

[13] Health Science

Technology Policies of MHLW

Overview

Summary of Technology Policies of MHLW

Basic ideas of technology study promotion

Security of health safety
 (1) Security of medical care safety, etc.
 (2) Security of food safety
 (3) Enhancement of health crisis control measures

Realization of advanced medical care
 (1) Development of basic technologies for advanced medical care
 (2) Promotion of the development of clinical study (clinical trial) foundations

Promotion of health safety (extension of healthy life expectancy)
 (1) Promotion of nursing care, implementation of comprehensive dementia control measures, and improved Quality Of Life (QOL) for persons with disabilities
 (2) Improvement health of females throughout life and next generation development
 (3) Development of cancer prevention, diagnosis, and treatment methods
 (4) Life style disease control measures, conquest of immune/allergic diseases, improved QOL for intractable diseases
 (5) Enhanced new/reemerging infectious disease measures
 (6) Mental health promotion

Social situation

Progress of an aging society with a declining birthrate

Public worries, anxieties, and desires

- Life after retirement
- Health
- Medical care/social security system reform

Emphasis on life science study

Status of technologies

1. Advancement of life science
 - Arrival of full-scale post-genome era
 - Progress in human stem cell studies
2. Progress in administrative measures
 - Third Phase of the Science and Technology Basic Plan
 - Comprehensive 10-year Strategy for Cancer Control, Basic Plan for Persons with disabilities
 - Health Japan 21, Health Promotion Act

Realization of safe and quality healthy life

Promotional measures

1. Study system

- Introduction of result-oriented business systems (strategy type studies), development of efficient/efficient study techniques
- Security of study systems through applications open to the public and appropriate study evaluation
- Cooperation with public/private medical institutions/doctors, etc. via policy medical care network

2. Establishment of research organizations and effective management

- Establishment of core institutions for the utilization of large-scale experiment facilities, etc., promotion of cooperation among research institutions (large-scale genome/protein analysis, establishment of embryonic stem cells, security of research resources, clinical study data management, etc.)

3. Human resource development

- Human resources required for research, field of medicine-engineering cooperation, clinical study coordinators, experts in life ethics
- Development of experts that can support experts in epidemiology and statistics, etc.
- Persons to engage in research evaluation, young researchers, study leaders

4.

Industry-government-academia cooperation and technology transfer

- Establishment of Technology Licensing Offices (TLO)
- Transition to institutional-ownership of research products and development of reward provisions
- Development of research results database

Appropriate Implementation of Human Genome/Genetic Analysis Studies

Overview

Appropriate Implementation of Human Genome/Genetic Analysis Studies

Medical studies involving analysis of the genetic information of humans can be expected to contribute to the identification of the causes of diseases and disease mechanisms, diagnosis/treatment/prevention that reflects the differences in individual physical constitutions (so-called tailor-made treatment), and the development of pharmaceuticals based on genomic information (so-called genomic drug discoveries). However, the genetic information obtained in the course of any such study can reveal the genetic predispositions of the providers and their blood relatives and thus lead to various ethical, legislative, or social problems if inappropriately handled. It is therefore necessary to ensure that any such studies are appropriately implemented with human dignity and human rights fully respected.

In order to promote the appropriate implementation of human genome/genetic analysis studies, therefore, the Ministry of Health, Labour and Welfare (MHLW), the Ministry of Education, Culture, Sports, Science and Technology (MEXT), and the Ministry of Economy, Trade and Industry (METI) jointly formulated and enforced "Ethical Guidelines for Human Genome and Genetic Analysis Research" in April 2001 as guidelines for researchers to observe. In addition, and for the purpose of responding to the smooth implementation of the Act on Protection of Personal Information (Act No. 57 of 2003) and progress made in research, the MHLW in cooperation with MEXT and METI revised the Guidelines in December 2004 from the point of view of protecting personal information by ensuring all the personal information protection measures prescribed for in the said Act, in principle, were included (MEXT/MHLW/METI Notification No. 1 of 2004).

The Guidelines prescribe and request researchers and other relevant parties involved in human genome/genetic analysis studies to observe that informed consent shall be obtained in principle when conducting studies, any institutions involved in studies shall establish an Ethical Review Committee and ensure that the Committee reviews the research plan in advance and approves it, protection of personal information, including genetic information, shall be strictly implemented through on-site inspections by external experts, etc., and consideration shall be given to genetic diseases through implementing genetic consultations, etc.

Appropriate Implementation of Clinical Studies on Gene Therapy

Overview

Appropriate Implementation of Clinical Studies on Gene Therapy

Gene therapy is a new medical technology that administers gene or gene-introduced cells into the human body to treat an illness and can be expected to be an innovative treatment method for serious hereditary diseases, cancer, other terminal diseases, and diseases that severely impair bodily functions. Many clinical studies on gene therapy have already taken place in a number of foreign countries.

For this reason the Ministry of Health, Labour and Welfare (MHLW) formulated "Guidelines for Gene Therapy Clinical Studies" in February 1994, and have been evaluating in a comprehensive manner the medical effectiveness and ethics of gene therapy clinical studies on terminal disease or diseases that severely impair bodily functions via the Committee on Science and Technology of Health Sciences Council. Considering that several years have elapsed since formulation of the Guidelines and that a number of study cases have been accumulated during this period the Guidelines were revised (Ministry of Education, Culture, Sports, Science and Technology (MECSST)/MHLW Notification No. 1 of 2002) in thereby accelerating evaluation procedures by limiting study plans that the said Committee evaluates as being of merely novelty value.

