The Helsinki Declaration 2024:
Advancing bioethics and human rights

Collaborating with WMA and the IFAPP's perspective

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Consultant in Internal Medicine and in Pharmaceutical Medicine,

Co-organized by: The Brazilian Society of Bioethics (SBB); International Federation of Associations of Pharmaceutical Physicians and Pharmaceutical Medicine (IFAPP)



No conflicts of interest to declare for this presentation

Currently, as President of the International Federation of Associations of Pharmaceutical Medicine (IFAPP) and member of the Executive Committee of CIOMS, I collaborate with non-profit scientific organisations (e.g. PharmaTrain Federation), universities in postgraduate programmes (National and Kapodistrian University of Athens - NKUA, Democritus University of Thrace, Hellenic Open University-EAP, ACG-Deree), patient associations and international organisations to implement initiatives of excellence in clinical research with patient participation according to modern bioethical frameworks as an alumni of the Stavros Niarchos Bioethics Academy.

- I am also a member of the IFAPP Ethics Working Group
- The presentation is authorised by the IFAPP Exec Board, it expresses personal opinions mainly, except in cases with explicit references to IFAPP

Welcome Message

- I extend my warmest greetings and my deepest gratitude for your presence, which will enrich our perspectives and discourse.
- I would like to **express my gratitude to the organising committee** and especially to my colleagues in the IFAPP Ethics Working Group, Prof. Chieko Kurihara and Prof. Kotone Matsuyama, our distinguished **speakers and each and every participant**.
- This webinar is not just an academic or theoretical exercise; it is a call to action.
- As we delve into the issues of the ongoing revision of the Declaration of Helsinki, your views and questions may have transformative potential for human life and bioethics.
- Your input and our discussions can influence actionable change in medical research for the benefit of research participants.
- Without further ado, I wish you a stimulating dialogue and mutual inspiration."

Personal expectations regarding the ongoing revision of the DoH



- I expect the new version to be clearer and stronger to protect human participants around the world, so that benefits and risks are shared equitably, especially among vulnerable patients and those in low- and middle-income countries.
- I also expect modern ethical challenges related to new technologies, AI, genetic tools, and Covid-19 experiences are addressed

WMA Declaration of Helsinki revision process to be recognised for

Transparency and public involvement

• Designed to be highly transparent and inclusive with multiple public comment periods and regional meetings

Global collaboration

• Involved various international stakeholders in different parts of the world to ensure a comprehensive global update

Recent publications on DoH revision spark Debate

This Issue Views 5.790 | Citations 0 | Altmetric 30 | Comments 2

Viewpoint | Integrating Clinical Trials and Practice

June 20, 2024

Protecting Participants Is Not the Top Priority in **Clinical Research**

Jerry Menikoff, MD, JD1

Author Affiliations

JAMA. 2024;332(3):195-196. doi:10.1001/jama.2024.7677



The Declaration of Helsinki, ¹ adopted 60 years ago by the World Medical Association, is widely viewed as "the 'cornerstone' document pertaining to medical research ethics." 2 Yet it endorses a core premise that is wildly inconsistent with the long-accepted understanding of the ethics of research with human participants. Its endorsement of that premise has real consequences that are harmful to the ability to conduct research ethically. It is long overdue for that position to change. And there is now a particular opportunity to make that change: the World Medical Association is currently engaged in a procedure to revise the declaration.

August 20,2024



Commentary

Journal of the Royal Society of Medicine; 0(0) 1-7 DOI: 10.1177/01410768241261758

60th anniversary of the Declaration of Helsinki: ethical challenges in the 10th amendment

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The Declaration of Helsinki (DoH), issued by the World Medical Association (WMA), remains an essential ethical framework for research involving human participants worldwide. Established in 1964, the DoH has been significantly revised, with nine previous amendments, demonstrating its commitment to adaptability and its ongoing relevance in guiding ethical research practices amid a changing global landscape, such as a global pandemic.¹

In anticipation of the DoH's Diamond Jubilee

challenges that the ongoing DoH review will need to address. These challenges are stimulated by the impact of global health emergencies and inequalities and unprecedented rapid technological advances, including the rise of digital technology, artificial intelligence and molecular breakthroughs such as CRISPR. These developments are driving considerable changes in research designs and require a comprehensive reassessment of ethical frameworks to address these evolving dynamics effectively.



