16 TRAINING FOR SITE KEY PERSONNEL AND OTHER SITE AND LABORATORY STAFF

The IMPAACT Network is committed to developing qualified, trained staff to conduct IMPAACT studies. For each IMPAACT study, the site Investigator of Record (IoR) is responsible for ensuring that study site staff are appropriately qualified and trained to carry out their delegated duties and that all training is adequately documented; Clinical Trial Unit (CTU) Principal Investigators and Clinical Research Site (CRS) Leaders are responsible for ensuring that IoRs fulfill this responsibility. Per the DAIDS policy on Requirements for Manual of Operational Procedures, all sites must establish and follow standard operating procedures (SOPs) for personnel training and certification documentation; IoRs must maintain adequate training documentation and make training documentation available to NIAID or NICHD Program Officers and to site monitors, inspectors, and/or auditors acting on behalf of study sponsors, regulatory authorities, site IRBs/ECs, and other applicable review bodies.

Key personnel (key site staff) are defined in the Glossary of DAIDS Clinical Research Terms as individuals who are involved in the design and conduct of NIH funded human subjects' clinical research. This includes all individuals named on the Form FDA 1572 or Division of AIDS (DAIDS) Investigator of Record (IoR) Form and any clinical research site personnel who have more than minimal involvement with the conduct of the research (performing study evaluations or procedures or providing intervention) or more than minimal study conduct-related contact with study participants or confidential study data record, or specimens. Key personnel must complete Human Subjects Protection (HSP) training (Section 16.1) as well as Good Clinical Practice (GCP) training (Section 16.2).

Further training requirements related to laboratory specifications are presented in Section 16.3; related to data management specifications are presented in Section 16.4; and related to research ethics training for community representatives are presented in Section 16.5.

IMPAACT requires study-specific site training prior to study initiation (Section 16.6).

IMPAACT sites are expected also to provide training for new staff and continuing training for current staff. Sites are required to maintain up-to-date and accurate training records of all required network and study-required trainings. The DAIDS policy on Requirements for Human Subjects Protections (HSP) and

Good Clinical Practice (GCP) Training for Clinical Research Site Personnel gives further detail. DAIDS provides multiple training options to meet such requirements.

An overview of mandated training is found in Table 16-1 with further details in the following sections.

Table 16-1. IMPAACT Training Requirements

Training	Required Personnel	Timing/Frequency	Sources for Training

Human Subjects Protection (HSP)	All key personnel	Prior to awards being made for clinical research and every three years thereafter (for new staff, within 90 days of assignment and prior to functioning without direct supervision)	• DAIDS-sponsored HSP training sessions
			• Online training courses provided by:
			  − HIV/AIDS Network Coordination (HANC)
			  − FHI 360 Research Ethics Training curriculum
			  − NIH GCP learning center
			  − CITI Program
			  − Association of Clinical Research Professionals
			• Online university-based training modules
			• Commercial training programs

Good Clinical Practice (GCP)	All key personnel	Prior to awards being made for clinical research and every three years thereafter (for new staff, within 90 days of assignment and prior to functioning without direct supervision)	• DAIDS-sponsored GCP training sessions
			• Online training course provided by:
			  − NIH GCP learning center
			  − CITI Program
			• Online university-based training modules
			• Commercial training programs

International Air Transportation Association (IATA) training	All staff who transport, ship, or receive infectious substances and diagnostic specimens	Prior to handling infectious substances and specimens as part of an IMPAACT study (certification of staff members required for study activation at the site); regulations reviewed annually and certification every two years thereafter	• Resources listed in Section 16.3.2
Laboratory Data Management System (LDMS) training	IMPAACT laboratory staff	At time of installation of LDMS and as needed	• Frontier Science Foundation (FSTRF) training at network meetings and regional meetings, onsite, online, or at FSTRF