The first gene therapy clinical study in Japan was on adenosine deaminase deficiency, which took place at Hokkaido University. To date 29 applications clinical study implementation plans to be evaluated have been made by potential implementing entities, with 27 of them having been determined to be appropriate after being discussed by the Committee on Science and Technology.

In addition, and for the purpose of responding to the smooth implementation of the Act on Protection of Personal Information (Act No. 57 of 2003), MHLW in cooperation with MECSST revised the Guidelines in December 2004 from the point of view of protecting personal information by ensuring all the personal information protection measures prescribed in the said Act, in principle, were included (MECSST/MHLW Notification No. 2 of 2004).

Appropriate Implementation of Epidemiologic Studies

Overview

Appropriate Implementation of Epidemiologic Studies

Epidemiologic studies investigate the frequency and the distribution of health phenomenon, including the morbidity of diseases, and clarifies the factors associated with it. Epidemiologic studies are considered essential in investigating the causes of diseases, verifying the effectiveness of prevention/treatment methods used with diseases, or clarifying the relationship between environment/life styles and health, and thus play a significant role in the progress of medicine and the maintenance and improvement of public health. In recent years, however, providing research subjects with explanations and obtaining their agreement has been considered important. Furthermore, an increased awareness on the rights to privacy and social trends in private information protection has necessitated clarification of legally binding standards.

Because of the above reasons the Ministry of Health, Labour and Welfare (MHLW), in cooperation with the Ministry of Education, Culture, Sports, Science and Technology (MECSST), formulated "Ethical Guidelines for Epidemiologic Studies" (MECSST/MHLW Notification No. 2 of 2002) in June 2002. The Guidelines prescribe that, when conducting epidemiologic studies, informed consent shall be obtained from the research subjects, in principle, study plans reviewed by an Ethical Review Committee established at the pertinent research institute, and a personal information protection system established, etc., while also requiring researchers, etc. engaged in epidemiologic studies to observe the promotion of the appropriate implementation of epidemiologic studies.

In addition, and for the purpose of responding to the smooth implementation of the Act on Protection of Personal Information (Act No. 57 of 2003), the MHLW, in cooperation with MECSST, revised the Guidelines in December 2004 from the point of view of protecting personal information by ensuring all personal information protection measures prescribed in the said Act, in principle, were included (MECSST/MHLW Notification No. 1 of 2004).

Furthermore, provisions regarding the obligations of the directors of research institutions and protection of research subjects, etc. were established in August 2009 (MECSST/MHLW Notification No. 1 of 2009).

Appropriate Implementation of Clinical Studies

Overview

Appropriate Implementation of Clinical Studies

Clinical studies are conducted on humans for the purpose of preventing diseases, improving diagnostic/treatment methods, improving understanding of the causes and pathologies of diseases, and improving the quality of life of patients. With the progress being made in science and technology in recent years their importance is further increasing.

In addition, medical advances will ultimately and inevitably depend on clinical studies, and therefore appropriate implementation of clinical studies needs to be promoted through obtaining social understanding and cooperation and with human dignity and human rights fully respected.

Because of the above reasons the Ministry of Health, Labour and Welfare (MHLW) formulated the "Ethical Guidelines for Clinical Studies" (MHLW Notification No. 255 in 2003) in July 2003, which cover all clinical studies, in thus promoting their appropriate implementation. The Guidelines prescribe that, when conducting clinical studies, sufficient explanations shall be provided to the research subjects before obtaining their consent, consideration be given to the protection of the personal information of the research subjects, and the appropriateness and consistency of any clinical studies reviewed by an Ethical Review Committee established at the pertinent research institute, etc. In addition, the Guidelines were revised in December 2004 to include the necessary provisions to ensure the appropriate handling of personal information in clinical studies. Furthermore, an overall review of the Guidelines took place in July 2008 in further improving study ethics and protecting the research subjects. All relevant parties involved in clinical studies are requested to observe the said Guidelines in thus promoting the appropriate implementation of clinical studies.

Appropriate Implementation of Clinical Studies involving Human Stem Cells

Overview

Appropriate Implementation of Clinical Studies involving Human Stem Cells

Clinical studies on human stem cells play an important role in maintaining public health and preventing, diagnosing, and treating diseases through organ function regeneration, etc.

Because of the above reasons the Ministry of Health, Labour and Welfare (MHLW) formulated "Guidelines for Clinical Studies using Human Stem Cells" (MHLW Notification No. 425 in 2006) in July 2006 in thereby ensuring that all clinical studies involving human stem cells are appropriately implemented/promoted through obtaining the understanding of society and get implemented with human dignity and human rights fully respected, and effectiveness and safety secured based on scientific knowledge.

Since enforcement of the Guidelines anyone engaging in clinical studies involving human stem cells has been requested to observe the aforementioned guidelines. However, revisions have been made to the relevant laws and ordinances, as well as new stem cell technologies developed, which include human embryonic stem cells (human ES cells) and human-induced pluripotent stem cells (human iPS cells), etc., with progress also having been made in basic research, etc. In order to respond to these changes in the environment surrounding clinical studies involving human stem cells an overall review of the Guidelines took place in November 2010 (MHLW Notification No. 380 of 2010) to newly cover human ES cells and human iPS cells, etc. in addition to somatic stem cells.