ICH M11: Clinical electronic Structured Harmonised Protocol (CeSHarP)

An Introduction to the M11 Guideline, Template, and Technical Specification

CTTI Webinar – January 26, 2023

International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use
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Opening Remarks

Dr. Jacqueline Corrigan-Curay
U.S. Food and Drug Administration
Number of experts in ICH WGs

- Global Self-Care Federation: 12
- HSA, Singapore: 15
- Swissmedic, Switzerland: 19
- IFPMA: 19
- MFDS, Republic of Korea: 24
- BIO: 24
- ANVISA, Brazil: 27
- TFDA, Chinese Taipei: 27
- IGBA: 28
- Health Canada, Canada: 32
- NMPA, China: 46
- PhRMA: 53
- JPMA: 56
- EFPIA: 59
- FDA, United States: 65
- MHLW/PMDA, Japan: 69
- WHO: 12
- TGA, Australia: 10
- EC, Europe: 58
ICH M11: Clinical electronic Structured Harmonised Protocol (CeSHarP)

An Introduction to ICH, ICH M11 EWG and an Overview of M11 Guideline

Janice Maniwang
U.S. Food and Drug Administration
Agenda

What is ICH?

Overview of ICH M11 Expert Working Group

Introduction to ICH M11 Guideline

Introduction to ICH M11 Protocol Template

Introduction to Technical Specification

Questions & Answers
What is ICH?

• International Council on Harmonisation (ICH) was launched in 1990

• Purpose:
  o To promote public health through international harmonization that contributes to:
    - Prevention of unnecessary duplication of clinical trials and post market clinical evaluations
    - Development and manufacturing of new medicines
    - Registration and supervision of new medicines
    - Reduction of unnecessary animal testing without compromising safety and effectiveness
  o To agree on common scientific and technical standards toward product authorization
ICH Accomplishments

• As of June 2022, there are 70 guidelines setting global standards for the quality, efficacy, and safety of medicinal products, as well as multidisciplinary standards to address electronic document submissions.

• Examples include guidelines and terminologies:
  o Good Clinical Practice (GCP)
  o Common Technical Document & eCTD
  o Multi-Regional Trials
  o Statistical Principles
  o Pediatric Trials
  o Development and maintenance of MedDRA
Current ICH Members

**Regulatory Members**
- ANVISA, Brazil
- COFEPRIS, Mexico
- EC, Europe
- FDA, United States
- HSA, Singapore
- MHRA, UK
- MFDS, Republic of Korea
- MHLW/PMDA, Japan
- NMPA, China
- TFDA, Chinese Taipei
- Health Canada, Canada
- SFDA, Saudi Arabia
- Swissmedic, Switzerland
- TITCK, Turkey

**Industry Members**
- EFPIA
- JPMA
- PhRMA
- BIO
- Global Self-Care Federation
- IGBA

Source: https://ich.org/page/members-observers
ICH Structure and Governance

Organisation of ICH

- Auditors
- Assembly
- ICH Management Committee
- MedDRA Management Committee
- ICH Secretariat
- ICH Coordinators
- ICH Working Groups

Adapted from https://www.ich.org/page/organisation-ich
ICH M11: Background

- ICH M2’s informal monitoring of industry standards development activities identified the need for harmonised protocol structure and content.

- Informal agreement from subject matter experts on perceived value from a harmonized document organization supported by electronic content structured for exchange for clinical trial protocols.

- Increased efficiency is anticipated in most steps of study conduct (e.g., trial design, investigator on-boarding, study setup, study reporting, and review).

- The perceived benefit of this effort is commonly expressed by SMEs from regulators and industry.
ICH M11 Expert Working Group

**Regulatory Members**
- ANVISA, Brazil
- CDSCO, India
- EC, Europe
- FDA, United States
- Health Canada, Canada
- HSA, Singapore
- MHLW / PMDA, Japan
- National Center, Kazakhstan
- NMPA, China
- SFDA, Saudi Arabia
- TFDA, Chinese Taipei

**Industry Members**
- BIO
- EFPIA
- IFPMA
- IGBA
- JPMA
- PhRMA

Source: https://ich.org/page/multidisciplinary-guidelines
ICH M11 Deliverables

• ICH M11 is a new harmonised guideline on the clinical protocol that specifies comprehensive organization with standardized content (including both required and optional components).