Table 16-1. IMPAACT Training Requirements

Training	Required Personnel	Timing/Frequency	Sources for Training
Good Clinical Laboratory Practice (GCLP)	Laboratory Director, Laboratory Manager/ Supervisor and/or quality assurance/quality control (QA/QC) technologists	Prior to involvement in an IMPAACT study and then as needed	• GCLP courses provided by the DAIDS contractor (at annual and/or regional meetings) or online • Courses available from private training companies NOTE: these may not cover the appropriate DAIDS related regulations
Study-specific training	All site staff involved in the study	Prior to initiation of study (for new staff, prior to performing study-specific tasks/duties without direct supervision)	• Protocol clinical trials specialist (CTS), data manager, Laboratory Center (LC) representative, and other protocol team members, as applicable and as described in Section 16.6 • IoR or designee for new staff

16.1   Human Subjects Protection (HSP) Training

All key personnel must receive HSP training prior to awards being made for clinical research and every three years thereafter. New key personnel must receive HSP training within 90 days of any assignment involving the conduct of IMPAACT clinical research and prior to functioning without direct supervision.

Training of all IMPAACT site staff is encouraged. Sources and options for HSP training are included in Table 16-1, above. Additional information related to human subjects protection and relevant training is provided in Section 8.

16.2   Good Clinical Practice Training

All key personnel must receive GCP training meeting International Conference on Harmonisation (ICH) E6 standards prior to study initiation and every three years thereafter. New key personnel must receive GCP training within 90 days of any assignment involving the conduct of IMPAACT clinical research and prior to functioning without direct supervision.

Training of all IMPAACT site study staff is encouraged. Sources and options for HSP training are included in Table 16-1, above.

16.3   Laboratory Related Training

To ensure quality research and safeguard study participants, DAIDS requires that all IMPAACT studies be conducted in accordance with GCLP. The LC also requires that key laboratory personnel receive GCLP training prior to involvement in an IMPAACT study. Training of all IMPAACT key laboratory staff is facilitated through the provision of regional GCLP training as well as through an online training program. Refer to Section 17 for further details on IMPAACT Network Laboratory requirements.

All IMPAACT studies rely heavily on the capacity of IMPAACT laboratories to handle, process, and ship participant specimens. The work of qualified and trained laboratory staff at the research sites is essential.

The IMPAACT Network requires the training described in the remainder of this section for laboratory personnel.

16.3.1   Laboratory Data Management System

The LDMS is the laboratory software installed at each of the sites to assist with specimen management, storage, and shipping. LDMS training is provided by FSTRF when the site is provided access. If travel is required, this is a site expense.

Opportunities for refresher training are provided. At the request of the LC, FSTRF may provide refresher training on the LDMS at annual meetings, regional meetings, protocol-specific trainings, or through web-based trainings. FSTRF may also provide refresher training at the regional DAIDS training sessions. The LC staff members are typically available at these training sessions to provide information related to IMPAACT and also to answer questions from site representatives. Site representatives are expected to share the information learned with other site staff. FSTRF also hosts trainings at their headquarters in Amherst, New York, at regular, published intervals.

As part of study monitoring and oversight, the protocol team and network leadership routinely review specimen testing and availability as well as data quality and completeness; if any issues or concerns are identified during these reviews, additional training or other corrective actions may be required (see Section 13).

Sites, at their expense, may also request additional training if needed, for example, when new laboratory personnel are hired.

16.3.2   International Air Transport Association (IATA)

IATA regulates the safe transportation of dangerous goods by air in accordance with the legal requirements of the International Civil Aviation Organization (see Section 17 for further details). IMPAACT, in accordance with IATA requirements, requires training and certification for all IMPAACT laboratory staff involved with the handling, transporting (by air and ground), and receiving and shipping of infectious substances and diagnostic samples. Certification of all site staff members, who transport and/or ship dangerous goods, is required prior to study activation at a site.

Site personnel should review the IATA regulations annually as well as complete required training in hazardous materials (HAZMAT) regulations as they pertain to IATA shipping regulations.

Each site is responsible for training the pertinent staff members on IATA shipping regulations and is required to have a current IATA manual onsite. Sites are required to provide documentation of IATA certification of personnel upon request by the LC or a DAIDS contractor. The site's Primary Network Laboratory (PNL) is responsible for assuring that the laboratory has a current IATA Dangerous Goods Manual and appropriate training materials. See Section 17 for a complete listing of additional laboratory-specific training resources.