International Federation of Associations of Pharmaceutical Physicians & Pharmaceutical Medicine

Purpose-driven organisation

* Ethical, innovative and scientific leadership

Value proposition: Benefits for members

- New: Fellowships for
 - Young ,Mid Career ,Senior Professionals
 - Collaborative culture
 - * Inclusive, open, transparent, interdisciplinary,
- Strategic partnerships with leading international organisations
- Scientific societies, academia and regulatory authorities, WMA, CIOMS, PharmaTrain, ECPM, FPM, .



EMPOWER MEMBERS

Ethics & Competencies

Career & professional development

Community Community

Deliverables



PROFESSIONAL

STANDARDS

On current and future perspectives

Consultations with Stakeholders

Publications

Public consultations



OPEN DIALOGUE.

IFAPP TODAY

Journal

IFAPP LinkedIn

IFAPP Website

IFAPP Webinars

IFAPP ICPM 2025

IFAPP Ethics Journey



What the IFAPP does for ethics



What IFAPP has contributed to the ongoing DoH revision



What the IFAPP will continue to do

IFAPP Ethical Perspective

Internal Aspects

- Code of Conduct ,a Constitutional requisite
- Ethics Framework for members

External Aspects

- Public Consultations (WHO,WMA, CIOMS, ICH, EMA, Voire Ethics for Healthy Volunteers)
- Peer Review Publications
- Webinars on Ethics

Ethics Framework for members by IFAPP EWG 3rd edition proposed under discussion

Physician's Code of Conduct

1st edition April 2003
Ethics WG:
Becker, chairperson (Australia),
Barrett, co-chairperson (UK), De
Botha (S Africa), Brun (Sweden),
Cairds (Germany), Chan
(Ireland), Carlesi (Italy), Collia
(Argentina), Jafary (Pakistan),
Nahler (Austria), Jekunen
(Finland), Halleux (Belgium),
Buehrmann (Germany) Dunton
(USA)

Framework for Multidisciplinary team

2nd edition, March 2018 Ethics WG:

Kerpel-Fronius, chairperson (Hungary), Becker, co-chairperson (Australia), Barrett (UK), Brun (Sweden), Carlesi (Italy), Chan (Ireland), Collia (Argentina), Dubois (Belgium), Kleist (Switzerland), Koski (USA), Kurihara (Japan), Filipe Laranjeira (Portugal), Schenk (Germany) Silva (USA).

Update of IFAPP Ethics Framework More involvement of patient and public

(support proposal)

Ethics WG:

Matsuyama, chairperson (Japan)

(Not yet team's consensus)

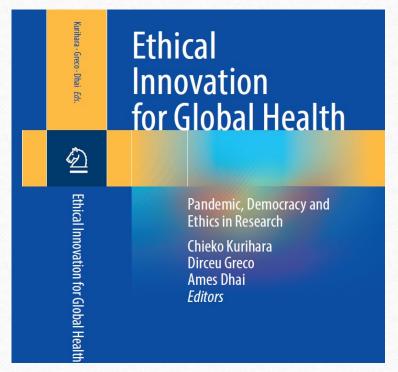
A topic of Intensive discussions on the DoH

Credit for the slide to Prof Chieko Kurihara

IFAPP: Ethics Working Group (EWG)

EWG regular activities

- Monthly meetings
- Peer-reviewed papers
- IFAPP TODAY Journal articles
- WMA & IFAPP meetings
- Collaborative projects –Book : Ethical Innovation for Global Health
- Contribution to CIOMS e.g., Research Governance



October 2017





MEMORANDUM OF UNDERSTANDING BETWEEN THE WORLD MEDICAL ASSOCIATION (WMA) AND THE INTERNATIONAL FEDERATION OF ASSOCIATIONS OF PHARMACEUTICAL PHYSICIANS (IFAPP)

The purpose of this Memorandum of Understanding (MOU) is to facilitate and stimulate contacts and cooperation between the World Medical Association, hereinafter referred to as "WMA" and the International Federation of Associations of Pharmaceutical Physicians hereinafter referred to as "IFAPP", on all projects of common concern that could be launched in the future.

