The ORA office houses the Seton IRB and is available to answer such questions at all times, particularly through the electronic IRB TOPAZ submission system.

Quality Improvement Activities - FAQs:

[How does HHS view quality improvement activities in relation to the regulations for human research subject protections?](#)

Protecting human subjects during research activities is critical and has been at the forefront of HHS activities for decades. In addition, HHS is committed to taking every appropriate opportunity to measure and improve the quality of care for patients. These two important goals typically do not intersect, since most quality improvement efforts are not research subject to the HHS protection of human subjects regulations. However, in some cases quality improvement activities are designed to accomplish a research purpose as well as the purpose of improving the quality of care, and in these cases the regulations for the protection of subjects in research (45 CFR part 46) may apply.

To determine whether these regulations apply to a particular quality improvement activity, the following questions should be addressed in order:

- (1) does the activity involve *research*([45 CFR 46.102\(d\)](#));
- (2) does the research activity involve human subjects ([45 CFR 46.102\(f\)](#));
- (3) does the human subjects research qualify for an exemption ([45 CFR 46.101\(b\)](#)); and
- (4) is the non-exempt human subjects research conducted or supported by HHS or otherwise covered by an applicable FWA approved by OHRP.

For those quality improvement activities that are subject to these regulations, the regulations provide great flexibility in how the regulated community can comply. Other laws or regulations may apply to quality improvement activities independent of whether the HHS regulations for the protection of human subjects in research apply.

[Do the HHS regulations for the protection of human subjects in research \(45 CFR part 46\) apply to quality improvement activities conducted by one or more institutions whose purposes are limited to: \(a\) implementing a practice to improve the quality of patient care, and \(b\) collecting patient or provider data regarding the implementation of the practice for clinical, practical, or administrative purposes?](#)

No, such activities do not satisfy the definition of “research” under [45 CFR 46.102\(d\)](#), which is “...a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge...” Therefore the HHS regulations for the protection of human subjects do not apply to such quality improvement activities, and there is

no requirement under these regulations for such activities to undergo review by an IRB, or for these activities to be conducted with provider or patient informed consent.

Examples of implementing a practice and collecting patient or provider data for non-research clinical or administrative purposes include:

- A radiology clinic uses a database to help monitor and forecast radiation dosimetry. This practice has been demonstrated to reduce over-exposure incidents in patients having multiple procedures. Patient data are collected from medical records and entered into the database. The database is later analyzed to determine if over-exposures have decreased as expected.
- A group of affiliated hospitals implements a procedure known to reduce pharmacy prescription error rates, and collects prescription information from medical charts to assess adherence to the procedure and determine whether medication error rates have decreased as expected.
- A clinic increasingly utilized by geriatric patients implements a widely accepted capacity assessment as part of routine standard of care in order to identify patients requiring special services and staff expertise. The clinic expects to audit patient charts in order to see if the assessments are performed with appropriate patients, and will implement additional in-service training of clinic staff regarding the use of the capacity assessment in geriatric patients if it finds that the assessments are not being administered routinely.

[Do quality improvement activities fall under the HHS regulations for the protection of human subjects in research \(45 CFR part 46\) if their purposes are limited to: \(a\) delivering healthcare, and \(b\) measuring and reporting provider performance data for clinical, practical, or administrative uses?](#)

No, such quality improvement activities do not satisfy the definition of “research” under 45 CFR 46.102(d), which is “...a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge...” Therefore the HHS regulations for the protection of human subjects do not apply to such quality improvement activities, and there is no requirement under these regulations for such activities to undergo review by an IRB, or for these activities to be conducted with provider or patient informed consent.

The clinical, practical, or administrative uses for such performance measurements and reporting could include, for example, helping the public make more informed choices regarding health care providers by communicating data regarding physician-specific surgical recovery data or infection rates. Other practical or administrative uses of such data might be to enable insurance companies or health maintenance organizations to make higher performing sites preferred providers, or to allow other third parties to create incentives rewarding better performance.