16.3.3   Biohazard and Containment Training

Clinical and laboratory personnel are expected to complete annual clinical safety training including training on blood borne pathogens and infection control. It is the responsibility of the site to provide the training to all clinical and laboratory staff using information and materials provided by their institutions as well as DAIDS contractors and cross-network training groups.

16.3.4 Other Requirements for Laboratory Personnel

Laboratory personnel are also expected to participate and complete training as specified in this section for site personnel. For key laboratory personnel, this includes HSP training, GCP training, GCLP training, and study-specific training.

Sites will be notified of relevant laboratory issues and developments which may affect multiple IMPAACT protocols or network activities by the IMPAACT Operations Center, LC, and/or Data Management Center (DMC). Such issues may also be discussed, with training opportunities, at the annual meetings or through other methods of communication.

16.4 Data Management Training

Site personnel are responsible for providing study data that are correct and of high quality to the DMC. Knowledge of data management systems, quality assurance tools, and reports are necessary to meet this requirement. Data management training is offered to site personnel through routine trainings at the DMC, regional trainings, trainings offered at annual network meeting demonstration rooms, web-based trainings, and in-person study-specific trainings. Training resources may be found on the DMC portal website at http://www.frontierscience.org.

16.5 Research Ethics Training for Community Representatives

The FHI 360 Research Ethics Training Curriculum for Community Representatives is designed to educate community representatives about their roles and responsibilities and inform community representatives, members of research teams, CABs, and research ethics committees, about the general principles of research ethics. It also reviews the need for ethics committees, their importance, and the roles and responsibilities of community representatives in the research process. The curriculum includes easy-to-use materials, such as slides, case studies, activities, facilitator notes, as well as an ethics training certificate. Community education staff, community advisors, and partners are encouraged to complete this training.

Additional details related to community participation and engagement in the IMPAACT Network is described in Section 5.

16.6 Study-Specific Training

Site IoRs are responsible for ensuring that site study staff members are adequately trained to serve their delegated study-specific functions. Designated members of IMPAACT protocol teams — including but not limited to Operations Center, SDMC, and LC staff — collaborate with IoRs to fulfill this responsibility in preparation for initiation of new IMPAACT studies by conducting study-specific training.

Each site IoR is responsible for ensuring that study site staff receive required training and that all training is documented. Protocol team members may assist with this, for example, by providing copies of signature sheets from an in-person training. Presented training materials will also be provided, typically by posting on the study-specific web page; if any materials are not suitable for public posting, copies will be emailed to site representatives. Documentation of all study staff training must be maintained in each site's Essential Document files.

Self-study of study-specific documents and/or training materials (alone) is not considered adequate training for IMPAACT studies; participation in training conducted by the protocol team is required. However, self-study may be included in study-specific training plans in conjunction with other training approaches (e.g., as a precursor to in-person training).

Blinded studies should include review of the Network Manual of Procedures (MOP) Appendix I, Unblinding Procedures, as part of study-specific training.

16.6.1 Development of Study-Specific Training Plan

For each IMPAACT study, the protocol team agrees on a study-specific training plan that is tailored to the needs of the study and participating study sites. Discussion of training plans is generally initiated within the protocol team around the time of IMPAACT Multidisciplinary Protocol Review Group (MPRG) review of the protocol and plans are further developed as sites work on completing site-specific study activation requirements, as described further in Section 11. Input on training plans is also obtained from site representatives to ensure that all perceived training needs are considered. Once a study-specific training plan is finalized, the operational approach is communicated to the study sites, and training timelines and materials are developed. The Operations Center coordinates this training with the protocol chair, SDMC, and LC to lead these efforts, with input from other key protocol team members as needed.

