

Guidelines for decentralized clinical research in Thailand.

Thailand's National Guideline on Decentralized Clinical Trial



Preface

Clinical research is a scientific process that conducts research on humans to confirm safety and efficacy.

The efficacy of research-based pharmaceutical products, as stipulated in the Ministry of Public Health's announcement regarding the criteria, methods, and conditions for pharmaceutical research.

The information used for drug registration in 2023 established internationally recognized clinical research standards, namely the ICH E6 Guideline for Good Clinical Practice. The latest revised edition (R3) is the first to address clinical research of the following types:

Decentralized clinical trials differ from traditional research studies in that they are a shift from...

All research activities are conducted at the research site, utilizing tools or technologies adapted to facilitate the process.

Conducting research activities outside the research site necessitates analyzing the potential impact on scientific credibility.

The completeness of research data, the benefit-risk ratio, and the protection of the dignity and rights of research participants;

The regulatory context of each country.

This guideline for decentralized clinical research in Thailand was prepared in collaboration between various agencies, including the Central Ethics Committee for Human Research, the Food and Drug Administration, research sponsors, and other representatives.

From an organization providing clinical research services, developed and based on the Recommendation Paper on Decentralized Research Elements in Clinical Trials Version 01, dated 13 December 2022, from European Medicines Agencies and Malaysia.

The Decentralized Clinical Trial (DCT) Guidance Document, in conjunction with regulations in Thailand, aims to:

To enhance understanding of the use of decentralized clinical research elements in study design, considering the safety, rights, and dignity of research participants.

The reliability of research data.

The authors sincerely hope that this guideline for decentralized clinical research in Thailand will be beneficial.

To enhance the competitiveness of pharmaceutical research in Thailand at the international level and to foster an ecosystem conducive to pharmaceutical research.

Continue to be strong.

The organizing committee

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1. Introduction, Scope, and General Considerations

1.1) Introduction and Scope

Currently, clinical research is advancing with the use of digital technology in conducting research. Clinical and research approaches are becoming more participant-centered, as evidenced by the COVID-19 pandemic. COVID-19 was a catalyst for the adoption of decentralized clinical trials (DCTs). Widely used, and emphasizing the importance and benefits of digital tools and decentralized processes, both in... Medical treatment and clinical research.

Decentralized clinical research differs from the traditional model of conducting all research activities at a research site to one that adapts tools or technologies to facilitate research activities conducted off-site.

This includes the use of digital tools, electronic informed consent (eConsent), applications, wearable devices, telemedicine, scheduling appointments for off-site research activities, and the delivery of research drugs to participants' residences.

Direct-to-Patient (DTP) research, or the recall of research drugs to the residences of research participants, is a practice referred to as... In general, these are decentralized elements.

When considering the selection of decentralized elements for use in research design, only certain elements may be chosen. As needed and appropriate, it can be integrated with traditional clinical research to create hybrid trials. However, before selecting a decentralized research component, research promoters and researchers should analyze the potential impacts. It has significant implications for scientific validity, data integrity, and ratios. The balance between the benefit-risk ratio and the protection of the rights and dignity of research participants is considered, according to... The ICH E6 Guideline For Good Clinical Practice is developed by the International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use, currently in its R3 edition dated January 6, 2025. It manages potential risks to research participants, ensures trial integrity, and guarantees the reliability of research results—all factors contributing to research quality—as per ICH E8 General.

Considerations for Clinical Studies

This document aims to present guidelines for decentralized clinical research, covering various formats. Various research methods, such as electronic informed consent and direct delivery of drugs and research equipment to participants, are being used. To-Patient (DTP), conducting research off-site, and collecting and delivering biological samples from off-site research participants. This document outlines the main research, data collection via online systems, research monitoring, and clinical trials conducted in a network of subcenters. Furthermore, it describes the roles and responsibilities of stakeholders involved in this research model, including sponsors. Research; Contract Research Organization (CRO); Physician Researchers; Council of Thailand. The Thai Food and Drug Administration (ThaiFDA) and the Human Research Ethics Committees (IRBs/IECs). To provide guidance for developing more modern and effective research methodologies.

This document provides only basic guidelines and may not cover all situations. Research sponsors must consult with scientific advisors and/or the research oversight agency, the Council of Research and Development (CRD).

The Food and Drug Administration (FDA) and the Human Research Ethics Committee should select a decentralized composition appropriate for research.

Clinical and contextual aspects of life in Thailand.

1.2) General consideration principles

Many current drug research studies utilize some decentralized components, such as data recording.

Electronics, wearable devices, telephones, and online appointments—these are all considerations for choosing a decentralized system.

It depends on several factors, including the type of clinical research, the research population, the disease being studied, and the patient's condition.

Research participants, types of research drugs, characteristics of research drugs, and stages of research drug development; components.

These should be considered as individual and contributing factors when planning and implementing distributed element approaches.

In addition, the center should consider the following general principles:

- a) The rights, safety, dignity, and well-being of research participants should be protected and placed above all else.

Any other benefits and the use of decentralized elements must not increase [the level of increase/loss].

This poses a risk to the safety, rights, and well-being of research participants.

- b) Compliance with regulations and standards related to clinical research, including the Ministry of Public Health announcement regarding the criteria,

methods, and conditions for drug research studies to provide data for drug registration, and other announcements.

Food and Drug Administration (FDA) Regulations on Standards, Licensing, and Reporting Related to Drug Research.

My friend brought me information to support the drug registration process, specifically regarding the requirements and guidelines for Good Manufacturing Practices (GMP).

Relevant practices (GMP), Good Distribution Practices (GDP), and international ethical and scientific principles of medical research (e.g., the

Helsinki Declaration) are key principles.

This applies to all types of clinical research studies, including the Personal Data Protection Act and related regulations.

- c) When assigning responsibilities related to research studies to research participants and/or research physicians, consideration should be given to the

potential benefits of using a decentralized approach in clinical research. Furthermore, research sponsors should provide adequate support to

research participants and/or research physicians to facilitate their participation.

Appropriate conduct, such as:

- Potential differences between the study population and the target population may lead to discussions about the generalizability of the

results. For example, these differences could stem from the exclusion of those who lack digital literacy or those who live in areas with

limited connectivity.

Internet Limited

- Modifications that occur in the evaluation of results may lead to discussions about the validity of the results, for example, due to inconsistent

application of decentralized procedures across different research sites.

Clinically, or among a group of research participants.

- An increasing trend of data gaps, whether overall or for specific endpoints (see more).

In topic 6, "Data Management," of the Recommendation Paper on Decentralized Elements in...

Clinical Trials Version 01, dated 13 December 2022, prepared by the European Medicines Agency (EMA).

d) These considerations are particularly important for pivotal trials when applying for product registration. It is recommended that research sponsors seek scientific guidance for these trials. Furthermore, seeking qualification advice is encouraged when planning to use new methodologies or endpoints in developing decentralized research plans. Involve the researcher/medical personnel in the design, development, and conduct of clinical trials. The expertise of the researcher/medical personnel helps ensure clinically relevant objectives and outcomes, effective safety monitoring, and adequate medical care. These personnel can also help identify the consequences of reduced personal interaction or methods for managing data collection and the quality and completeness of original data.

c) Research sponsors and research physicians should involve research participants or patient associations from the early stages of the research and continue their involvement throughout the design, development, and execution of the clinical trial. Early participant involvement, starting from the research design stage, can enhance scientific value, build trust among participants, facilitate the recruitment process, and promote collaboration in adhering to the research protocol. Furthermore, participants can offer perspectives on living with the disease, which may contribute to the selection of decentralized components, such as the possibility of video conferencing appointments instead of in-person visits, the use of digital tools, or meaningful outcome measures for participants, and the selection of an appropriate

population. f) In decentralized studies, some research activities may be conducted outside of a healthcare facility (traditional patient care centers) with the involvement of service providers. General healthcare guidelines should be applied to protect participant safety, especially when participants are not residing at the healthcare facility. In this case, the research physician should assess the specific medical history of the research population. This involves assessing each research participant's risk profile, which includes appropriate health history such as physical examination findings, laboratory data, and radiographic images.