Considering that the mission of the WMA, as a neutral and independent global federation of National Medical Associations representing physicians worldwide, is to act on behalf of patients and physicians. Considering that the WMA endeavours to achieve the highest possible standards of medical care, ethics, education and health-related human rights for all people.

Collaboration with WMA

- Sessions with WMA at IFAPP meetings
 - ICPM 2022 Athens Greece-WMA session hosted
 - IFAPP Regional Meeting in Amsterdam June 2023-WMA speakers hosted
- Sessions with IFAPP at WMA meetings
 - ◆IFAPP invited at WMA Asian regional meeting in Tel-Aviv in 2022
 - IFAPP at Copenhagen regional WMA meeting September 2023
 - ◆ IFAPP at Washington WMA regional meeting August 2024
 - IFAPP at the Helsinki WMA GA, October 2024

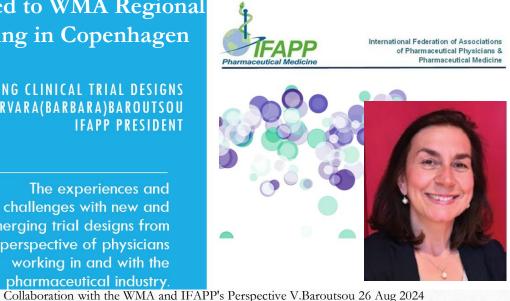
WMA (Drs Resneck, Kloiber, Tsai, Berggreen Høj) at IFAPP ICPM 2022



Invited to WMA Regional meeting in Copenhagen

EMERGING CLINICAL TRIAL DESIGNS DR VARVARA(BARBARA)BAROUTSOU IFAPP PRESIDENT

The experiences and challenges with new and emerging trial designs from the perspective of physicians working in and with the pharmaceutical industry.



Future revision of the Declaration of Helsinki: Dialogue with WMA in Athens. IFAPP TODAY. 2022: Nov/Dec (29): 5-8.

https://ifapp.org/static/uploads/2022/11/I FAPP-TODAY-29-2022.pdf

Next Revision of the Declaration of Helsinki: Meetings of the WMA and IFAPP. IFAPP TODAY. 2023; May (34):8-12.

https://ifapp.org/static/uploads/2023/05/IF APP-TODAY-34-2023.pdf

Discussion in Amsterdam on Datadriven Research and the WMA Declaration of Helsinki. IFAPP TODAY. 2023; Sept (37):5-9.

https://ifapp.org/static/uploads/2023/09/IF APP-TODAY-SEPTEMBER-2023-37.pdf

8/29/2024

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Exploring New and Emerging Trial Designs Considering the Revision of the Declaration of Helsinki

IFAPP is a member of the international network of the World Medical Association (WMA), and I was truly honoured to be invited as a speaker to the Regional Meeting in Europe on the Revision of the Declaration of Helsinki (DoH), which took place on September 21 and 22, 2023, at the Laegeforeningen, Danish Medical Association, in Copenhagen.



1.IFAPP TODAY Nov-Dec 2023 No 39, 15-17

https://ifapp.org/journal/ifapp-today-november-december-2023-number-39/1

2.IFAPP TODAY Sep 2023 No 37, 5-8.

Discussion in Amsterdam on Data-driven Research and the WMA Declaration of Helsinki.

https://ifapp.org/static/uploads/2023/09/IFAPP-TODAY-SEPTEMBER-2023-37.pdf

3. IFAPP TODAY Nov/Dec 2022 No. 29, 5-7.

Future Revision of the Declaration of Helsinki: Dialogue with the WMA in Athens.

https://ifapp.org/static/uploads/2022/11/IFAPP-TODAY-29-2022.pdf

4. IFAPP TODAY Jan 2022; No. 20, 3-7.

IFAPP Recommendations for the Revision of the Declaration of Helsinki, Version 2013

https://ifapp.org/static/uploads/2022/01/IFAPP-TODAY-20-2022.pdf

5. IFAPP TODAY Jul/Aug 2021; No. 16, 4-7.

Kurihara C. Webinar on COVID-19 and Bioethics: Pandemic and Research Ethics:

Democracy, Placebo, and Post-Trial Access.

https://ifapp.org/static/uploads/2021/07/IFAPP-TODAY-16-2021.pdf

6. Front. Pharmacol., 29 October 2020, Sec. Drug Outcomes Research and Policies

IFAPP recommended topics for the revision of Declaration of Helsinki version 2013

- 1. Connection of Declaration of Helsinki (DoH) & Declaration of Taipei (DoT)
- 2. Ethical approval & consent for secondary use of data
- 3. Incidental findings
- 4. Registration of "data sharing plan" and study results in public databases
- 5. Shared responsibility
- 6. Patient & Public involvement plan
- 7. Diversity of membership & qualified experience of Research Ethics Committees (REC)
- 8. Terminology aspects of human subjects & humans, participants, etc.
- 9. Medical research for common nomenclature between organisations
- 10. Placebo use wording & alignment of wording CIOMS & WMA (paragraph 33 DoH)
- 11. Vulnerable population
- 12. Post-trial access

What about the proposed draft of 2024 DoH?

Highest
Standard?
(deontology,
human rights)

Minimum
Requirement?
(utilitarian
pragmatism)

Collaboration with the WMA and IFAPP's Perspective V.Baroutsou 26 Aug 2024

8/29/2024

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Peer review IFAPP EWG members (2&3) and affiliated members (1) publications on DoH



Inder final review (1)

Vulnerability, social value and the equitable sharing of benefits from research: beyond the placebo and access debates

- 1 Chieko Kurihara^{1,2*}, Dirceu Greco³, Ames Dhai⁴, Kotone Matsuyama^{2,5}, Varvara Baroutsou^{2,6}
- 2 ¹Kanagawa Dental University, Yokosuka, Japan
- 3 ² Ethics Working Group of International Federation of Associations of Pharmaceutical Physicians
- and Pharmaceutical Medicine (IFAPP), Woerden, Netherlands
- 5 3 School of Medicine, Federal University of Minas Gerais, Belo Horizonte, Brazil
- 6 4 School of Clinical Medicine, University of the Witwatersrand, Johannesburg, South Africa
- 7 Department of Health Policy and Management, Nippon Medical School, Tokyo, Japan
- 8 6 International Federation of Associations of Pharmaceutical Physicians and Pharmaceutical
- 9 Medicine (IFAPP) President, Woerden, Netherlands
- 10 * Correspondence:
- 11 Chieko Kurihara
- 12 chieko.kurihara@nifty.ne.jp
- 13 Keywords: vulnerability, social value, post-trial access, global health, Declaration of Helsinki

Frontiers | Prontiers to Medicine

Declaration of Helsinki: ethical norm in pursuit of common global goals

Chieko Kurihara^{1,2}*, Sandor Kerpel-Fronius^{2,3}, Sander Becker^{2,4}, Johanna Schenk^{2,8}, Kotone Matsuvama^{2,9} and Varvara Baroutsou²

The World Medical Association's Declaration of Helsinki is in the process of bein The World Medical Association's Declaration of Helainis is in the process of being in pursuit of the common goal of promoting health for all. 1. Data-driven research that facilitates broad informed consent and dynamic consent, assuring participant's right, and the sharing of individual participant data (BD) and participant sight, and the sharing of individual participant data (BD) and principant sight, and the sharing of individual participant data (BD) and minimisation in a placebo-controlled study and post-trial access to the best proven interventions for all who need them. 3. A future-oriented research

1 Introduction

The Declaration of Helsinki (DoH) of the World Medical Association (WMA) (1), first The Declaration of Helsinki (DoH) of the World Medical Association (WMA) (1), first adopted in 1964, is the world's most widely recognised ethical principle for medical research involving humans. The WMA began the process of revising the DoH in April 2022, from the last version dated 2013. Research involving humans is a core activity in the development of medicines. For this reason, the authors have discussed the ideal function of the ethical norm of research involving humans, considering our global experience of the COVID-19 pandemi and other disasters, including war situations. The Dol't is a fundamental ethical norm, no both global society and the scientific environment over the past decade have posed an acu

ironitiers : in Pharmacology (3)