The objectives of study-specific training are to:

- Establish a common understanding of key aspects of the study, including the background and rationale, objectives and outcomes, design, intervention, and schedule of evaluations
- Ensure that site study staff are informed and familiar with:
    - Day-to-day study implementation requirements, in accordance with the protocol, study-specific MOP, Laboratory Processing Chart (LPC), case report forms (eCRF) completion guide, other relevant study implementation materials, and relevant regulations, guidelines, policies and procedures
    - Study-specific communication procedures and operational resources and utilities available to support day-to-day study implementation
- Ensure standardization of study implementation across sites so that data can be combined for analysis

Team members to be consulted regarding study-specific training plans include but are not limited to protocol chairs, protocol pharmacists, data managers, laboratory specialists, and medical officers. For studies involving specialized procedures and/or interventions, relevant content area experts are also consulted; these persons may be members of the protocol team or may be external to the team. Site input may be obtained using any of several methods, including telephone and email communications and on-line surveys.

Study-specific training plans may include the following:

- Self-study of training materials developed by the protocol team
- Remote participation in conference call and/or webinar training sessions
- In-person participation in centralized, regional, or site-specific training sessions

When centralized or regional in-person trainings are planned, a train-the-trainer approach is typically taken, with site staff who attend the trainings being responsible for training other study staff members at their site. When site-specific in-person trainings are planned, it is expected that most if not all key site staff will attend the training.

When key site staff are not available to attend study-specific training for any reason, the site IoR is responsible for ensuring adequate and appropriate training of these staff.

Study-specific training plans should also:

- Identify members of the study-specific training team (i.e., protocol team members and others who will be involved in providing training).
- Specify the extent to which translation into languages other than English may be required and indicate whether translation may need to be arranged centrally or performed locally at one or more study sites.
- Specify minimum requirements for sites to be considered adequately trained as a condition for site-specific study activation. Although it is generally expected that the same training will be provided for all sites, when necessary, different approaches and requirements may be specified for different sites (e.g., less experienced sites may require additional training).

Initial draft training agendas are prepared as part of study-specific training plans. These should minimally include a listing of training topics to be covered and a designation of persons responsible for each topic; other details may be specified later, as agendas are further developed and finalized. Key considerations for training agendas include the following:

- Address community-related as well as scientific and operational training needs.
- Involve site staff as well as training team members in presenting/leading training topics.
- Allow adequate time for each topic, including time for questions and answers and discussion.
- Consider the overall training time as well as the amount of time scheduled for each topic (shorter sessions with breaks in between are usually advantageous for learning).
- Include interactive sessions when possible and applicable.
- Incorporate time for cross-site interaction and problem-solving when possible.

If a study design is straightforward and the participating sites have experience with similar studies, the training plan may specify telephone or web-based training. In contrast, if the study design is unique or complex, or if sites are less experienced, an in-person training may be required. In-person training may also be required when training on specialized study procedures is needed. A combination approach can also be taken. For example, telephone and web-based training could be planned for experienced sites while in-person training would be offered to less experienced sites or for a targeted study-related purpose, such as specialized laboratory procedures. Cost-efficiency and training effectiveness are also key considerations in determining the best approach.

When in-person training is planned, options include regional trainings for study staff from multiple sites as well as individual on-site trainings. Study-specific trainings may include sessions for community educators and Community Advisory Board (CAB) members, focused on such topics as community education and outreach, participant recruitment and retention, human subjects and participant safety protections, community perceptions and potential misconceptions of the study.

16.6.2 Scheduling Study-Specific Site Training

The responsibility for scheduling study-specific training is shared among designated members of protocol teams in conjunction with site representatives.

Training is conducted as closely as possible to the time when one or more clinical research sites will have met all other site-specific study activation requirements, such that activation and initiation of the study

will occur upon (or very soon after) completion of training. Generally, a study will be open to accrual or the majority of requirements to open a study to accrual will be met prior to training. One or more sites should have completed the DAIDS protocol registration process for the study and, if applicable, should have received supplies of the investigational study drug or product on-site. All other activation requirements should also be completed or nearly completed. For example, required site SOPs may be fully drafted prior to training with the expectation of finalization immediately following training (to incorporate information provided during the training). See Figure 16-1 for required and recommended study- and site-specific elements to be completed prior to training. Introductory overview sessions may be conducted prior to this timepoint, as webinars or at pre-convened meetings, like the Network Annual Meeting.