• Digital tools/technology developed or used should be selected appropriately for the purpose of reliable data collection and management, in accordance with the research protocol. The use of computer systems or the creation/recording of electronic clinical data should comply with the ICH E6 Guideline

for Good Clinical Practice. • In any actions related to decentralized clinical research with financial agreements, transparency should be maintained,

and information should be disclosed when necessary. • For transparency and to facilitate the evaluation of clinical research, the research sponsor and the researching physician should inform the Food and Drug Administration and the Human Research Ethics Committee that decentralized elements are used in the proposed research project, by documenting the decentralized elements used in the clinical study design. However, if it is determined that the decentralized elements used are likely to significantly impact the scientific validity, completeness of research data, benefit-risk ratios, or impact on the protection of research participants' rights, the research sponsor should specify the risk-benefit assessment, including any specific risk mitigation measures, in the research protocol or other relevant research documentation submitted to the relevant authorities. Supervisory and

Human research and supporting documents for drug research applications, to be used as data for drug registration, should only include components that affect the risk-benefit assessment.

y) Research sponsors should develop a contingency plan to mitigate the impact of risks, such as digital equipment malfunctions or disruptions to decentralized visitation plans for research participants. These are considered critical-to-quality decentralized elements that can seriously impact research quality.

(y) When medical devices, including in vitro diagnostic (IVD) kits, are used in studies.

Research should be used in accordance with the research authorization granted.

The next section will discuss specific issues that should be considered for decentralized clinical research.

2. Oversight of Clinical Research: Roles and Responsibilities

In decentralized clinical research studies, research activities may be conducted outside the primary research site and may involve additional service providers, such as home nurses.

For technology service providers, it is crucial to clearly define and understand the specific roles and responsibilities of...

Research sponsors, research physicians, and other external individuals must be identified in the research outline before commencing the research to ensure that:

Both the researcher and the research sponsor complied with their relevant legal obligations and made every effort.

To oversee the rights, safety, dignity, and well-being of research participants, as well as the reliability of research results.

2.1) Considerations regarding responsibility.

2.1.1) If a specific research task is assigned to a service provider, the relevant rationale should be stated and the scope of their involvement explained.

The service provider meticulously reviews the documents related to the research. However, **the researching physician remains solely responsible for the work related to that.**

Medical decisions (e.g., consideration of eligibility and registration of research participants, specified medical procedures).

In research protocols (including drug modifications, etc.), the rights, safety, dignity, and well-being of research participants must be considered.

y

The use of decentralized elements in research may have an impact on research methodology and activities.

Some of the research will be conducted by service providers, so assignments should be defined for them.

Clearly specify the research personnel and service providers, indicating what work was carried out, when, by whom, and where (e.g., at the primary research site, at the research participant's residence, etc.), as well as the methods used by the research sponsor and/or provider.

The research physicians use this information for oversight. A summary of these work procedures and measures should be provided.

In writing, such as a work agreement and shared responsibilities, and/or specifying further details.

In documents related to research studies.

2.1.2) Research sponsors should ensure that the provider has the appropriate qualifications and experience for the scope of the research.

This research will be conducted under the specified conditions, and the researching physician should be given the right to refuse and/or request changes to the services provided.

Research sponsors may take action if the provider fails to comply with the agreement. The researching physician must ensure that the provider has received...

Appropriate training for the specific tasks to be performed, especially if those tasks involve...

The medical care of research participants is the responsibility of the research physician.

2.1.3) Research sponsors should establish effective communication channels, record and inform all relevant parties, including:

Research participants, research physicians, research sponsors, and all relevant service providers should have access to necessary information.

At all times, to fulfill their roles and responsibilities related to conducting clinical research and to maintain them.

This falls under the responsibility of the research physician regarding the medical care and safety of research participants in such cases.

In emergencies, an effective communication plan is necessary to ensure all parties involved can act without delay. Research participants should receive complete and necessary information and contact details for all scenarios, including those who need to be contacted.

Contact us in case of emergencies, equipment malfunctions, or questions regarding visits to the residence, etc.

2.2) Considerations regarding the oversight of incoming data.

2.2.1) Research participants, research physicians, and healthcare providers involved in the research should receive training in the use of the digital tools used.

In the research, to ensure the accuracy of data collection, verification, and transmission, the research participants and...

Service providers should be trained on what constitutes a serious adverse event (SAE) and should report it to...

Who, within what timeframe, and how will adverse (serious) events ((S)AEs) be handled? 2.2.2) The research sponsor should have procedures in place to manage potential data duplication when reporting incidents.

Adverse events (AEs) from multiple sources (e.g., digital tools, service providers, external healthcare professionals, or research participants).

2.2.3) When using digital tools (e.g., wearable devices, ePROs), research sponsors should provide clear procedures for handling them.

Regarding the data, the frequency of data monitoring should be determined based on the relevance of the data to drug efficacy, safety, and well-being of research participants. Safety monitoring should be planned using...

A risk-based assessment may include safety information of the pharmaceutical product, indications, and known risks of the research drug.

Previously, and also through the use of various notifications.

• If digital tools are used for recording and evaluating adverse (serious) events (SAEs), the research sponsor...

Various alert systems should be in place to ensure that information related to adverse symptoms is assessed.

Timely use of (S)AEs in designing research with digital tools, research promoters should

Predict the types of security alerts that might occur, if it's anticipated that a digital device might...

Create a safety record for critical information requiring urgent medical attention. A course of action should be in place.

A clear explanation of this should be stated in the research outline or relevant study documentation by the physician.

How should researchers and/or service providers handle these situations? What actions should be taken, and who should take them?

The facilitator recommends having a summary diagram of the relevant parties, information flow, and related responsibilities of the participants.

Researchers should be informed of what to expect and what steps might be needed in these situations. Additionally, a diagram should be created specifically for research participants regarding the functions and information flow.

The parties involved could help to increase understanding even more.

2.2.4) Research sponsors should ensure that the digital tools are functioning correctly and sending notifications as planned. The tools created...

Notifications to research physicians should be validated, and a risk mitigation plan should be developed in case the device fails to function as intended.

2.2.5) Research participants should be fully informed in advance that the data transmitted via digital tools, such as results reported by...

How electronic patient care programs (ePROs) will be implemented should be clearly explained to research participants.

The research physicians may not be monitoring this data in real time, and if research participants have any safety concerns, they must contact the research physicians directly to report the issue.

2.3) The role of the Institutional Review Board/ Independent Ethics Committee (IRB/ IEC) for research involving human subjects.

2.3.1) The human research ethics committee should assess the benefits versus risks, taking into account the rights and

The safety, dignity, and well-being of the research participants are prioritized.

2.3.2) In considering remote informed consent, the Human Research Ethics Committee should evaluate the process.

Informed consent should cover specific aspects of participation in decentralized clinical trials, such as the use of digital technology.

2.3.3) Methods for verifying the identity of research participants to ensure that the individuals providing informed consent are indeed the ones who will participate in the research.

• The information provided to research participants was clear, complete, and easy to understand, even without face-to-face interaction.