Linking the Declarations of Helsinki and of Taipei: Critical Challenges of **Future-Oriented Research Ethics**

Chieko Kurihara", Varivara Baroutsou", Sander Becker", Johan Brun", Brigitte Franke-Bir. Roberto Cariale", Anthony Chari, Luis Francisco Collia", Potet Kelsia", Schenke Luis Filipe Laranjeira "), Rotone Matsupama", Shehla Naseem ", Johanna Schenk ", Honorio Silva" and Sandor Kerpei-Fronius" on behalf of Working Group on Ethics of the International Federation of Associations of Pharmaceutical Physicians and Pharmaceutical Medicine

OPEN ACCESS

Citation:
Kurhara C, Baroutsou V, Baceler S,
Stun-J, Rankie-Bray B, Carkal R, Chan
A, Colfa LF, Kibit P, Lampidra LF,
Matauyama K, Nasaam S, Schark J,
Sko H and Krapel-Frohis S (2020)
Jaking the Declarations of Helanki and
If Taiped Critic Challenge of FluiroCitertod Research Etrics.

Ent. 4 Exercised 1-1-27214.

Expansion of data-driven research in the 21st century has posed challenges in the evolution of the international agreed framework of research ethics. The World Medical Association (WMA)'s Declaration of Helsinki (DoH) has provided ethical principles for medical research involving humans since 1964, with the last update in 2013. To complement the DoH, WMA issued the Declaration of Tainei (DoT) in 2016 to provide additional principles for health databases and biobanks. However, the ethical principles for secondary use of data or material obtained in research remain unclear. With such a perspective, the Working Group on Ethics (WGE) of the International Federation of Associations of Pharmaceutical Physicians and Pharmaceutical Medicine (IFAPP) suggests a closer scientific linkage in the DoH to the DoT focusing specifically on areas that will facilitate data-driven research, and to further strengthen the protection of research participants.

1 INTRODUCTION

Expanding interests in data-driven clinical science in the 21st century have posed some critical challenges in the recent evolution of research ethics. The International Council for Harmonization of Technical Requirements for Pharmaceuticals for Human Use (ICH) has endorsed renovation (ICH GCP Renovation, 2017) to facilitate utilization of reliable real-world data (RWD) for regulatory decision. This expands the usability of data derived from ordinary medical practice and research, as well as from health databases and biobanks. The World Medical Association (WMA) has since clarified some principles for these types of research but we believe it requires further

clarity.

The WMA had established its paramount deoretology of physicians to prioritize health and interests of a transfer of Commun. 10480 and the patient, as described in the Dedaration of Geneva (WMA Dedaration of Geneva, 1948) and the International Code of Medical Ethics (WMA ICOME, 1949), both issued in its second and third years

WMA DoH recommended amendments in our publications of previous slide

Ethical Norm in pursuit of common goals

- Proposals
 - Data driven research broad consent and dynamic consent, assuring participants; rights and the sharing of IPD and results to promote open science and social value
 - Risk minimisation in placebo-controlled trials and post trial access in best proven intervention
 - A future oriented research framework for **co creation** with stakeholders

TYPE Policy Brief

PUBLISHED 02 April 2024 DOI 10.3389/fmed.2024.1360653

Linking the Declarations of Helsinki and of Taipei

- Proposals
 - To complement the DoH, WMA issued the Declaration of Taipei (DoT) in 2016 to provide additional principles for health databases and biobanks.
 - the ethical principles for secondary use of data or material obtained in research remain unclear.
 - IFAPP suggests a closer scientific linkage in the DoH to the DoT focusing specifically on areas that will facilitate data-driven research, and to further strengthen the protection of research participants.

