Investigational New Drugs and Biologics

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Regulatory Overview

All clinical research projects involving drugs or biologics which are not FDA-approved for marketing must be reviewed by the FDA. This is done by filing an Investigational New Drug Application (IND) with the Food and Drug Administration (FDA).

FDA regulations 21 CFR 312 [1] (drugs) and 601 [2] (biologics) contain procedures and requirements governing the use of investigational new drugs and biologics. The IND Submissions section of the UCSF CTSI HUB [3] provides additional info on this topic. Also review the Investigational New Drug (IND) Application [4] section of the FDA website, as well as the definitions for ?drug? and ?biologics [5].?
FDA Regulatory Support at UCSF provides free consultations to the UCSF community on compliance with FDA regulations, including IND applications.

Note: All clinical investigations of drugs or biologics, whether or not approved for marketing by the FDA, require IRB review and approval.

When Is an IND Required?

An IND is required for:

- Studies involving a drug or biologic that is not approved for marketing (i.e., not commercially available) by the FDA.
- Studies involving an approved (i.e., commercially available) drug or biologic that is being tested to support a new indication or significant change in labeling of the drug or biologic.
- Studies involving an approved drug or biologic that is being tested to support a significant change in advertising for the drug or biologic.
- Studies involving an approved drug or biologic that is being used or tested in a new route of administration, new dosage level, or new patient population that may increase the risks (or decrease the acceptability of the risks) of the drug or biologic.
- Any use of a drug or biologic not approved for marketing by the FDA, even if no study is being conducted. For examples of these uses see expanded access? and ?treatment INDs? below.

Note: Any use of an IND requires IRB approval, except in the rare care of an Emergency Use IND as described below.

When Is an IND Not Required?

Please review the IND Decision Worksheet on the UCSF HUB for a complete list of all types of investigations involving drugs and biologics that are exempt from FDA IND requirements according to FDA regulations 21 CFR 312.2.

The following are examples of the use of drugs or biologics that are exempt from FDA IND requirements:

1. Clinical investigations of a drug or biologic that is lawfully marketed in the United States if all the following criteria apply:

- The investigation is not intended to be reported to FDA in support of a new indication for use nor intended to be used to support any other significant change in the labeling for the drug; and
- If the drug that is undergoing investigation is lawfully marketed as a prescription drug product, the investigation is not intended to support a significant change in the advertising for the product; and
- The investigation does not involve a route of administration or dosage level or use in a patient population or other factor that significantly increases the risks (or decreases the acceptability of the risks) associated with the use of the drug product; and
- The investigation is conducted in compliance with the requirements for IRB set forth
in part 56 and informed consent set forth in part 50; and

- The investigation is conducted in compliance with the requirements concerning the promotion and sale of drugs (21 CFR 312.7).

**Important Note:** Even when there is no immediate intent to change product labeling or advertising, investigators who are planning rigorous, carefully controlled clinical investigations of an off-label uses of approved drugs or biologics should obtain an IND for the study. The IRB has serious concerns about conducting such studies without an IND because the data, even if positive and important for public health, will not be considered by the FDA.

**Note:** Any clinical investigation of a marketed drug or biologic requires IRB review and approval.

2. A clinical investigation involving blood grouping serum, reagent red blood cells, or anti-human globulin if the following conditions apply:

- It is intended to be used in a diagnostic procedure that confirms the diagnosis made by another, medically established, diagnostic product or procedure, and
- It is shipped in compliance with 21 CFR 312.160.

3. A clinical investigation involving use of a placebo is exempt from IND requirements if the investigation does not otherwise require submission of an IND.

4. A drug intended solely for tests in vitro or in laboratory research animals is exempt from IND requirements if shipped in accordance with 21 CFR 312.160.

5. Off-label prescriptions

Neither an IND nor UCSF IRB review is required for an off-label use of a marketed drug (approved under part 21 CFR 314) or a licensed biologic as long as such is strictly for clinical purposes, and the results are not collected for or presented as research.