• Deliverables
  • A Template to include identification of headers, common text and a set of data fields and terminologies which will be the basis for efficiencies in data exchange
  • A Technical Specification that uses an open, nonproprietary standard to enable electronic exchange of clinical protocol information
Our M11 Journey So Far…

Concept Paper
- June: Concept Paper endorsed in Kobe, JP
- November: Charlotte, USA 1st EWG Meeting

M11 Collaborations
- Jan-Feb: WGs formed with E9(R1) & M2
- May: Virtual Meeting on E9 content integration and technical specification
- Informal party review
- November: Virtual Meeting – E9(R1) feedback
- Prep for Party Review

Pre-Clearance Review
- May: Virtual Meeting – Resolution of party feedback
- Finalized the Technical Specification v0.1
- September: Step 1 Sign-off Amsterdam
- September: Steps 2a/2b
- October: Entered Step 3

The “Humble” Draft
- 1st Draft Structure
- May: Amsterdam (2nd F2F)
- Consensus on structure
- Party Review of 1st draft
- November: Singapore (3rd F2F)

Party Review (Pre-Step 1)
- Escalation & caucuses
- May: Virtual Meeting on structure, content, design principles
- Debulking
- November: Virtual Meeting – preparing for Step 1

Prepare for Step 3 Sign-off
- Complete Step 3 regional public consultation period
- Address regional public consultation results
- Update guideline, template and technical specification
- Regional Party Review
- Step 3 Sign-off
- Draft Technical Implementation Guide
We are here, working toward Step 3 sign-off in 2023.
There are many ICH EWG pieces that must fit together to make a clinical protocol.
Issues to be Resolved by M11: Breadth of Coordination

- Structure & Content of Clinical Study Reports
- Ethnic Factors in Acceptability of Foreign Data
- Good Clinical Practice
- General Considerations in Clinical Trials
- Statistical Principles for Clinical Trials
- Clinical Trials in Pediatric Populations
- Multi-Regional Clinical Trials
- Adaptive Clinical Trials
- Electronic Standards
How To Think About The M11 Documents

- **Guideline is like the container**
  - Not expected to change over time

- **Template and Technical Specification are like ice and water**
  - Different forms of the same material
  - Will change over time
• The purpose of the Guideline is to describe the general protocol design principles and approach used to develop the separate associated documents, the ICH M11 Clinical electronic Structured Harmonised Protocol Template (Template) and the Technical Specification that are acceptable to all regulatory authorities of the ICH regions.
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3. **TEMPLATE CONVENTIONS AND DESIGN** .................................................................................................... 4
The Template and Technical Specification are applicable to \textit{interventional clinical trials} of medicinal products across all phases and therapeutic areas of clinical research.
• Neither the Guideline nor the Template or Technical Specification are intended to specify processes related to development and maintenance of a protocol.

• They do not supersede or negate other guidelines that establish requirements for protocol content.

• They do not provide instruction on the development of a well-designed trial or characterize a well-crafted final protocol.
• The Template is designed with the most vital information for execution (for example, Synopsis, Schema, Schedule of Activities) near the front.

• Trial-specific information appears earlier in the protocol template, while reference details and more general (non-trial specific) information is in the General Considerations and Appendices. This organizational construct was adopted for its utility during execution.

• All sections, regardless of the location in the protocol, carry equal weight and rigor.
The Technical Specification serves as a technical representation of the Template.

- Technical Specification provides flexibility in addressing data exchange needs per ICH and those of regional authorities.

- The Technical Specification contains detailed descriptions of information components of the Template.
Thank You!
ICH M11: Clinical electronic Structured Harmonised Protocol (CeSHarP)

An Introduction to M11 Protocol Template

Noemie Manent
European Medicines Agency
Content

Ø Overview on the protocol template including:

- Problem Statement
- Proposal on template organisation and table of content
- Key principles
Why Clinical electronic Structured Harmonised Protocol (CeSHarP)?
Why Clinical electronic Structured Harmonised Protocol (CeSHarP)?

• The clinical protocol is an important document that describes the processes and procedures directing the conduct and analysis of a clinical study.