Front. Pharmacol., 29 October 2020 Sec. Drugs Outcomes Research and Policies Volume 11 - 2020 | https://doi.org/10.3389/fphar.2020.579714

Vulnerability, social value and the equitable sharing of research benefits: beyond the placebo and access debates our proposal –submitted to Frontiers

Under final review



Vulnerability, social value and the equitable sharing of benefits from research: beyond the placebo and access

Chieko Kurihara^{1, 2*}, Dirceu Greco³, Ames Dhai⁴, Kotone Matsuyama^{2, 1} Varvara Baroutsou^{2, 3}

¹ Kanagawa Dental University, Yokosuka, Japan

³ School of Medicine, Federal University of Minas Gerais, Belo Horizonte, Braz

4 School of Clinical Medicine, University of the Witwatersrand, Johann

ional Federation of Associations of Pharmaceutical Medicine (IFAPP) President, Woerden,

* Correspondence: Chieko Kurihara chieko kurihara@nifty.ne.jp

Keywords: vulnerability, social value, post-trial access, global health, Declaration of Helsinki

The vulnerability of research participants is a critical topic for the 2024 revision of the Declaration of Helsinki, with the proposal to include "social value". However, this proposal has been withdrawn and the relationship between the two concepts has not been clarified. This paper attempts to clarify: I the recent reform for the ethical inclusion of vulnerable study participants to promote diversity; 2. the social value, prerequisite for everyone, especially for those who are vulnerable and the most in need; 3. the requirement for promoting the inclusion of vulnerable participants, in

1.the recent reform for the ethical inclusion of **vulnerable** study participants to promote diversity;

- 2. the social value, prerequisite for everyone, especially for those who are vulnerable and the most in need;
- 3. the requirement for promoting the inclusion of vulnerable participants, in particular the review of the norms for placebo-controlled trials and post-trial access;
- 4. finally, the direction of research ethics reform to achieve social value and equitable global health.

Alternatives to using Placebos in Clinical Trials in the current era

https://www.fda.gov/media/138004/download

https://www.bmj.com/content/381/bm i-2022-072108

https://www.fda.gov/regulatoryinformation/search-fda-guidancedocuments/considerations-design-andconduct-externally-controlled-trialsdrug-and-biological-products Active comparator: existing standard/best proven



Adaptive trials

Historic controls, synthetic controls,

Non inferiority trials

Add on trials (standard treatment + new drug

Crossover trials

DoH declares :Placebo should not be used ,if it is withholding effective treatment from participants.

RESEARCH ARTICLE

Open Access

(CrossMark

Ethical principles and placebo-controlled trials – interpretation and implementation of the Declaration of Helsinki's placebo paragraph in medical research

Antonia-Sophie Skierka^{1*} and Karin B. Michels^{2,3,4*}

Abstract

Background: In October 2013, the Declaration of Helsinki was revised a seventh time in its 50 year history. While it is the most widely accepted set of ethical principles for the protection of patients participating in medical research, the Declaration of Helsinki has also been subject of constant controversy. In particular, its paragraph on the use of placebo controls in clinical trials divides the research community into active-control and placebo orthodox proponents, both continuously demanding revisions of the Declaration of Helsinki in favour of their position. The goal of the present project is to compare the mainly theoretical controversy with regulatory implementation.

Methods: We distributed a questionnaire to national drug regulatory authorities from different countries to collect information on the authorities' respective approaches to interpretation and implementation of the Declarations' placebo paragraph in the conduct of medical research.

Results: Our findings suggest that the majority of drug regulatory authorities have established a practice of a middle ground, allowing placebo controls in some instances. Various interpretations of "serious harm" and "methodological reasons" are proposed as well as safeguards to avoid abuse of the option to use placebo-controls.

Conclusion: Leaving the placebo paragraph open to various interpretation is a result of the Declaration of Helsinki's character as a guidance document. With the current version controversy will continue. The Declaration should be continued to be strengthened to enforce the appreciation of conducting medical research with the highest ethical standard.

Keywords: Placebo, Declaration of Helsinki, World medical association

Study on the topic of placebo: International Regulatory Authorities view.

The results indicate that the DoH is the most accepted ethical guideline on medical research and seen as a minimum ethical standard by international drug regulatory authorities. The use of the most currently

effective treatment as the comparison is preferred to avoid abuse of placebocontrolled trials ambiguous and open to various interpretations.