This should be done directly, and research participants should be given sufficient opportunities to ask questions and receive appropriate answers. 2.3.4) The Human Research Ethics Committee should evaluate the safety monitoring plan and the management of adverse events.

The appropriateness and comprehensiveness of the objectives, the clear mechanisms for reporting and managing adverse events, access to necessary medical care, and effective communication among all stakeholders are crucial.

This is crucial in ensuring the safety of research participants.

2.3.5) The Human Research Ethics Committee should consider the oversight plan from the primary research site, including communication processes.

Among research participants, local health care providers (LHCPs), service providers, and...

These issues and other stakeholders should be covered to ensure they are clear, comprehensive, and effective. 2.3.6) The Human Research Ethics Committee should consider how to manage the risks arising from data collection, storage, and administration.

Access and transfer data remotely using digital technologies such as wearable devices, applications, or platforms.

Online resources that may impact the privacy of research participants in accordance with applicable laws and regulations, including the accuracy, reliability, and security of research data. 2.3.7) The Human Research Ethics

Committee should consider the equivalence of research participants who may have limited digital knowledge.

Limitations or lack of access to technology, as well as cultural and linguistic appropriateness of research processes and documentation, are factors to consider.

Various related matters

2.4) Role of the Food and Drug Administration

The Food and Drug Administration (FDA) has the mission to promote, support, and regulate drug research, including...

To protect the safety of research participants, in accordance with the standards of human research studies, including the criteria, methods, and conditions as specified.

The Minister has announced the latest version of the ICH E6 Guideline for Good Clinical Practice.

The Food and Drug Administration has measures in place to monitor authorized drug research studies.

The data is used to support drug registration and may be collected before, during, or after the research is completed.

Alternatively, after the research project is terminated, the assigned officer will generally contact the research sponsor to schedule an inspection and provide official written notification at least 7 days in advance. This exception applies only if the Food and Drug Administration (FDA) issues a special order to immediately inspect the research study, in which case notification may be given at short notice.

Or without prior notice.

Supporters of drug research must cooperate with and facilitate the inspection process as required by the authorities.

For example, please be informed that:

- Inform relevant parties, such as the principal investigator and staff, relevant ethics committee members, etc. - Assign a coordinator to contact the reviewers prior to the drug study review review and to coordinate and facilitate the preparation for the review. - Send information to the review team in advance

according to the list provided in the drug study review review notification letter within the specified timeframe.

Specify

- Prepare the following equipment and location:

1) A meeting room for the opening and closing meetings of the research review, which will be used on the first and last day of the review.

Review the research in order.

2) A room for inspectors to review various documents during the inspection. 3) A computer capable of

connecting to the data recording/reporting system for volunteers in this research project, including both source data

and patient case report forms, in the case of electronic data storage. 4) A location used for each stage of the

research project for inspection, such as an

examination room, etc.

Operations, drug storage facilities, etc.

- Prepare documents and information in electronic format if it is a remote drug research study monitoring. - Prepare documents as appropriate to the current status of the research project (refer to ICH GCP Clause 8, Essential documents for the conduct of a clinical trial [8. Essential documents for the conduct of a clinical trial]) and relevant licenses from the Food and Drug Administration at the research site specified above. - Prepare clean and safe lunch and drinking water.

In addition, the principal investigator should specify the actual workplace where the person responsible for facilitating FDA access to all research-related records (both paper and electronic) relating to the research procedure and the research participants under the principal investigator's care, both at the primary research site and/or sub-sites/networks (if any), as well as facilitating interviews with personnel involved in the research (whether in person or remotely online). This may also include the methodology of decentralized research.

3) Obtaining informed consent to participate in the research project.

A crucial aspect of research is that informed consent from participants must be voluntary and that they have received sufficient information before deciding to participate in the research. Obtaining informed consent is important not only from an ethical and legal standpoint.

However, it is a form of communication between the researcher and research participants about the benefits of building mutual trust and helping to promote participant cooperation. Therefore, when considering the informative process in a remote setting, the use of electronic signatures in informed consent forms requires an evaluation of various factors, including the research design, the characteristics of the participating population, the risks, burdens, the protection of personal data, and the benefits of participating in the research.

The informed consent process should be documented in a way that verifies that research participants have received the information, that discussions take place between qualified personnel authorized to obtain informed consent and that the consent itself has been given. However, even the use of decentralized components for obtaining informed consent in clinical trials, whether in part or in whole, must still adhere to the guidelines set forth in good clinical research practices and the Personal Data Protection Act. Thailand's Protection Act (PDPA) and other relevant national laws.

3.1) Informal consent process (in-person and remote consultations)

The ICH E6 Guideline for Good Clinical Practice requires all research participants to receive complete information about the clinical research, have sufficient time to make decisions and ask questions about the research to their satisfaction before signing informed consent. Generally, the informed consent process takes place in a face-to-face meeting between the researcher/assigned person and the potential research participant. However, in some cases, this process has limitations, such as participants being unable to travel to the primary research site or wishing to participate from a smaller, networked site. In such cases, it may be possible to conduct the consent remotely via digital devices (teleconference). Therefore, if electronic informed consent methods are used, whether in person or remotely, the following should be considered:

a) The electronic informed consent process should be user-friendly and easily accessible for research participants:

- Advisers should design electronic informed consent (eConsent) processes that are user-friendly for research participants to follow the steps and should provide digital devices (e.g., computers, tablets, smartphones), platforms, or web browsers that meet data security criteria.

21 CFR Part 11 and/or EMA Guideline on Computerized Systems are required to ensure that research participants can securely access this process.

- Research sponsors should design electronic informed consent processes that are accessible to all, including those with technological difficulties, language limitations, or intellectual or visual impairments. They should also consider providing additional resources and support for research participants who may have difficulty completing electronic informed consent procedures.

- In cases where literacy barriers exist, research sponsors and/or research physicians should consider alternative methods to ensure that informed consent is obtained from the participants' understanding. These methods may include the use of visual aids, pictures, videos, or verbal presentations, depending on the participants' cultural and linguistic context. This informed consent process should be reviewed and approved by the relevant research ethics committee to protect the rights, safety, and well-being of research participants.

b) Providing concise, clear, and sufficient information about the clinical research, equivalent to that in the informed consent form:

• In the electronic informed consent process, the researching physician/assigned person should provide clear and concise information about the clinical research, including the objectives, risks, benefits, and privacy measures. They should also provide clear and structured instructions for research participants to complete the process, including explanations on how to use and access the electronic informed consent form, how to provide electronic consent, how to correct personal data in the electronic consent form, and how to withdraw electronic consent if desired.

• The electronic informed consent process should be clearly described in the research protocol and/or other relevant documentation. Any changes or modifications to the electronic informed consent process should be documented and appropriately communicated to stakeholders. • Research sponsors should present research data in language and format that research participants can understand. Furthermore, it should be organized in a logical and legible manner. c) Research sponsors should provide the researcher/assigned physician and research

participants with the option of obtaining informed consent either in person or remotely. The researcher/assigned physician may assess factors relevant to each research participant to select the most appropriate method and inform the participants accordingly.

• The electronic informed consent process should include options for research participants to ask questions and provide feedback. Concerns to consider before giving consent.

• There should be an option for research participants to withdraw their consent at any time. This should be clearly explained on the electronic consent form, and research participants should be informed of the consequences of withdrawing their consent.

• Contact details for the on-site research team or a support telephone number should be provided for the purpose of obtaining informed consent. Research participants should be able to contact the research team (e.g., research physician or research coordinator) by phone, email, or online chat. d) The research sponsor should provide a

process for verifying the identity of the research physician/assigned person and research participants.