If site activation is delayed following training, site IoRs are responsible for conducting retraining (see Section 16.6.5).

Figure 16-1. Guidelines for Scheduling IMPAACT Study-Specific Training

To be completed prior to scheduling study-specific training (as applicable to the study; see Section 11 for details related to study specific pre-implementation activities):
• Completion of US FDA 30-day review period/safe to proceed notice
• Signed Clinical Trials Agreement(s) (CTA)
• Study product(s) available at the DAIDS Clinical Research Product Management Center (CRPMC)
• Study specific Manual of Procedures (MOP) for use as a reference during training (Note: a draft version may be used for training purposes)
• At least one site close to meeting all activation requirements, such that activation and initiation of the study will occur upon (or very soon after) completion of training
Note: Sites that have made significant progress towards meeting study-specific site activation requirements, as outlined in Section 11, will be prioritized when scheduling study-specific training. However, other sites may be invited to participate in training sessions, as determined in the training plan.

16.6.3   Site Preparation for Training

In addition to completion of requirements for scheduling study training, site study staff will carry out other activities to prepare staff for study training and, ultimately, the conduct of the study. Under the supervision of the IoR, the following items are generally completed by sites as they prepare for study implementation:

- Hire staff (if needed)
- Designate site study staff team and assess local training needs
- Provide orientation and background training locally, as needed, including:
  - Local staffing and organizational plan (including roles and responsibilities)
  - Local site operations
  - Local role-specific training and certification
  - Other local requirements
- Complete "mock visits" using study implementation materials, ideally in clinic and laboratory facilities that will be used for the study
- Discuss and develop SOPs (as needed) and other local study implementation materials
- Review and become thoroughly familiar with the study protocol, informed consent documents, CRFs, training materials, other study implementation materials, and site Standard Operating Procedures (SOPs)

- Review and become familiar with the study-specific specimen management plan and the "chain of custody" for study samples
- Identify questions, issues, and problems requiring training team input

Depending on the training plan, expectations of site study staff prior to study-specific training include:

- Work with training team to plan training and finalize agenda
- Work with training team to identify and meet translation and interpreter needs
- Arrange staff backup for staff who will attend training sessions
- Arrange access to training rooms and any required equipment

16.6.4 Implementation of Study-Specific Training

Training team members are responsible for developing training agendas, developing training materials, and conducting training sessions. Topics to be covered for all IMPAACT studies are listed in Figure 16-2. Ideally, all site staff members who have been delegated duties or responsibilities for a study will take part in study-specific training; however, a train-the-trainer approach may also be considered for centralized or regional trainings, which all site staff may not be able to attend. The training plan will clearly identify required attendees.

Figure 16-2. Minimum Topics to be Covered for IMPAACT Study-Specific Trainings

> - Study Overview including Rationale and Objectives
> - Study-Related Communications
> - Informed Consent Considerations
> - Eligibility Criteria
> - Screening and Enrollment Process
> - Study Procedures (covering protocol Section 6 and the Schedules of Evaluation)
> - Pharmacy and Study Drug Considerations
> - Data Management Considerations
> - Laboratory Considerations
> - Toxicity/Participant Management
> - Adverse Event and EAE Reporting
> - If needed, network structure and procedures overview (including deviation reporting)
> - Other study- or site-specific topics may be added

During training sessions, site study staff are expected to:

- Present training topics (if specified in the training agenda)
- Present site-specific operational plans and/or SOPs (if specified in the training agenda)
- Attend all required training sessions (by study-specific role if applicable) per the study training plan
- Fully engage in the training (ask questions; identify issues requiring additional clarification; describe site-specific study implementation plans, materials, and tools; etc.)

Failure of study staff to attend required training sessions typically will delay site-specific study activation, as additional training will be required before study activation can occur. Therefore, every effort should be made to avoid absences from required sessions.

16.6.5   Continuing Study-Specific Training

Site IoRs are responsible for ensuring that new site study staff members are adequately trained to serve their delegated study-specific functions. Study-specific training teams typically do not provide training for newly hired site staff following the initial study training. However, team members will make every effort to be available to answer questions and provide technical assistance to new key personnel as needed. Teleconference discussions and/or targeted webinar trainings can be provided, if requested by the site.