• Format and core content of study protocols vary from sponsor to sponsor, making interpretation difficult for:
  o Medical Writers
  o Study Sites
  o Institutional Review Boards (IRBs) and Ethics Committees
  o Regulators

• We receive protocols in many different formats
Why Clinical electronic Structured Harmonised Protocol (CeSHarP)?

The Problem

• No internationally harmonized standard template for the format and content to support consistency across sponsors and exchange of protocol information.

• Lack of harmonization **contributes to inefficiencies and difficulties** in reviewing and assessing clinical protocols by regulators, sponsors, ethical oversight bodies, investigators, and other stakeholders.
Why Clinical electronic Structured Harmonised Protocol (CeSHarP)?

The Problem

- **Lack of harmonization** leads to inconsistent quality of protocols, resulting in:
  - Delayed timelines for product development, which may delay access to medicines for patients;
  - Resource-intensive manual activities, which increase the cost and complexity of clinical research and drug development;
  - Inefficient use of knowledge and duplication of effort;
  - Inability to leverage tools that allow reuse, review, analysis, and reporting; and
  - Limit the exchange/utilization of data collected in each protocol.
Why Clinical electronic Structured Harmonised Protocol (CeSHarP)?

The Problem

• 57% of Phase II – III protocols\(^1\) are amended at least once
  o Substantial global protocol amendments
  o 57% of protocols had at least one substantial amendment
  o 45% of these amendments were deemed “avoidable”

• In U.S., cost to implement a substantial amendment was $141,000 for Phase II protocol and $535,000 for a Phase III protocol

• Protocol amendment review is a tedious manual process during clinical trial application review (IND/CTA) or at the time of NDA/MAA: Efficiency gain here would be helpful

---

\(^1\) The Impact of Protocol Amendments on Clinical Trial Performance and Cost
Protocol Template and Table of Contents

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Conventions and General Instructions

- Template

- Preamble to the Table of Content offers conventions and general instructions on heading structure and flexibility within the template as well as explanation on terms.

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<th>Example Heading</th>
<th>Heading Level</th>
<th>Typeface in this Template</th>
<th>Modification or Deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1.1.1</td>
<td>Level 4 (L4)</td>
<td>Non-numbered heading</td>
<td>Delete heading or modify as needed; Insert where needed</td>
</tr>
</tbody>
</table>

### Table and Figures Numbering

- Tables and figures should be numbered and include a title or caption, respectively. No numbering convention is specified by this template, but a consistent approach should be applied throughout the document.

### Page Orientation

Page orientation can be modified from portrait to landscape as needed.

### Terminology

- The following terminology has been selected for use within this template and is considered to be appropriate for all phases, trial populations, and therapeutic areas:
  - **Because** the scope of this protocol template is focused on interventionional clinical trials, the term **clinical trials** is used rather than clinical studies when referring to interventionional clinical trials.
  - **Participant** is used rather than subject, healthy volunteer, or patient when referring to an individual who has consented to participate in the clinical trial. Patient or individual is used to distinguish the population represented by the trial participants, when necessary.
  - **Trial intervention** refers to any therapeutic, prophylactic, or diagnostic agent including pharmaceuticals, biologics, vaccines, cell or gene therapy products (when applicable).
The Template was designed based on general principles that would support a harmonised standard protocol to facilitate consistency and efficiency in the development, amendment, review, conduct and closeout of a clinical trial and the exchange of protocol information.

Principles

- **Build common core content** - The template design represents a core set of information for a clinical trial of any medicinal product(s).
Key Principles - Template

- **Serve the needs of stakeholders** - The template’s structure and content provide a framework for relevant stakeholders to develop, review and implement protocols that consistently and unambiguously include a uniform table of contents, common section headers and content, as well as common terminologies.

- **Define content for electronic exchange** - The protocol content can be electronically exchanged among parties, including sponsors and regulators, using current (for example, electronic common technical document) and other future technologies.
Key Principles - Template

• **Design for content re-use** - The clinical protocol is a rich source of information that can be re-used as part of the clinical trial management and review process, and, for example, published on clinical trial registries to promote clinical trial transparency and used in standardised clinical trial data capture.