Electronic consent process:

• The informed consent process should occur in real time, with the research physician/assigned person conducting the consent request, and research participants able to see and communicate with each other via audio and video. Both parties should be able to verify each other's identity and/or request proof of identity if they have never been in contact before. Such remote communication should be two-way, allowing research participants the opportunity to ask questions, and the physician requesting consent should be able to verify that the research participant understands the information in the informed consent form. • Additional measures should be taken to verify the identity of research participants before

requesting electronic consent. This can be done through various methods, such as using unique login codes or sending verification codes to the participant's email or phone number. c) If electronic media is used in the informed consent process: • The research physician should review and obtain permission from the

research center and/or relevant regulatory agency to use and disseminate such

electronic media. • The research sponsor and/or research physician should provide alternative options for research participants who cannot access such electronic media,

ensuring equal access to research information for all participants.

f) The research physician should prepare informed consent forms, information, and other documents related to this procedure (e.g., brochures).

• Electronic informed consent processes should be securely recorded and stored throughout the research, including electronic consent forms and other related documents.

• Records of the electronic informed consent process should be easily retrieval and auditable in case of audits or reviews, and stored for periods consistent with the ICH E6 Guideline for Good Research Practices.

Clinical Practice

c) Remote contact via digital devices to obtain informed consent for research participation should be a reliable and confidential method, and such channels should be accessible only to designated individuals. • The electronic informed consent process should be designed to ensure the security and privacy of participants' personal data and must comply with the ICH E6 Guideline for Good Clinical Practice. Practice the Personal Data Protection Act and all related regulations. • In the electronic consent process, encryption and other security measures should be used to protect the transmission and storage of personal data. • Research participants' identities should not be disclosed/identified to unrelated third parties, and every effort should be made to limit unauthorized access to or disclosure of this information.

3.2) Signing the consent form.

When research participants agree to participate, a consent form must be signed by both parties. If the consent process takes place remotely via digital devices, the following points should be considered:

3.2.1) Wet-ink Signature: Research participants signed the informed consent form using a wet-ink signature.

3.2.2) Electronic Signature

(eSignature) a) The research sponsor should provide a secure

system with appropriate measures to prevent data leakage and maintain confidentiality. This can be based on international requirements for the security and reliability of electronic data, including FDA 21 CFR Part 11 and the EMA Guideline on Computerized Systems and Electronic Data in Clinical Trials, as well as the electronic signature acceptance guidelines under the Electronic Transactions Act B.E. 2544 (2001) for the method of recording informed consent. b) The research sponsor should allow the

researcher and research participants to download an electronic copy of the signed and dated informed consent document or receive a printed electronic copy. The electronic copy should be protected from any subsequent alteration or modification; any alteration would invalidate the signature. The research sponsor should have a clear management system for notifying the researcher and relevant parties, tracking results, managing research data, and conducting retrospective audits when a research participant decides to withdraw their consent, which may be partial or total. This includes withdrawing informed consent outside the system, as this impacts participation in research activities and data collection. All of the above steps should be communicated to the research physician promptly, and a communication plan should be in place for relevant stakeholders. Furthermore, informed consent should be accessible through alternative channels outside the electronic system and must be documented by the research physician.

- c) The effectiveness of electronic informed consent should be monitored and evaluated throughout the research period to ensure that research participants have a positive user experience and that the process complies with all requirements.

4) Delivery and administration of research drugs outside the main research site.

In decentralized clinical trials, the delivery of research drugs to participants may be made to locations other than the primary research site, posing different risks than receiving the drugs at the main research site. These locations could include the participant's residence or a local healthcare facility. Currently, only the delivery of research products from the research site to participants is permitted. Controlled substances (such as psychiatric medications) cannot be delivered from the research site to participants due to strict controls and monitoring.

4.1) Consideration of drug administration for research outside the main research site.

Research sponsors should assess the risks and document them to determine whether the delivery of such research drugs is appropriate. The risk assessment should consider at least the following points:

- a) Information on research drugs (e.g., formulation, strength, preparation and administration, storage conditions, persistence, safety, and research duration); development of processes for monitoring and managing adverse events associated with research drug administration at the research site, including documentation and reporting requirements, methods of dispensing research drugs, and the need for assistance from healthcare professionals, including post-drug monitoring. b) Characteristics of research participants when determining the appropriateness of off-site drug administration, considering factors such as the ability of participants to self-administer drugs and the need for close monitoring by the research physician, and other environmental factors that may affect participant safety and research quality.

Research drugs

- c) Research sponsors should provide detailed written information regarding safety data, procedures, requirements for research drug administration, research drug storage, monitoring of off-site research drug administration, post-administration research drug management, and adverse event reporting to research physicians, healthcare providers, and research participants.

Appropriate

documents include: y Research outlines and

research drug guidelines y Informed

consent forms y Documents providing instructions on the use, storage, and management of research drugs.

y Patient's diary (record of drug use by research participants)

- d) The research sponsor may consider providing research participants with additional equipment necessary for the safe administration and destruction of the research drug (if participants are capable of administering and destroying the research drug themselves). This should be specified in the research protocol or other relevant documentation, such as pharmacy manuals, as well as documents provided to research participants. e) The research sponsor and/or the research physician may arrange for appropriate service providers (e.g., drug delivery, research drug administration), provided there is a written scope of work specifying responsibilities and standard operating procedures. f) If the research project is blinded, the research sponsor should have procedures in place to maintain drug information confidentiality.

Researchers must not disclose the name or type of treatment being administered while the research drug is being

held off-site. The research physician should provide guidance on proper conduct and the administration of the research drug off-site (including other equipment).

(Related) Reporting adverse (serious) events to research participants, answering questions to their satisfaction, and properly documenting these processes.

- c) The research physician is responsible for all medical decisions (e.g., prescribing medication) and should record any decisions in original, verifiable documentation. The condition of the research drug should also be checked before it is administered to research participants.

4.2) Transportation (Logistics) and Delivery

- a) The research sponsor and/or research physician should provide a procedure that demonstrates the transportation process, verification that research participants receive the research drug correctly, in the correct quantity, and in the specified condition, and that the research drug is administered off-site correctly, appropriately, and completely according to the research protocol. ÿ Research personnel should administer the first dose of the research drug to research participants at the main research site. Clear instructions for use should be provided and explained, displayed on the drug label or other supporting documentation, including instructions for storage and handling, to research participants at least during the first dose administration.
- ÿ The research physician and/or research staff should inform research participants in writing prior to delivery of the access to personal information required by the provider and provide participants with the provider's details. ÿ The assigned staff must inspect the condition of the research drug before handing it over to the provider for delivery. There should be a process and documentation specifying that one assigned on-site staff member prepares the drug while another staff member double-checks it.
- ÿ The research physician and/or research staff must have a process in place to verify that research participants receive the correct research drug and that the temperature does not deviate from the specified conditions before dispensing the drug to participants. This can be done remotely.
- ÿ If a temperature deviation occurs from the specified conditions during delivery, the research sponsor and/or research physician should provide clear procedures and instructions to research participants, such as prohibiting the administration of the drug until confirmation is obtained from the research physician or research staff.
- ÿ If the delivery of the research drug to a research participant is unsuccessful, the research sponsor and/or research physician should clearly outline the procedures for all involved, such as the provider returning the research product to the sender (the research physician's primary research site) under appropriate storage and handling conditions. ÿ In cases where the research product requires administration by medical personnel at the research participant's residence, the research physician and/or research staff should provide clear instructions to the research participant, such as prohibiting self-administration or prior to a visit from the research staff or provider. b) The research sponsor and/or research physician should ensure that access to, and confidentiality of, personal information (e.g., name, address, telephone number) is restricted and maintained only for the stated purpose and from individuals who have obtained informed consent from the research participant.