Examples of when an IND may or may not be needed

**Example of when an IND may not be needed:** An investigator proposes a small pilot study of an approved drug for a novel use and states that an IND is not needed because the data will not be submitted to the FDA. The investigator explains that if the pilot data looks promising a larger trial will be submitted with an IND. The IRB is likely to approve the pilot study without an IND because a small pilot study is an appropriate first step in determining whether a change in labeling should be sought.

**Example of when an IND is needed:** An investigator proposes a multi-center randomized trial of an approved drug for a novel use and states that an IND is not needed because the data will not be submitted to the FDA. The IRB is not likely to approve the study without an IND because the data could be important and should be considered by the FDA.

**Types of IND Applications**
The FDA makes the following distinction between a sponsor and a sponsor-investigator and a commercial IND and an investigator-initiated IND.

**Sponsor**

"Sponsor" means a person who takes responsibility for and initiates a clinical investigation. The sponsor may be an individual or pharmaceutical company, governmental agency, academic institution, private organization, or other organization. The sponsor does not actually conduct the investigation unless the sponsor is a sponsor-investigator. A person other than an individual that uses one or more of its own employees to conduct an investigation that it has initiated is a sponsor, not a sponsor-investigator, and the employees are investigators.

A **commercial IND** is submitted by a sponsor that intends to market the product upon FDA approval.

**Investigator-Sponsor**

**Investigator-Sponsor** means an individual who both initiates and conducts an investigation, and under whose immediate direction the investigational drug is administered or dispensed. The term does not include any person other than an individual. The requirements applicable to a sponsor-investigator under this part include both those applicable to an investigator and a sponsor.

An **investigator-initiated IND** is submitted by an investigator (physician or PhD or PharmD) who both initiates and conducts an investigation.

**Emergency use**

An **emergency use IND** is issued by the FDA to allow the use of an experimental drug or biologic for the treatment of one patient when there are no other reasonable treatment options and there is not time for submission and review of a regular IND or for IRB review. Research may not be conducted under an emergency use IND. An emergency use IND exemption may be used one time only for a particular drug or biologic at a particular institution. Subsequent uses require prior IRB review and approval.

For more information, please review the UCSF IRB guidelines on the Emergency Use and Compassionate Use of Experimental Drugs and Devices [8].

**Expanded Access to Unapproved Drugs for Treatment**

FDA allows certain individuals not enrolled in clinical trials to obtain expanded access to investigational drugs, agents, or biologics through the methods described below, under the following circumstances:

- Patient's have **a serious or immediately life-threatening disease or condition**, and there is no comparable or satisfactory alternative therapy to diagnose, monitor or treat
the disease or condition;

- Potential **patient benefit justifies the potential risks of the treatment** use and those potential risks are not unreasonable in the context of the disease or condition to be treated; and

- Providing the investigational drug for the requested **use will not interfere with clinical investigations that could support marketing approval** of the expanded access use or otherwise compromise the potential development of the expanded access use.


**Important Notes:**

- All expanded access programs use must meet the basic criteria in 21 CFR 312.305(a) [10].

- Prior approval from the FDA is required. The submission may be a new IND or a protocol amendment to an existing IND.

- Use of investigational drugs or biologics through expanded access programs requires prior review and approval by the IRB before the treatment can begin.

**NEW in October 2017:** In some cases, an IRB Chairperson can concur with individual patient expanded access treatment via an expedited review [11] procedure. A physician submitting an individual patient expanded access IND using Form FDA 3926 may select the appropriate box on that form to request a waiver of full IRB review. FDA concludes that such a waiver is appropriate for individual patient expanded access INDs when the physician obtains concurrence by the IRB Chairperson or another designated IRB member before treatment use begins. A physician submitting an individual patient expanded access IND using Form FDA 1571 may include a separate waiver request with the application. Review the FDA guidance document [12] for more information.

Please note: If the IRB Chairperson has concerns about the treatment, he/she reserves the right to refer the expanded access application to the IRB Committee for review at a convened meeting.