Review: Role of Model-Informed Drug Development Approaches in the Lifecycle of Drug Development and Regulatory Decision-Making Review Article - Published: 12 May 2022 Volume 39, pages 1669–1680, (2022) Cite this article

Fig. 1

From: Review: Role of Model-Informed Drug Development Approaches in the Lifecycle of Drug Development and Regulatory Decision-Making



2001 - 2010Rapid Growth

Guidances 1991 - 2000CTS and disease models EOP2A meeting Early days of PBPK research and application

popPK, D/R, E/R,

Division of Pharmacometrics Group Pharmacometrics (DPM)

2011 - 2020

Approaching Mainstream

Routine application of pharmacometrics, and PBPK for DDIs

Early applications of semi-mechanistic and mechanistic modeling in review

Regulatory acceptance of DDT

Incorporation of MIDD principles in clinical guidance

PDUFA VI - MIDD

Application of QCP and PBPK in generic drug development

Early applications - Quantitative Systems Pharmacology, PBBM

Accepted Standard

2021 - Beyond

Integration of MIDD throughout the drug development

Development of community-wide standards for planning, data, analysis, inference, and reporting

Global harmonisation

Dedicated pathways for regulatory engagement on MIDD

Systematic management of information and knowledge

Education and training in emerging areas - Artificial Intelligence/Machine Learning, RWD/RWE, etc.

Evolution of MIDD at the FDA. A brief summary of key highlights for every decade with future aspirations are provided. Abbreviations: ICIVC - in vitro-in vivo correlation; PK/PD - pharmacokinetics/pharmacodynamics; popPK - population pharmacokinetics; D/R - dose-response; E/R exposure-response; CTS - clinical trial simulations; EOP2A - end of phase 2A; PBPK - physiologically based pharmacokinetics; DDI - drug-drug interactions; DDT - drug development tools; MIDD - model-informed drug development; QCP - quantitative clinical pharmacology; PBBM physiologically based biopharmaceutics models; RWD/RWE - real world data/real world evidence; RTRT - real time release test; MIE - modelintegrated evidence; PDUFA - Prescription Drug User Fee Act.

Early Days

IVIVC, PK/PD,

popPK

> Methods Mol Biol. 2024:2716:51-99. doi: 10.1007/978-1-0716-3449-3_4.

In Silico Clinical Trials: Is It Possible?

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Simon Arsène <sup>1</sup>, Yves Parès <sup>1</sup>, Eliott Tixier <sup>1</sup>, Solène Granjeon-Noriot <sup>1</sup>, Bastien Martin <sup>1</sup>, Lara Bruezière <sup>1</sup>, Claire Couty <sup>1</sup>, Eulalie Courcelles <sup>1</sup>, Riad Kahoul <sup>1</sup>, Julie Pitrat <sup>1</sup>, Natacha Go <sup>1</sup>, Claudio Monteiro <sup>1</sup>, Julie Kleine-Schultjann <sup>1</sup>, Sarah Jemai <sup>1</sup>, Emmanuel Pham <sup>1</sup>, Jean-Pierre Boissel <sup>1</sup>, Alexander Kulesza <sup>2</sup>
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Affiliations + expand

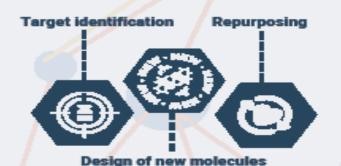
PMID: 37702936 DOI: 10.1007/978-1-0716-3449-3_4

Abstract

Modeling and simulation (M&S), including in silico (clinical) trials, helps accelerate drug research and development and reduce costs and have coined the term "model-informed drug development (MIDD)." Data-driven, inferential approaches are now becoming increasingly complemented by emerging complex physiologically and knowledge-based disease (and drug) models, but differ in setup, bottlenecks, data requirements, and applications (also reminiscent of the different scientific communities they arose from). At the same time, and within the MIDD landscape, regulators and drug developers start to embrace in silico trials as a potential tool to refine, reduce, and ultimately replace

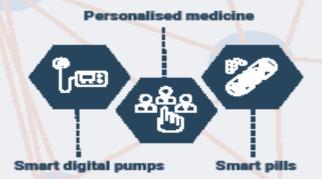
FOUR MAIN USES OF AI IN MEDICINES R&D AND SPECIFIC RISKS

AI IN MEDICINE DISCOVERY



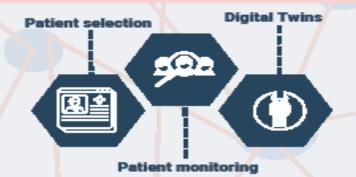


AI IN PHARMACEUTICAL PRODUCTS



Specific risks that relate to patient safety, AI liability, discrimination and black-box decision making.