4.3) Verification of research drugs and compliance with regulations.

- a) Research physicians should maintain documentation regarding Intensive Drug Product (IMP) accountability and participant compliance. IMP logs should be updated in real-time, recording all IMP dispensing and product returns (if applicable). b) Research sponsors and/or research physicians should establish procedures for managing IMPs after off-site administration, such as IMP returns and IMP destruction. These procedures should include IMP recalls during research and should avoid keeping IMP at participants beyond the projected research duration. This should be done in accordance with the protocol requirements and other relevant regulations. In summary, these considerations aim to improve oversight by research sponsors, research physicians, and research facilities for managing the risks of off-site IMP administration.

5) Conducting research procedures outside the main research site.

In decentralized clinical research, research activities can be conducted off-site, which increases convenience for participants by reducing the overall burden and need for travel to the research site, promotes participant compliance and retention, and allows participants who would previously be unable to participate in life-saving clinical trials to do so.

Conducting research activities off-site should only be done if such steps do not pose an additional risk to research participants or to the reliability of the data, and if the personnel performing the work are qualified and/or trained to do so. For example, if biological samples are to be collected at a residence, it should be considered whether the person collecting the samples is qualified and legally permitted to do so. Furthermore, it should be ensured that appropriate sample handling and storage conditions are in place throughout the entire process.

The importation of any specialized equipment used for conducting research activities off-site into Thailand must be carried out with validation for portability and calibration in accordance with relevant regulations, such as medical device laws and import regulations for clinical research purposes. The research physician has the ultimate responsibility for conducting decentralized

clinical research and for overseeing the protection of the rights, safety, and well-being of research participants. While the research physician may delegate research-related activities to appropriate local medical personnel and/or residential healthcare providers, the research physician must ensure that assigned research-related activities are conducted in accordance with the research plan and requirements.

5.1) Considerations regarding conducting research activities outside the main research site.

5.1.1) Considerations for Research Sponsors

- a) Research sponsors should specify the procedures for conducting research off-site, the benefits and risks in the research outline, informed consent forms, and other relevant documents, and obtain approval from the relevant regulatory authority.

The relevant ethics committee should ensure that research participants are not exposed to risks higher than anticipated.

The same process is used as in the primary research site; however, the research sponsor should arrange for the research physician and...

Research participants can voluntarily choose which steps of the research will be conducted at the primary research site (e.g., meeting with...).

The researcher (physician, if necessary or so wish) may choose to conduct the research outside the primary research site.

b) The research sponsor should provide qualified service providers who are appropriate to conduct the research according to the outline.

The research must include a document outlining the scope of work, specifying the duties, responsibilities, and methodology.

According to standards, professional liability insurance/professional damages compensation/insurance should be considered.

Clinical research, including research procedures conducted off-site.

• Research sponsors should provide training related to implementing research protocols and research procedures.

Assigned tasks include managing potential adverse events and documenting them in writing. c) The research sponsor should provide methods that demonstrate that the off-site research procedures are in accordance with the outline.

The research determines...

• Research sponsors should provide service providers with clear operational procedures. If these procedures cannot be followed...

In any research involving participants for any reason, the researching physician should inform the participants of the dates, times, and details of the research procedure that will be conducted.

The service provider must provide identifying information and be able to verify their identity before starting the process.

What steps are involved in conducting research outside the primary research site?

• Research sponsors should provide oversight of service providers to ensure the accuracy of the procedures.

Research protocols (e.g., biological samples collected from research participants), data completeness, and participant safety are crucial.

the Procedures should be in place for reporting and managing adverse events observed by research participants, service providers, or assigned individuals during off-site visits to research participants.

Main (Please see Topic 2. Clinical Research Oversight: Roles and Responsibilities, Subtopic: Precautions)

(Consider the process of monitoring incoming data.)

• Research sponsors and/or research physicians should allow research participants the opportunity to meet with the research physician in person if necessary/desired, and should have direct contact information if additional support is needed.

Practices related to research/data collection.

• Research sponsors should provide alternative options if research participants are unable or unwilling to use the device.

Personal devices (mobile phones, tablets, etc.) to record research data.

•) Research sponsors and/or research physicians should ensure that access to, and the confidentiality and protection of personal information (such as name, address, telephone number) is restricted and maintained solely for the purposes of the research project (e.g., scheduling appointments, delegating authority, procedures, and monitoring) and only from relevant service providers who have obtained informed consent from the research participants.

5.1.2) Considerations for Investigative Physicians

a) Researching physicians should recruit only as many research participants as they can appropriately manage to ensure proper oversight.

- Activities related to adequate decentralized research.
- b) During the informed consent process, the research physician should inform participants of the following guidelines related to the research procedure: the process of self-collection of biological samples and completion of relevant research forms; any additional burdens on participants; potential benefits and risks; answer any questions to their satisfaction; and properly document these processes. Participants should be given the opportunity to choose to undergo visits at the primary research site themselves (e.g., to meet the researcher in person if necessary/desirable). c) The research physician should assess various factors relating to each participant to select the most appropriate method, such as living conditions, personal/social factors that prevent visits, and document this in writing. Participants should be able to change their wishes at any time during the research. d) The research physician should ensure that appropriate guidance and training are provided to assigned personnel to properly conduct visits at the participant's home. e) If the research physician provides the service provider, the research physician should inform and obtain permission from the research sponsor. The research physician should ensure that the service provider is qualified and appropriate to the task. Conduct the research according to the research outline, including a scope of work document specifying duties, responsibilities, and methodology, adhering to standards, and considering professional liability insurance/professional damages compensation/clinical research insurance, covering research procedures conducted off-site. f) The research physician should identify the appointed healthcare providers to carry out the procedures, and the tasks of these healthcare providers should be recorded in the delegation log by the research physician, as the research physician remains ultimately responsible for the conduct and supervision of care activities off the primary research site. g) Research physicians are responsible for the medical care of research participants (e.g., medical procedures specified in the research protocol, event assessments), even if participants choose to receive care off-site. h) Research physicians should monitor participants' adherence to instructions, possibly based on reduced frequency/absence of remote visits via digital devices between participants and researchers and/or assigned staff. i) The researching physician should supervise the provider as described in the research protocol (e.g., lesion imaging, wearable sensor placement) off-site. This may involve arranging remote contact via digital devices or having procedures in place for reporting and managing adverse events observed by research participants or providers during home visits (see section 2. Clinical Research Supervision: Roles and Responsibilities, subsection: Considerations Regarding Supervision of Submitted Data). j) For the privacy and confidentiality of research participant data, communication throughout the lifecycle of off-site research activities (from appointments and authorization to implementation and output review) should occur between the researching physician/assigned person, research participants, and healthcare providers.

5.1.3) Considerations for healthcare service providers.

Scope of activities carried out by healthcare service providers/ healthcare personnel at residential facilities.

Healthcare providers at off-site research locations assigned by the research physician (e.g., nurses, medical technicians) may perform procedures outlined in the research protocol off-site (e.g., at the research participant's residence) as specified in the research protocol and relevant research guidelines. Such procedures must be approved by the research sponsor, the research physician, and the relevant regulatory agency. Examples include:

- Blood collection and handling (e.g., blood samples for pharmacokinetic or safety testing)
- Collection of biological samples (e.g., oral mucosal, urine, and stool samples)
- Training and education of research participants and caregivers (e.g., self-administration of research drugs)
- Administration, monitoring, and compliance with research drug administration
- Initial clinical assessments (e.g., history taking, vital signs monitoring, concomitant drug testing, pulmonary function tests, electrocardiogram (ECG by nurse only)).