• **Maintain flexibility** - The template incorporates both recommended and optional text and data fields to maintain flexibility. Higher-level heading structure is conserved, while lower-level sections can be added, removed, or modified as needed.
1. Template developed for use in interventional clinical trials for
   • All phases of clinical research
   • All therapeutic areas of clinical research
   • Interventions including drugs, vaccines, and drug/device combination products when registered as a drug
   • Various study designs, including adaptive and master protocols

2. Audience
   • Those who execute trials (Investigators and study staff)
   • Those who approve trials (regulatory and ethics for example)
   • Sponsor’s study team (including monitors), CROs, Inspectors, Data Monitoring committees, patients and patient advocacy groups

3. Template
   • Is informed by review of various sources created by others, as well as the EWG
   • Is aligned with other relevant ICH guidelines
   • Represents the EWGs interpretation of how some guidelines should be implemented within a protocol, if no such details were previously specified
More on Design Principles 2/4

4. Template must
   - Balance flexibility with consistency
   - Establish a foundation for a more automated, electronic future without eliminating paper capability
   - Be maintained with predictable regularity and frequency

5. Template does not
   - Replace training for trial design
   - Replace training for protocol writing
   - Replace training in statistical methodology
   - Restate other guidelines or regulations
   - Represent a harmonization of any topical content (for example, M11 did not harmonize requirements for contraception)
6. Template is designed to enable specific tasks (use cases)
   • The initial instance will support regulatory submission/review and protocol execution by investigative sites. Other use cases may follow in the future (for example, design of protocol content for subsequent population of major clinical trial registries).
   • Where questions of granularity arise, more granularity will be preferable to less, consistent with the goal to enable a more electronically-enabled future.

7. Template aims to
   • Avoid unnecessary duplication of content
   • Cross-references can be made between protocol synopsis and main body and vice-versa.
   • Avoid using multiple terms for the same thing
   • Avoid change from established templates already in broad use unless specific value or improvement is added
   • Introduce more structured content (vs. unstructured narrative) where possible
   • Use established terms and definitions, rather than creating new ones
8. To maximize utility of the protocol for site personnel during execution, the template is organized with a main body, General Considerations, and Appendix sections.

   - Information crucial to execution of the trial is in the main body.
   - Information that does not change often or impact daily execution is toward the back.
   - All parts of the protocol (synopsis, main body, general considerations, appendix) are equally important and carry equal weight with respect to adherence by all study personnel.
   - The General Considerations and Appendix sections are *normative*, not merely informative (have equal weight, rigor, and applicability as main body)

9. To maintain efficiency and clarity and prolong the lifespan of the template

   - Example of use will be offered in training or implementation materials
   - Specific prompts to cross-reference other sections of the protocol have been removed, but cross-referencing is encouraged
Thank You!
ICH M11: Clinical electronic Structured Harmonised Protocol (CeSHarP)

An Introduction to the Draft Technical Specification

Mitzi Allred
Merck & Co, LLC

International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use
Key Principles – ICH M11 Deliverables

• ICH M11 is a new harmonised guideline on the clinical protocol that specifies comprehensive organization with standardized content (including both required and optional components).

• Deliverables
  • A Template to include identification of headers, common text and a set of data fields and terminologies which will be the basis for efficiencies in data exchange
  • A Technical Specification that uses an open, nonproprietary standard to enable electronic exchange of clinical protocol information
• The Technical Specification serves as a technical representation of the Template. This Technical Specification is to be aligned with the latest version of the Guideline and Template, but with flexibility in addressing data exchange needs per ICH and those of regional authorities.

• The Technical Specification contains detailed descriptions of information components of the Template.
Reminder: How to think about the M11 Documents

• Guideline is like the container
  o Not expected to change over time

• Template and Tech Spec are like ice and water
  o Different forms of the same material
  o Will change over time
Design Principles
• The Technical Specification includes detailed descriptions of the structured content components (for example, specific data fields and blocks of text-based content), along with other defining attributes and business rules as established in the Template.
More on the Technical Specification
Principles – Technical Specification

- Promote structured common core content
- Define content specifications for electronic exchange
- Develop a data model based on specifications
- Focus on relevant content use and re-use
- Use an open, non-proprietary exchange message standard
- Maintain flexibility for technical innovation and region-specific use
### Example