- Expanded access programs are not considered "research" but rather "treatment." Individuals enrolled in these programs should be referred to as ?patients? and not ?subjects.?

- Investigators often use ?Compassionate Use? when referring to one of the expanded access programs listed below. ?Expanded Use? and ?Treatment Use? are often used interchangeably.

**Various Expanded Access Programs**

**Individual patient**

This type of expanded access to an investigational drug is generally limited to a single course of therapy in a single patient for a specified duration unless FDA authorizes multiple courses or chronic therapy. The FDA must determine that the patient cannot obtain the drug under another IND or protocol.
Emergency Use for a single patient is mentioned above in “Types of INDs” and in detail at UCSF IRB Guidelines on the Emergency Use and Compassionate Use of Experimental Drugs and Devices [8].

Intermediate-size patient populations

This type of expanded access to an investigational drug is for use by more than one patient, but generally fewer patients than are treated under a typical treatment IND or protocol submitted under a new IND. The FDA must determine that there is at least preliminary clinical evidence of effectiveness of the drug, or of a plausible pharmacologic effect of the drug to make the expanded access use a reasonable therapeutic option in the anticipated patient populations.

Treatment IND or treatment protocol [13]

This type of expanded use of an investigational drug outside of a controlled clinical trial is intended for widespread treatment use. The FDA must determine that: (a) The drug is being investigated in a controlled clinical trial under an IND designed to support a marketing application for the expanded access use or that all clinical trials of the drug have been completed. (b) The sponsor is actively pursuing marketing approval of the drug. (c) There is sufficient clinical evidence of safety and effectiveness to support the expanded access use.

The following are some specific types of treatment protocols:

Open-label protocol

A study designed to obtain additional safety data, typically done when the controlled trial has ended and treatment continues. The purpose of such a study is to allow subjects to continue to receive the benefits of the investigational drug, agent, or biologic until marketing approval is obtained.

Parallel track

A method approved by the FDA that expands the availability of investigational drugs, agents, or biologics as quickly as possible to persons with AIDS and other HIV-related diseases. These drugs, agents or biologics are utilized in separate protocols that parallel the controlled clinical trials and are essential to establish the safety and effectiveness of these new drugs, agents, or biologics.

Group C treatment IND

The "Group C" treatment IND was established by agreement between the FDA and the National Cancer Institute (NCI). The Group C program is a means for the distribution of investigational agents to oncologists for the treatment of cancer under protocols outside of a controlled clinical investigation.

Timing of IND Applications

Pre-IND Advice: Investigators considering submitting an IND application to the FDA may request a meeting with the FDA Pre-IND Consultation Program [14] before submitting an IND
application. If you think a pre-IND meeting is warranted, please contact the HUB for assistance. The IND Submissions section of the HUB also provides information, templates and resources to guide you through the IND process.

**The IND Submission:** The IND submission to the FDA and the IRB application should be initiated at the same time. The FDA has 30 days to review the IND application. Likewise, the IRB typically reviews an application within a 30-day window, but it may take longer to secure approval. Because subjects may not be recruited or enrolled before both FDA and IRB approval have been granted, consider both timelines when planning the study.

**IRB Application and Consent Form Requirements**

Include the following information in your IRB submission. Note: Do not submit FDA Form 1572 to the IRB; it is used for FDA and sponsor purposes only.

**IND number verification**

The IND number can be verified either by the IND number being identified in the associated sponsor protocol or by a letter from the FDA attached to the protocol confirming than an IND number has been obtained. The IRB will not issue final approval until the IND number is reported to and verified by the IRB. However, the FDA will review an IND application without IRB approval.

**Investigator’s brochure**

For any study involving an investigational drug or biologic, the Investigator’s Brochure must be attached to the initial review.

**Protocol**

If there is a sponsor’s or multicenter protocol, attach it to the initial submission.

**Consent form requirements**

**Purpose and Background Section:**

- Must include a clear statement that the drug or biologic is investigational and has not been approved or, if studying an approved drug or biologic, that it is approved but not for the use being studied.
- Should include a brief lay description of what the drug or biologic is and how it is thought to act.
- Must not state or imply that the issuance of an IND is an approval or endorsement by the FDA.