AI IN CLINICAL TRIALS



Specific risks that relate to informed consent, the quality of evidence and validation of the AI methods used.

AI IN PHARMACEUTICAL PROMOTION



Fundamentally controversial, leads to higher sales instead of healthier patients.

REGULATORY FRAMEWORK

EU MEDICAL DEVICES REGULATION

Sets out requirements for all medical devices, including AI assisted medical devices.

No specific Al requirements

EU CLINICAL TRIALS REGULATION

Sets out standards for clinical trial conduct and patient participation, including for CTs using AI systems.

No specific AI requirements

EU MEDICINAL PRODUCTS REGULATION

Sets out rules governing development, approval and use of medicines in Europe.

No specific AI requirements

EU ARTIFICIAL INTELLIGENCE ACT

Regulates AI-assisted medical devices, but does not regulate AI used in pharmaceutical R&D.

Few AI systems regulated

EU GENERAL DATA PROTECTION REGULATION

Regulates all uses of data in the EU, including uses by AI systems.

Regulates all data uses

Besides specific risks, Artificial Intelligence always carries general risks relating to bias and discrimination, privacy and cybersecurity. https://healthai.haiweb.org/ai-in-medicines-research-and-development/

Final Recommendation for DoH revision

- Be our guide of "highest ethical standards"
 - DoH to ensure consistency with CIOMS
- Best-proven intervention in the world must be assured in any comparative arms and risk should be minimized (as in CIOMS)
 - Ethics committee excuse in post-trial access paragraph should be deleted.
 - Leaving the placebo paragraph open to various interpretations will continue the controversy
 - **Post trial access** should be assured in protocol/consent form to:
 - study participants
 - host community
 - those most in need worldwide

We will act on our proposals as a commitment derived from

Fundamental

- Ethical Principles for Biomedical Research
 - Autonomy
 - Beneficence and non-Maleficence
 - Justice

Given that

• Ethics considerations are important determinants of research study design and execution

In parallel we will introduce debates **in ELSI** due to rapid scientific developments and emerging technologies in the field of:

- ❖ Gene Editing & CRISPR
- * RWD with genomic information
- Genetic Privacy & Data Security
- AI in Research & Development
- Equity and Access to Genetic Technologies

Thank you for your attention

Questions & Discussion

varvara.baroutsou@ifapp.org

Back up slides

Medical Research should be conducted primarily to improve human health.

Ethical principles and placebo-controlled trials – interpretation and implementation of the Declaration of Helsinki's placebo paragraph in medical research

 Skierka and Michels BMC Medical Ethics (2018) 19:24

Defining "methodological reasons": The Declaration of Helsinki states that "compelling and scientifically sound methodological reasons" may justify the use of placebo in a clinical trial. As pointed out earlier, there are some reasons accepted from both camps for placebo use in clinical trials: if no current proven intervention for the respective condition exists, or if a patient population that is not responding to available treatment [8]. Our survey results suggest (Table 2) that the majority of regulatory authorities interpret the "methodological reasons" in the above mentioned way. Nevertheless, several responses also mirror various other methodologic justifications often quoted by defenders of placebo controls:

- Active controls' lack of assay sensitivity.
- Standard treatment is not always effective.
- Smaller sample sizes are required for superiority trials.

Clinical trials,

• A Methodology Perspective ,Wiley Book , 4rth edition 2024

CONTEMPORARY FOUNDATIONAL PRINCIPLES

TABLE 3.3 Principles for Ethical Clinical Trials

Collaborative partnership
Scientific value
Scientific validity
Fairness of subject selection
Favorable risk—benefit
Independent review
Informed consent
Respect for enrolled subjects

Source: Adapted from Emanuel et al. [558].

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