Roles and responsibilities of healthcare service providers outside the primary research

- site:* a) The identification, qualifications, and professional competence of healthcare personnel at assigned residences should be documented. Healthcare service providers should have written standard operating procedures (SOPs) for the identification, qualifications, training, and management of such off-site healthcare personnel. Documentation and evidence such as medical/nursing licenses (as appropriate), resumes (CVs), training certificates, and other relevant records should be maintained.
- Training on ICH E6 Guideline for Good Clinical Practice.
- b) Healthcare service providers should ensure that appropriate guidance and training are provided to offsite healthcare personnel assigned to the primary research location to enable them to perform their duties correctly, and that such training be documented, such as:
- Specific training according to the research protocol, general residential healthcare training, and data collection training;
 - Standard operating procedures (SOPs) for service providers and training documents for managing emergencies and potentially life-threatening signs and symptoms.
- c) Effective communication channels should be established between the research physician and the offsite healthcare personnel responsible for pre-arranged visits to research participants. Procedures should be in place to ensure that the research physician is continuously informed of information related to the safety of the research participants.
- d) Adequate documentation of offsite research activities of research participants should be maintained in accordance with the requirements of the ICH E6 Guideline for Good Clinical Practice. Original documentation should be included as part of the research physician's documentation and readily available for monitoring, auditing, and inspection as per applicable regulations.

5.2) Collection and delivery of biological samples from research participants.

The collection and delivery of biological samples from research participants can be arranged as a separate service plan for collection.

Samples from research participants, such as 24-hour urine samples, can be sent to the primary research site and/or central laboratory, reducing the burden on research participants. This service can be integrated with residential visits to enhance efficiency.

Transportation, cost reduction, and operational efficiency may involve various types of applications with differing temperature requirements, requiring careful coordination and planning.

5.2.1) Risk assessment

In cases where sample collection is planned from outside the primary research location, such as the residence of research participants or sponsors. The research should conduct a risk assessment to determine whether such an approach is appropriate, considering at least the following points:

- a) The possibility and burden on research participants to collect and deliver samples themselves to the primary research site.
- b) Necessary post-collection sample handling. c)

Sample stability before, during, and/or after collection, as specified in the Laboratory Manual: ÿ Pre-collection container handling (e.g., chilling blood collection tubes in ice before collection). ÿ Urgent and critical post-collection handling (e.g., samples requiring processing within 30 minutes of collection). ÿ Specific post-collection handling (e.g., allowing blood to coagulate for 30-60 minutes before processing). ÿ Specific post-processing storage conditions (e.g., storage at -80°C using...).

This includes handling dry ice and potentially hazardous materials.

- d) Temperature monitoring requirements: Maintaining temperature ranges for different sample types throughout the journey. e) Restricting access to participant data: Access to participant data should be restricted; data should be readily available.

This work is for the purpose of scheduling sample collection and delivery only.

5.2.2) Considerations for research sponsors.

- a) Research sponsors should consider during the clinical research planning phase whether sample collection or delivery is necessary.

Is the collection and delivery of biological samples carried out outside the primary research site, based on the risk assessments conducted? b) The research sponsor is responsible for ensuring that the collection and delivery of biological samples are carried out by the sponsor.

- c) The research sponsor provides a service provider with the appropriate qualifications and suitability to conduct the research according to the research proposal.

The research must include a document outlining the scope of work, specifying the duties, responsibilities, and methodology as follows:

The standard requires a written contract between the research sponsor and the service provider, which...

Clearly define the responsibilities of each party. The reservation and collection of biological samples should be carried out by research staff.

Directly with the appointed service providers and research participants.

5.2.3) Considerations for Research Physicians

- a) Research physicians should instruct research participants on self-collection of samples and post-collection procedures before the service provider arrives. This instruction should be practical and actionable.

This constitutes additional workload for research participants and should be documented in their medical records.

b) The research physician should inform research participants, obtain informed consent, and record the consent form before providing personal data.

Research participants will be used for contact purposes for collecting samples off-site if not conducted within the primary research location.

During the initial consent process, consent should be obtained before proceeding.

5.2.4) Considerations for service providers.

The main responsibilities of the

service provider include: a) coordinating with the research site and research participants

for sample collection; b) identifying and verifying the identity of research participants before accepting pre-

packaged samples; c) ensuring that samples are collected correctly, completely, and delivered within the timeframe specified in the scope of work; and

Confirmed with the researcher and research sponsor that the samples had been delivered and received successfully and that there were no abnormalities.

Temperature excursion

d) Responsible for documentation and procedures for the delivery of biological samples in accordance with applicable

regulations. e) All research participant information must be kept confidential, except for personnel directly involved in sample collection.

Only service providers should have a data retention policy for storing and deleting participant data.

The aforementioned research.

Conducting research outside the primary research site is an effective strategy for facilitating research participants.

These have various limitations that may be significant to life and increase adherence to research protocols and retention in research; therefore, it should...

Developing oversight mechanisms for research sponsors and research physicians to ensure appropriate research procedures conducted outside of research centers.

6) Collecting and managing research data, including identifying and managing original data.

Decentralized clinical research studies have a different format from traditional research studies in terms of data collection.

Data collection, instead of being conducted by the researching physician or research facility, should be conducted by research participants and/or caregivers and/or healthcare personnel.

Residential health care (e.g., residential nurse visits) is recorded directly electronically (e.g., on a record form).

Participant data (CRFs), ePROs, wearable devices, etc., may be collected at or outside the research site.

Clinical or off-site.

Data recorded during clinical research should be reliable and verifiable, demonstrating consistency.

The ICH E6 Guideline for Good Clinical Practice must be followed, and all regulations related to data protection laws must be complied with.

This applies to personal matters, including those under the Cybersecurity Act.

According to the ALCOA++ principle, data recorded during clinical trials should be verifiable, indicating who recorded it.

(Attributable) Readable; (Legible) Data entered immediately after the activity occurred; (Contemporaneous) Original document; (Original)

Accurate, complete, consistent, enduring, available upon request, and

The data should be traceable and protected under Thailand's Personal Data Protection Act.

Considerations when using electronic systems for direct data collection: Research sponsors should review and implement these considerations.

Adequate regulatory measures, including but not limited to:

- a) Ensure that all parties involved in the clinical research have a comprehensive understanding of the data flow. A data flow diagram with further explanation should be included in the research protocol and/or Related documents
- b) Ensure that the data acquisition tools used are constructed in a controlled, configured, and validated manner for their intended use, which requires control over their implementation.
Appropriate changes and continuous verification.
- c) Determine the types and scope of personal data of research participants to be collected and ensure that...
It means that there is adequate protection under the regulations related to the Personal Data Protection Act.
- d) Ensure that when the original data saved by the data storage device is transferred to another location, it is deleted.
Permanently removed from the storage device afterwards. Both the data and its metadata will be transferred as well (please see...).
Further details can be found in ICH E6 R3 Glossary and Certified Copy sections.
- c) Implement measures such as encryption to reduce the risk of unauthorized access when access occurs.
Transfer data from the storage device to the server.
- f) Ensure that access to research data is controlled according to user rights and access methods defined for all parties involved. Unauthorized access should be prevented using appropriate security measures such as firewalls, etc.
- c) Ensure that the research physician has continuous access and control over all original data, regardless of whether...
Original data generated on-site or off-site, including original data reported to...
Research sponsors (e.g., data from a central laboratory, etc.)
- c) Appropriate measures and procedures should be in place to reduce the risk of data recording errors for data obtained from measurements.
Values and records are provided directly by research participants, particularly at primary, secondary, and key outcome points, or satisfaction points.
Safe (primary, key-secondary, or safety endpoints)

In summary, the use of electronic systems as a method for data collection must comply with the principles of data collection, management, and storage requirements. Furthermore, it must comply with data protection requirements under relevant regulations, including Thailand's Personal Data Protection Act, as well as various cybersecurity laws and regulations.