**Confidentiality Section:**

Must state that the FDA may review subjects’ medical records and research records which identify the subjects.

**Alternatives Section:**
If studying an approved drug or biologic, must explain that subjects can receive drug or biologic without participating in the study. An exception to this may be granted if the off-label prescription of the drug or biologic is unrealistic or unsafe outside of a carefully controlled clinical study.

**Costs Section:**

Must state how the costs of the study drug or biologic, as well as the administration of the product will be covered.

**Control of Investigational Drugs and Biologics**

Local dispensing policies and regulations

Hospitals or other clinical settings have their own policies regarding the use of investigational drugs and biologics in order to assure patient safety and comply with JCAHO standards, California law and California Department of Health Services regulations. Investigators conducting research in clinical settings other than those listed below should consult those local policies and the personnel charged with compliance with those policies. Consultation should take place before preparing the budget for the clinical study.

The UCSF Investigational Drugs Services [17] page has info on the policies and procedures at UCSF (MyAccess login required).

Investigational drug pharmacists at UCSF, ZSFG and SF VAMC

- UCSF Parnassus, Mt. Zion and Mission Bay campuses: Visit the UCSF Investigational Drugs Services [18] page for current contact info based on your study site and subject population.
- San Francisco VAMC: Henry Leung, PharmD, 415-221-4810 Ext 2925

Investigator responsibilities for control of investigational drugs/biologics

Investigators conducting studies in which an investigational drugs/biologics will be used must ensure adequate control of the drug or biologic. Adequate control and handling of investigational drug/biologic include all of the following:

- Ensuring that the investigational drug/biologic is used only in accordance with the IRB-approved protocol.
- Administering the investigational drug/biologic only to participants under the investigator?s direct personal supervision or under the supervision of a sub-investigator directly responsible to the investigator.
- Supplying the investigational drug/biologic to any person not authorized to receive it.
- Maintaining adequate records of the disposition of the investigational drug/biologic, including dates of dispensing, quantity currently maintained for dispensing, and amount of the investigational product dispensed to participants.
- Returning any unused supplies of the investigational drug/biologic to the study sponsor, or otherwise provide for disposition of the unused supplies as directed by the sponsor if the investigation is terminated, suspended, discontinued or completed.
- If the investigational drug is subject to the Controlled Substances Act, taking adequate precautions, to prevent theft or diversion of the substance into illegal channels of distribution. These precautions include: storage of the investigational drug in a securely locked, substantially constructed cabinet, or other securely locked, substantially constructed enclosure to which access is limited.

The IRB has a sample Investigational Agent Accountability Record [21] available.

**Reporting Requirements**

All investigators must report certain adverse events directly to the IRB within certain specified time frames [22]. When an IND is issued, there are additional federal requirements for reporting AEs to the FDA. When the study sponsor holds the IND, investigators need to report all AEs to the sponsor and the sponsor will submit appropriate reports to the FDA. Investigators who hold an IND (investigator-initiated/investigator-sponsor IND) have responsibilities for reporting AEs to the FDA, as described below.

Please see UCSF IRB Adverse Event or Safety Information [23] for information about what, when and how to report. You can also review the IND Submissions for Sponsor-Investigators [3] information on the UCSF CTSI HUB.

**Note:** When the study is conducted at the SFVAMC [24], additional reporting obligations must be met by the researcher, as described on the Research at the SFVAMC [25] page.

When study sponsor holds the IND

- Investigators need to report all adverse events to the sponsor and the sponsor will submit appropriate reports to the FDA (see timeframe below).
- Investigators need to understand and comply with the similar but separate reporting requirements for UCSF investigators as described in the UCSF Reporting Requirements Chart [26].
- Investigators need to determine if their department or unit has any additional reporting requirements.