<table>
<thead>
<tr>
<th>Overall Rules</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Term (Variable)</strong></td>
<td>Overall rules</td>
</tr>
<tr>
<td><strong>Data Type</strong></td>
<td>Text</td>
</tr>
<tr>
<td><strong>Topic, Value or Header</strong></td>
<td>H</td>
</tr>
<tr>
<td><strong>Definition</strong></td>
<td></td>
</tr>
<tr>
<td><strong>User Guidance</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Conformance</strong></td>
<td>Rules</td>
</tr>
<tr>
<td><strong>Cardinality</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Relationship content from ToC representing the protocol hierarchy</strong></td>
<td>All document</td>
</tr>
<tr>
<td><strong>Relationship (reference to high level conceptual model)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Value</strong></td>
<td>REQUIRED Level 1 and Level 2 headings</td>
</tr>
<tr>
<td><strong>Business rules</strong></td>
<td>Value Allowed: Yes</td>
</tr>
<tr>
<td></td>
<td>Relationship: n/a</td>
</tr>
<tr>
<td></td>
<td>Concept: n/a</td>
</tr>
<tr>
<td><strong>Duplicate field in other sections</strong></td>
<td></td>
</tr>
</tbody>
</table>
More on the Technical Specification

• **Not (yet) a complete specification, but we need input now from:**
  o Software developers and the vendor community
  o IT professionals
  o Data standards experts
  o Data managers, statisticians

• **Current version is a restatement of the protocol template**
  o Does not reflect a complete data model
  o Does not specify a standard or all details necessary for message exchange

• **Additional refinement of the Tech Spec will proceed in partnership with one or more Standards Development Organizations (SDOs)**
  o Conceptual, logical, and physical models
  o Message exchange
  o Will include additional opportunities for engagement and review
More on the Technical Specification

- Implementation at this stage is possible, but not expected
- The tech spec is an even more concise articulation of the contents and instructions provided in the template
  - Ensuring congruence between the tech spec and the protocol template led to more precision in the structure and instructions for both
  - Review of the tech spec may reveal details that will be important during implementation that may not have been entirely obvious by reading the template alone
Value of M11 Technical Specification
Objectives and Benefits – Technical Specification

- The Technical Specification presents the conformance, cardinality, and other technical attributes that enable the electronic exchange of protocol content.

- The Technical Specification
  - presenting the business requirements and common structured protocol content components
  - an open, non-proprietary standard for electronic exchange enables development of interoperable electronic tools to facilitate exchange, review, and execution of protocols.
What to Consider

- The Technical Specification is at an early stage of maturity as certain terms (variables) in this version (e.g., Cardinality, Definition, Relationship to Conceptual Model) are to be addressed post-public consultation as ICH M11 progresses through the formal ICH procedure.

- The Template and Technical Specification are versioned documents. As clinical protocol requirements evolve and technology advances, they may be revised subject to a change control process.
**Value of Standardized Protocol**

- **Foundational step toward a “digitized protocol”**
  - Granular content can be exchanged, extracted, translated, reassembled, or processed as individual pieces or as a whole set
  - Additional standards can be developed in the future by ICH or other SDOs to govern contents within the protocol
  - Creates foundational requirements to enable informatics and software development
Value of Standardized Protocol

M11 Template
M11 Guideline
Aka Data w/stylesheet

Guidance

Conceptual & Logical Models

eData Standards

M11 deliveries

ICH
harmonisation for better health
The content model identifies each piece of content and defines relationships (hierarchy) to enable information exchange at different levels of granularity.
This component structure is repeatable for primary, co-primary, secondary, and exploratory endpoints.
Conceptual model: what data mean (defined concepts and relationships that are used in the real world)

Logical model: how data is modelled with data elements, groups, relations, cardinality, data types, etc.

Physical model: how data is implemented technically in a physical system, e.g. a database
Models support exchange and storage of information (Data and Content).

Conceptual Model

Describes how business concepts are related to entities conceptually at the highest level.

Logical Model

Describes how entities are related, includes details like how entities are connected, which unique id connects it etc.

XML Schema/SDO Development

Describes how information can be read Usage: Information Exchange and APIs

** example HL7 Vulcan/CDISC

Example (Message Exchange)

Technical Specification

Guideline

Protocol Template

Basis of Requirements

DRAFT Technical Implementation Guide

Example

(Basis of Requirements Sheet)
How to Review the Technical Specification
2 INTRODUCTION

No text is intended here (header only).