7) Monitoring the research.

Monitoring research is part of the quality control process in clinical research, and regardless of whether...

On-site monitoring, remote monitoring, or a combination of both, must consider the benefits and risk management.

Whatever may occur, adequate measures must be in place to ensure the confidentiality of research participants and the integrity of their records.

information

As stated in the ICH E6 Guideline for Good Clinical Practice, a monitoring strategy should be based on the specific characteristics of the clinical research. Because each study project has different processes and decentralized components, it is necessary to consider the specific risks associated with that particular study project.

- a) Monitoring procedures can be divided into remote monitoring and site monitoring. Generally, both are implemented. Site monitoring usually takes place on-site; however, depending on the objectives and suitability, it may be conducted remotely.

Long distance is possible.

- b) When remote access to data is required for monitoring purposes, the necessity and appropriateness should be considered to avoid creating unnecessary burdens on the research site.
- c) If remote access to original data and documents is anticipated, additional measures should be implemented regarding data confidentiality and system security. Access rights to remote data should be defined, and traceability should be possible to determine who accessed the research participants' medical records, in compliance with relevant regulations and the requirements of the research site or healthcare facility.

The use of technology for remote monitoring in research is a method that can improve the efficiency of clinical research monitoring, especially in terms of controlling the quality of research data, real-time tracking of results, and compliance with research requirements. When conducting remote monitoring of research, the following points should be considered:

- a) The research sponsor should assess the risks of remote research monitoring, such as data quality, electronic system security, and privacy rights, in order to develop a comprehensive and effective Monitoring Plan (MP), mitigate potential risks, and maintain the quality of research data.
- b) The research sponsor should ensure that personnel or representatives responsible for remote research monitoring strictly adhere to relevant guidelines and standards, including the ICH E6 Guideline for Good Clinical Practice, clinical study agreements, requirements of relevant regulatory bodies, and the Personal Data Protection Act, to ensure that the research monitoring is conducted correctly, transparently, and respects the privacy rights of research participants. The research sponsor has a duty to supervise and ensure that the responsible personnel comply with the established guidelines.
- c) The research sponsor should ensure that the informed

consent form for clinical research projects clearly states the permission granted to the research sponsor or designated person to access the medical information of research participants relevant to the research via electronic systems. This may specify the scope of access, such as the type of data, the duration, and the individuals authorized to access it, as well as measures for the security of personal data. In addition, there should be provisions regarding the protection of research participants' personal data in accordance with the Personal Data Protection Act.

- d)

The research sponsor should... Access to medical information of participants shall be restricted to authorized personnel only, and only to information relevant to the research as specified in the informed consent form. This access shall be based on necessity and appropriateness, respecting the rights of research participants and avoiding unnecessary workload for the researching phy

c) The researching physician and/or research center should establish strict controls on remote access to data, restricting access to only personnel with informed consent from the research site and research participants for a specified period, and immediately revoking access when it is no longer needed. Access logs may be required for traceability, and no copying (e.g., screenshots, video recordings, etc.) of personal data about research participants should be permitted on computers or mobile devices. f) The researching physician and/or research site may establish secure remote communication channels (e.g., conference calls, video conferences, email, web portals, etc.) for research sponsors or their representatives and research staff at the research site.

8) Clinical research using satellite sites.

Traditional clinical research models focused on a primary site as the central hub, requiring research participants to return for appointments and research activities at that site. However, with advancements in technology and the growth of healthcare infrastructure, it is now possible to add more than one research site to accommodate comprehensive clinical research for a wider range of participants. The primary researcher takes on overall responsibility for oversight and supervision of the participants, working with co-researchers at sub-sites and network partners to select the best options for the research participants.

A sub-site is a research location linked to an existing primary research site, sharing the same principal investigator. Research participants receive care from a co-investigative physician at the sub-site, following their stated research protocols and under the supervision of the principal investigator. However, some participants may be uncomfortable with healthcare services outside the primary site or the use of digital technology and may choose to travel to the primary site or attend clinical research appointments with their physician/research coordinator.

Research with a network of sub-sites is part of a clinical research model that encourages research participants to have the option of participating in research activities closer to their geographic location. The intention of having alternative healthcare facilities is to bring research closer to participants for their convenience.

- A network of sub-sites distributed across different regions makes it easier for patients to access clinical research, especially research requiring a large number of participants or research on rare and specialized diseases. This allows for access to a more diverse patient population, speeds up participant selection, and reduces the burden of travel for patients.
- Networked sub-sites will improve research efficiency by reducing the workload of the main research site and facilitating research participation, especially for those living in remote areas. •

Networked sub-sites will help diversify the risks and hazards associated with unpredictable events such as natural disasters, political instability, and geographical

factors. • Networked sub-sites will disseminate clinical research knowledge to local medical personnel, develop clinical research systems (e.g., diagnostic equipment, disease monitoring, patient databases), and potentially increase local employment rates.

Although sub-research sites play a crucial role in expanding the scope of research and increasing sample diversity, they may have certain limitations that prevent them from operating as primary research sites, such as the readiness of the research team and infrastructure. Therefore, network-based research requires planning, preparation, and supervision by the primary research site to ensure quality control according to the approved research project standards, just like the primary research site. **8.1) Selection**

of Sub-Research Sites

- a) Research sponsors should assess the risks of establishing sub-sites within the network, such as conducting research according to the research outline, data management, administration, and oversight from the main research site.
- b) Research sponsors should assess whether a particular sub-network research site is adequately equipped to conduct clinical research on par with the primary research site, considering relevant factors such as the qualifications of the research physicians, clinical research experience, the number of patients/participants, the research site's infrastructure, coordination with the primary research site, technological capabilities, clinical research oversight agencies, etc., and properly document these processes. ÿ Research sponsors may consider community health centers, regional hospitals, specialized clinics, medical centers, or accredited private medical service networks, and may conduct initial assessments through questionnaires and/or site visits and inspections as appropriate.
- ÿ Research sponsors should inform the primary research site and the network of affiliated research sites being evaluated of the evaluation results. Received in writing.

8.2) Preparation of sub-network research sites.

- a) The research sponsor and/or research physician should obtain approval from the relevant regulatory agency and ethics committee to conduct clinical research at a sub-site/network research site. The research sponsor should specify the procedures for conducting research both on and off the sub-site/network research site, by research personnel and/or service providers, or as assigned by the research physician, in the informed consent form and other relevant documents. The research physician may assess factors relevant to each research participant to select the appropriate methodology and record this in writing. Research participants should be able to change their wishes at any time during the research period. b) The research sponsor should provide a Clinical Trial Agreement (CTA) clearly outlining the duties and responsibilities of the research sponsor, the primary research site, the sub-site/network research sites, and the management of research expenses from the sponsor, in accordance with the requirements and regulations of the relevant research site.
- c) The researching physician at the primary research site should assign qualified and appropriate researching physicians and/or research teams at affiliated sub-sites to conduct the research procedures according to the established research protocol, and such assignments should be documented in writing. Furthermore, training should be provided on the research protocol, assigned research procedures, access to research data and relevant documents related to the clinical research process, and documentation should be maintained. Written text

• Research physicians at sub-network research sites may assign qualified and suitable internal personnel to the task.