[Can I analyze data that are not individually identifiable, such as medication databases stripped of individual patient identifiers, for research purposes **without** having to apply the HHS protection of human subjects regulations?](#)

Yes, whether or not these activities are research, they do not involve “human subjects.” The regulation defines a “human subject” as “a living individual about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual, or (2) identifiable private information....Private information must be individually identifiable (i.e., the identity of the subject is or may readily be ascertained by the investigator or associated with the information) in order for obtaining the information to constitute research involving human subjects.” Thus, if the research project includes the analysis of data for which the investigators cannot readily ascertain the identity of the subjects and the investigators did not obtain the data through an interaction or intervention with living individuals for the purposes of the research, the analyses do not involve human subjects and do not have to comply with the HHS protection of human subjects regulations.

(See *OHRP Guidance on Research Involving Coded Private Information or Biological Specimens*, October 2008; available at <http://www.hhs.gov/ohrp/policy/cdebiol.pdf>.)

[Are there types of quality improvement efforts that are considered to be research that are subject to HHS human subjects regulations?](#)

Yes, in certain cases, a quality improvement project may constitute non-exempt human subjects research conducted or supported by HHS or otherwise covered by an applicable FWA. For example, if a project involves introducing an untested clinical intervention for purposes which include not only improving the quality of care but also collecting information about patient outcomes for the purpose of establishing scientific evidence to determine how well the intervention achieves its intended results, that quality improvement project may also constitute nonexempt human subjects research under the HHS regulations.

[If I plan to carry out a quality improvement project and publish the results, does the intent to publish make my quality improvement project fit the regulatory definition of research?](#)

No, the intent to publish is an insufficient criterion for determining whether a quality improvement activity involves research. The regulatory definition under 45 CFR 46.102(d) is “*Research* means a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.” Planning to publish an account of a quality improvement project does not necessarily mean that the project fits the definition of research; people seek to publish descriptions of nonresearch activities for a variety of reasons, if they believe others may be interested in learning about those activities. Conversely, a quality improvement project may involve research even if there is no intent to publish the results.

[Does a quality improvement project that involves research need to be reviewed by an IRB?](#)

Yes, in some cases. IRB review is needed if the research involves human subjects, is not exempt, and is conducted or supported by HHS or otherwise covered by an applicable FWA.

See exempt categories at:

<http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html#46.101>.

[Does IRB review of a quality improvement project that is also non-exempt human subjects research always need to be carried out at a convened IRB meeting?](#)

No, if the human subjects research activity involves no more than minimal risk and fits one or more of the categories of research eligible for expedited review, the IRB chair or another member designated by the IRB chair may conduct the review.

The categories of research eligible for expedited review are available at:
<http://www.hhs.gov/ohrp/policy/expedited98.html>.

[If a quality improvement project involves non-exempt research with human subjects, do I always need to obtain informed consent from all subjects \(patients and/or providers\) involved in the research?](#)

No, the HHS regulations protecting human subjects allow an IRB to waive the requirements for obtaining informed consent of the subjects of the research when

- (a) the risk to the subjects is minimal,
- (b) subjects' rights and welfare will not be adversely affected by the waiver,
- (c) conducting the research without the waiver is not practicable, and
- (d) if appropriate, subjects are provided with additional pertinent information after their participation ([45 CFR 46.116\(d\)](#)).

Other applicable regulations or laws may require the informed consent of individuals in such projects independent of the HHS regulations for the protection of human subjects in research.

[If a quality improvement project is human subjects research requiring IRB review, do I need to obtain separate IRB approval from every institution engaged in the project?](#)

No, not if certain conditions are met. The HHS protection of human subjects regulations allow one IRB to review and approve research that will be conducted at multiple institutions. An institution has the option of relying upon IRB review from another institution by designating that IRB on its FWA and submitting the revised FWA to OHRP, and having an IRB Authorization Agreement with the other institution.

See <http://www.hhs.gov/ohrp/assurances/> for information on FWAs and IRB Authorization Agreements.

<http://answers.hhs.gov/ohrp/categories/1569>