Once a study is underway, designated protocol team members — typically Operations Center, DMC, and LC staff — issue study-related communications, answers to frequently asked questions, and other similar documents to guide study implementation at each site (see Section 12). IoRs are responsible for ensuring that study sites have SOPs in place for receipt and filing of these communications and for ensuring that all relevant study staff are informed of and trained on these materials, as needed, and incorporating the content into day-to-day study operations.

When necessary, designated protocol team members will provide study-specific "refresher" training to site staff. This may be done via teleconference or webinar, at in-person meetings (e.g., IMPAACT annual meeting) or during site visits. Recordings of prior training sessions may also be options for continuing training at study sites.

16.7   Documenting Training

Site IoRs are responsible for ensuring that study site staff members are appropriately qualified and trained to carry out their delegated duties and that all training is adequately documented. Per the DAIDS policy on Requirements for Manual of Operational Procedures, all sites must establish and follow SOPs for personnel training and certification documentation. Site SOPs may specify the use of training logs, training certificates, meeting summaries with participant lists, and/or other documents as applicable. All training documentation must be maintained in on-site Essential Document files.

Sites may use institutional templates; the National Center for Complementary and Integrative Health (NCCIH) also provides a template as part of their Clinical Research Toolbox. Recommendations for best practice include the following (adapted from the NCCIH Training Log Tool):

- Record training in the log as it is completed, to ensure completeness and accuracy of the data.
- This log need not include training that is documented by a completion certificate or other written documentation.
- The site study staff member listed on each line should sign to verify that the training has been completed.
- Number each page and maintain this log in the Essential Documents files.
- Store pages in reverse chronological order, with the newest pages of the log placed at the front of the section.
- At the conclusion of the study, identify the final page of the log by checking the box in the footer.

For study-specific trainings, as noted in Section 16.6, the CTS may help document completed training; for example, by providing the sign-in log from an in-person training and by providing training materials as posted files on the study-specific web page or via email to site representatives. For webinars, sites are responsible for ensuring webinar-specific training documentation is available on-site; summarizing participation in a webinar series is not adequate for training documentation. See Figures 16-3 and 16-4 for

examples of a training documentation message and of a training log documenting attendance for study-specific webinars.

Figure 16-3. Example of Training Message from CTS Documenting a Study-Specific Webinars

Dear All –

This message serves to document the study-specific training webinar conducted for IMPAACT 2040, Phase I/II Study of Drug X in Children, on 18 January 2018 for approximately one and a half hours.

The training, entitled "IMPAACT 2040 Cohort 1 Overview," was led by Emily Jones, Study Chair, and Sarah Adams, CTS. The training was intended primarily for Cohort 1 site staff; however, participation was not restricted and other study site staff were welcome to attend.

The objective of this training was to establish a common understanding of the following:

- Study design, rationale, and objectives
- Cohort 1 eligibility criteria and study-specific procedures for recruitment, screening, and enrollment
- Cohort 1 procedures and evaluations

The training also provided an opportunity to address questions and to share key information, operational, tips, and reminders across sites.

The training materials presented as part of this webinar have been posted on the study-specific web page (http://impaactnetwork.org/studies/IMPAACT2040.asp) and are available upon request from the IMPAACT Operations Center.

Study site Investigators of Record are responsible for ensuring that a copy of this message, the associated training materials, and site-specific attendance documentation are filed in on-site training files for IMPAACT 2040. As a reminder, per the DAIDS policy on *Requirements for Manual of Operational Procedures,* all sites must establish and follow a standard operation procedure (SOP) for personnel training and certification documentation. **Each site is responsible for preparing attendance documentation for this webinar in accordance with this SOP.**

Thank you for your participation in the webinar; please contact me with any questions you may have about this message.

Sarah Adams

Figure 16-4. Example of Training Documentation for Attendance at Study-Specific Webinar

Note: This is an example training log; any format consistent with site SOPs may be used.