Conduct the research according to the specified research outline and record the assignment in writing.

8.3) Supervision by the research sponsor, primary research site, and relevant regulatory agencies : a) The research

physician at the primary research site is responsible for supervising all clinical research, including the establishment of a supervision plan.

A Satellite Site Supervision Plan (SSSP) must be established before the research begins and is subject to change.

As appropriate, depending on the mutual agreement between the main research site and the network of sub-research sites.

• The regulatory plan for sub-network research sites should cover clinical research and should specify research procedures and responsibilities.

Responsibilities and assignments; managing research data; reporting progress and issues encountered.

Coordination and related oversight.

• The risk management plan for conducting research at sub-sites within the network should cover the following risks:

This may occur through assessment, control, and review processes for potential new risks.

b) The researching physician at the network's sub-site is responsible for overseeing the clinical research conducted at that site.

This includes adhering to research outlines, oversight plans, general operational plans, and regulations of regulatory agencies.

and the relevant ethics committee.

• Research physicians at network sub-sites are responsible for care and medical decision-making.

of the research participants (e.g., research procedures specified in the research protocol, assessment of side effects).

Changes to research drugs, etc., should prioritize the best interests of the research participants and be communicated to the research physician at the primary research site.

• Research physicians at sub-research centers should ensure that access to, and the confidentiality and protection of, personal information (such as name, address) is restricted.

Telephone number) for research project purposes only (e.g., making appointments, delegating authority, handling procedures).

and monitoring of the operation) from the research sponsor or representative, the research physician, at the main research site or

Representatives and related service providers must obtain informed consent from the research participants only.

c) If research procedures require taking place outside the sub-network research site, such as the research participant's residence.

The research sponsor and/or the research physician at the primary research site may arrange for qualified service providers to...

The research procedure was conducted according to the research outline and the same requirements could be followed at any location.

In the primary research, the researching physician at the main research site should have measures in place to supervise service providers through the sub-research sites.

Network

d) Research sponsors should arrange for monitoring to examine and evaluate the research.

The research was conducted in accordance with the research outline and relevant ethical and legal requirements, including on-site investigations.

Both on-site monitoring and remote monitoring are required from the researching physician at the primary research site.

They have been notified, and may arrange for a representative to participate in monitoring research at the network's sub-research sites.

.....

Glossary

Electronic consent process (Electronic Consent; eConsent)	<p>Obtaining informed consent for participation in clinical research that occurs on-site.</p> <p>Meetings can be held physically or remotely using digital devices (such as desktop computers, laptops, tablets, and smartphones), platforms, and web browsers that are deemed secure.</p> <p>of information</p>
Acceptance of data security. (Data Security Compliance)	<p>Digital devices, platforms, and web browsers that are compatible.</p> <p>Data security is ensured when those systems comply with...</p> <p>The key principles of the world's primary regulatory bodies include 21. FDA CFR Part 11 and Guideline on Computerized Computerization. Systems and Electronic Data in Clinical Trials, by the EMA.</p> <p>Focus on the following points:</p> <ul style="list-style-type: none"> • Data Integrity: The system must ensure data integrity. <ul style="list-style-type: none"> The accuracy, completeness, and reliability of the records. Electronics throughout the data lifecycle. This conforms to the ALCOA++ principle (of EMA) to prevent... Distortion or loss of information. • Audit Trails: The system must be secure and unable to be automatically modified, with the ability to... <ul style="list-style-type: none"> Timestamped to record every action. Create, change, or delete data in the system. • Access Control and Security <ul style="list-style-type: none"> Controls): The system must have robust security measures in place, such as controlling access to only authorized users. (Authorized Users) Using secure passwords and restrictions. Role-Based Access Control • Electronic Signatures: A signature... <ul style="list-style-type: none"> Electronic documents must clearly contain identifying information about the signatory, date/time, and the meaning of the signature, and must be linked. With that electronic record permanently, so that it is considered to have legal effect. The law is equivalent to a handwritten signature. • System Validation: The system must be validated. <ul style="list-style-type: none"> The computer was tested before use to demonstrate that the system is capable. Works correctly as intended (Fit for Intended Purpose) consistently and reliably.

Reporting the results by research participants. electronics (electronic Patient Reported Outcomes; ePROs)	Reporting health and well-being data, or evaluating outcomes. Clinical trials were conducted on research participants using digital devices (e.g., desktop computers, laptops, tablets, and smartphones) and web browsers that are deemed secure. of information
decentralized clinical research (Decentralized Clinical Trials; DCTs)	Clinical research methodologies utilizing digital technology and... Conduct field research to apply in order to increase access and reduce... The burden on research participants remains, while safety must still be maintained. Research participants and data completeness, according to research guidelines. Good clinical practices and strict regulatory requirements.
Characteristics that are crucial to the quality of research. Critical -to-Quality (CtQ)	The characteristics that are crucial to the quality of clinical research will be... This has a serious impact on the safety of research participants and/or Or, scientific credibility and data integrity are often used to define the scope and goals of management. Managing the risks and resources of clinical research.
Telemedicine	Telemedicine services (e.g., consultations, etc.) Monitoring and assessing the safety of research participants according to the plan. Research proposals are submitted via electronic communication tools and digital technology.
Healthcare personnel at residential facilities. (Home Healthcare Professionals; HHCPs)	Licensed Healthcare Personnel Providers) such as nurses, medical technicians, or other practitioners. Other health services provided or contracted by the researching physician and/or... Research sponsors, through service providers, enable the implementation of research activities. Simple clinical research conducted at home or a convenient location. For research participants, this includes tasks such as collecting blood samples and measuring signals. Psychiatric care, simple medication administration, or initial clinical evaluation. As assigned.
Service Provider	An individual or organization that has been contracted by a sponsor. Research and/or physician researchers to conduct clinical research as follows: A decentralized element of some kind, with a defined boundary. To perform the work (scope of work) as specified in writing, in order to... We are confident that the operations are of high quality and comply with the requirements. Relevant regulations

<p>Supervision plan for sub-research sites in the network. (Satellite Site Supervision Plan; SSSP)</p>	<p>Operational documents for the supervision of sub-research sites within the network.</p> <p>The primary research site may specify details regarding research procedures, responsibilities and assignments, research data management, progress reporting and any problems encountered, and contact information.</p> <p>Coordination, related oversight, risk management.</p> <p>Manage potential risks to ensure the safety of research activities.</p> <p>All activities conducted off-site were in accordance with the guidelines.</p> <p>Clinical good practice and research protocols. This document should...</p> <p>This occurs before the research begins and may be subject to change as deemed appropriate, depending on the agreement between the primary research site and the research site.</p> <p>Subdivide the network.</p>
<p>Sub-research site (Satellite Site)</p>	<p>The research location assigned to conduct the research procedure.</p> <p>The clinics listed are under the quality control and supervision of...</p> <p>The primary research location is to facilitate access to research.</p> <p>The clinic provided services to research participants.</p>
<p>Primary Research Site</p>	<p>The central hub for the administration and oversight of research studies.</p> <p>The clinic is where the principal investigator and key research personnel are located.</p> <p>The highest responsibility for overseeing and controlling clinical research is...</p> <p>And to ensure the safety of research participants and the integrity of...</p> <p>All data was collected from both the primary research site and supporting components.</p> <p>Decentralized, such as a network of sub-research sites.</p>
<p>Decentralized elements (Decentralized Elements)</p>	<p>All activities, technologies, and support services that enable...</p> <p>Clinical research can be conducted remotely or in a convenient location.</p> <p>For research participants (e.g., at home or in a community clinic), while still...</p> <p>Maintain the quality and safety standards of the research.</p>