2.1 Purpose of Trial

Explain why the trial is needed, why the research questions being asked are important. Do not restate the Rf.

[Refer to the Section 1.2, Trial Schema, and Section 1.3, Schedule of Activities, for more information about the trial design.]

2.2 Summary of Benefits and Risks

Include an assessment of known benefits and potential risks, including the basis of the risk (for example, preclinical studies or prior clinical trials).

[Benefit Summary]

Risk Summary and Mitigation Strategy

Trial Intervention – Discuss risks related to trial-specific treatments and interventions. For the protocol, focus discussion only on the relevant key risks for this trial. Provide a brief description of strategies to mitigate identified risks or provide a cross-reference to the relevant protocol section.

[Trial-specific Discussion of Intervention Risks and Mitigations]

Trial Procedures – Consider risks associated with the design (for example, placebo arm) and procedures specific to this trial (for example, biopsies), and any measures to control the risks. Provide a brief description of strategies to mitigate identified risks or provide a cross-reference to the relevant protocol section. This is not intended to be an exhaustive list of all possible risks associated with trial procedures but should focus on the unique risks inherent in the design or less common or high-risk procedures. As above, provide a brief description of strategies to mitigate identified risks or provide a cross-reference to the relevant protocol section.

[Trial-specific Discussion of Procedure Risks and Mitigations]
M11 Technical Description at this stage of development is ‘business’ oriented and follows the Template Outline.

It is best to have the template available when reading the Technical Specification.
- **Headers are Text**
  - have a value
  - may be required
  - may be optional
  - may be repeated or combination

- **Level 1 and 2 Headers are required**

- **Some information categories will be completed following public comment/confirmation**
Content has a variable name is D Data should have a definition may have guidance if in template or guidance document may be required may be conditional may be optional may be repeated or combination of relates to a TOC item may be defined length text, open ended text, value, selection, in table may be repeated in document information that may change/complete following public comment/confirmation
• When commenting, please indicate whether it is a “major” or “minor” issue

• Please bear the Design Principles in mind for all deliverables

• Note that most Level 3 headings and below can be changed or deleted while Level 1 and 2 should be conserved (can be populated as “not applicable” where appropriate).

• Structure has been added on purpose to reduce variability and enable future technology.

• Breadth of stakeholders is similar to GCP
  o Includes academic researchers and sponsor/investigators
Conclusions

• A harmonised clinical protocol Template and Technical Specification for electronic exchange of protocol information will enhance the ability of sponsors, regulators, investigators, and other stakeholders to initiate, review, and conduct clinical research, resulting in more efficient drug development and delivery of medicines to patients.

• Additional training materials are planned to complement the Guideline.
Thank you!

• For any questions, please contact the ICH Secretariat: 
  admin@ich.org

• Reference the Public Consultation Dates

  ICH.org
  M11

Rapporteur: Dr. Ronald Fitzmartin (FDA, United States)
Rapporteur: Ms. Vivian Combs (PhRMA)

Date of Step 2b: 27 September 2022
Status: Step 3

Public consultation dates:

ANVISA, Brazil - Deadline for comments by 6 March 2023

EC, Europe - Deadline for comments by 26 February 2023

FDA, United States - Deadline for comments by 21 February 2023

HSA, Singapore - Deadline for comments by 28 February 2023

Health Canada, Canada - Deadline for comments by 17 February 2023

MHLW/PMDA, Japan - Deadline for comments by 17 March 2023

NMPA, China - Deadline for comments by 15 March 2023

SFDA, Saudi Arabia - Deadline for comments by 15 February 2023

Swissmedic, Switzerland - Deadline for comments by 26 February 2023

TFDA, Chinese Taipei - Deadline for comments by 28 February 2023
Closing Remarks

Dr. Ron Fitzmartin
U.S. Food and Drug Administration
• A protocol template has been on industry and regulator wish lists for decades.

• It took a global collaborative and non-competitive environment to attempt it and to get to this point.

• Technology is ready now too.

• Industry, clinical sites, regulators, IRBs, patients want it… and all will benefit.

• Much more work to be done in 2023 by the EWG
Thank you!

- For any questions, please contact the ICH Secretariat: admin@ich.org
- Reference the Public Consultation Dates

ICH.org
M11