When the investigator holds the IND for a specific study protocol (in the case of investigator-initiated/investigator-sponsor INDs)

- The investigator has responsibilities for reporting adverse events to the FDA (see timeframe below).
- Investigators need to understand and comply with the similar but separate reporting requirements for UCSF investigators as described in the UCSF Reporting Requirements Chart
Investigators need to determine if their department or unit has any additional reporting requirements.

Investigator-sponsor responsibilities reporting obligation time frames

In addition to reporting to the IRB, an investigator-sponsor must directly report the following AE information to the FDA within the following time frames, which are slightly different than those required for IRB reporting:

- Within 7 calendar days after the study sponsor’s initial receipt of the information. The sponsor should notify the FDA by telephone or by facsimile transmission of any unexpected fatal or life-threatening experience associated with the use of the drug.
- Within 15 calendar days after the sponsor’s initial receipt of the information. The sponsor should notify the FDA and all participating investigators in a written IND safety report of: (A) Any adverse experience associated with the use of the drug that is both serious and unexpected; or (B) Any finding from tests in laboratory animals that suggests a significant risk for human subjects including reports of mutagenicity, teratogenicity, or carcinogenicity.
- Additionally, an investigator-sponsor is responsible for reporting safety information to the FDA:

  The sponsor shall promptly review all information relevant to the safety of the drug obtained or otherwise received by the sponsor from any source, foreign or domestic, including information derived from any clinical or epidemiological investigations, animal investigations, commercial marketing experience, reports in the scientific literature, and unpublished scientific papers, as well as reports from foreign regulatory authorities that have not already been previously reported to the agency by the sponsor? (21 CFR 321.32(b)).

Additional Reporting Obligations for Investigators-Sponsors

When an investigator files an IND, the investigator is considered the sponsor and as such carries all of the FDA regulatory responsibilities and reporting obligations of both the investigator and sponsor as outlined below described in the FDA regulations 21 CFR 312 [1] (drugs) and 601 [2] (biologics). Please refer to the regulations for complete information.

Obligations of investigators for reporting to the sponsor (21 CFR 312)
• Drug disposition
• Case histories
• Progress reports
• Safety reports
• Final report
• Financial disclosure report
• Specific record keeping and record retention

Obligations of sponsors and investigator-sponsors for reporting to FDA under an IND (21 CFR 312)

• Protocol amendments
• Information amendments
• IND Safety Reports
• Annual Reports
• Withdrawal of an IND
• Specific record keeping and record retention

Resources

UCSF Resources

• FDA Regulatory Support at UCSF [6]
• The HUB: Investigational New Drug (IND) Submissions for Sponsor-Investigators [16]
• UCSF CTSI Decision Worksheet [7]
• RKS: Regulatory Knowledge and Support Service [27]?The RKS, part of the UCSF Clinical and Translational Science Institute, is available to help researchers understand and meet the many regulatory and compliance requirements in the pre-award and post-award process. The RKS Program includes the Diagnostics and Therapeutics Regulatory Consulting Service (DTRCS), which is available to provide advice and guidance to investigators planning submissions to the FDA.

FDA Resources

• FDA Center for Drug Evaluation and Research [28]
  ○ Information For Sponsor-Investigators Submitting INDs [29]
  ○ Pre-IND Consultation Program [14]
  ○ Forms [31]
• FDA Guidance for Institutional Review Boards and Clinical Investigators: Drugs and Biologics [32]
• FDA Safety Reporting Requirements for INDs and BA/BE Studies [33]
• Guidance for Industry and FDA Staff: FDA Acceptance of Foreign Clinical Studies Not Conducted Under an IND: FAQs [34]
• Applicable Regulations
○ 21 CFR 11: Electronic Records; Electronic Signatures [35]
○ 21 CFR 312: Investigational New Drug Application [36]
○ 21 CFR 314: Applications for FDA Approval to Market a New Drug [37]
○ 21 CFR 320: Bioavailability and Bioequivalence Requirements [38]
○ 21 CFR 330: Over-The-Counter Human Drugs Which Are Generally Recognized As Safe And Effective And Not Misbranded [39]
○ 21 CFR 601: Biologics Licensing [40]

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