

The Road to ICD-11 Revision

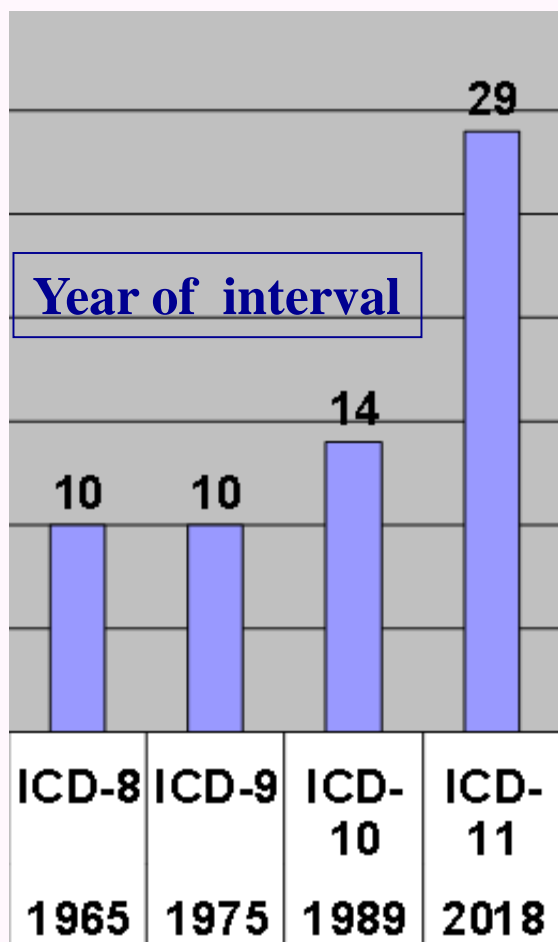
Role of IM-TAG (Internal Medicine-Topic Advisory Group) for ICD-11 Revision

Soichiro Miura, M.D., Ph.D.

Co-Chair of the Gastroenterology Working Group of
IM-TAG

International University of Health and Welfare,
Dean of Graduate School, Tokyo, Japan

ICD-11 Development



2007: Press release / Start operation of ICD revision.

2009 – 2016: TAGs/WGs organized. Content model developed and structural changes proposed.

2016: Progress report submitted to WHA.

ICD-11-MMS released for evaluation

ICD-11 Revision Conference (2016.10)

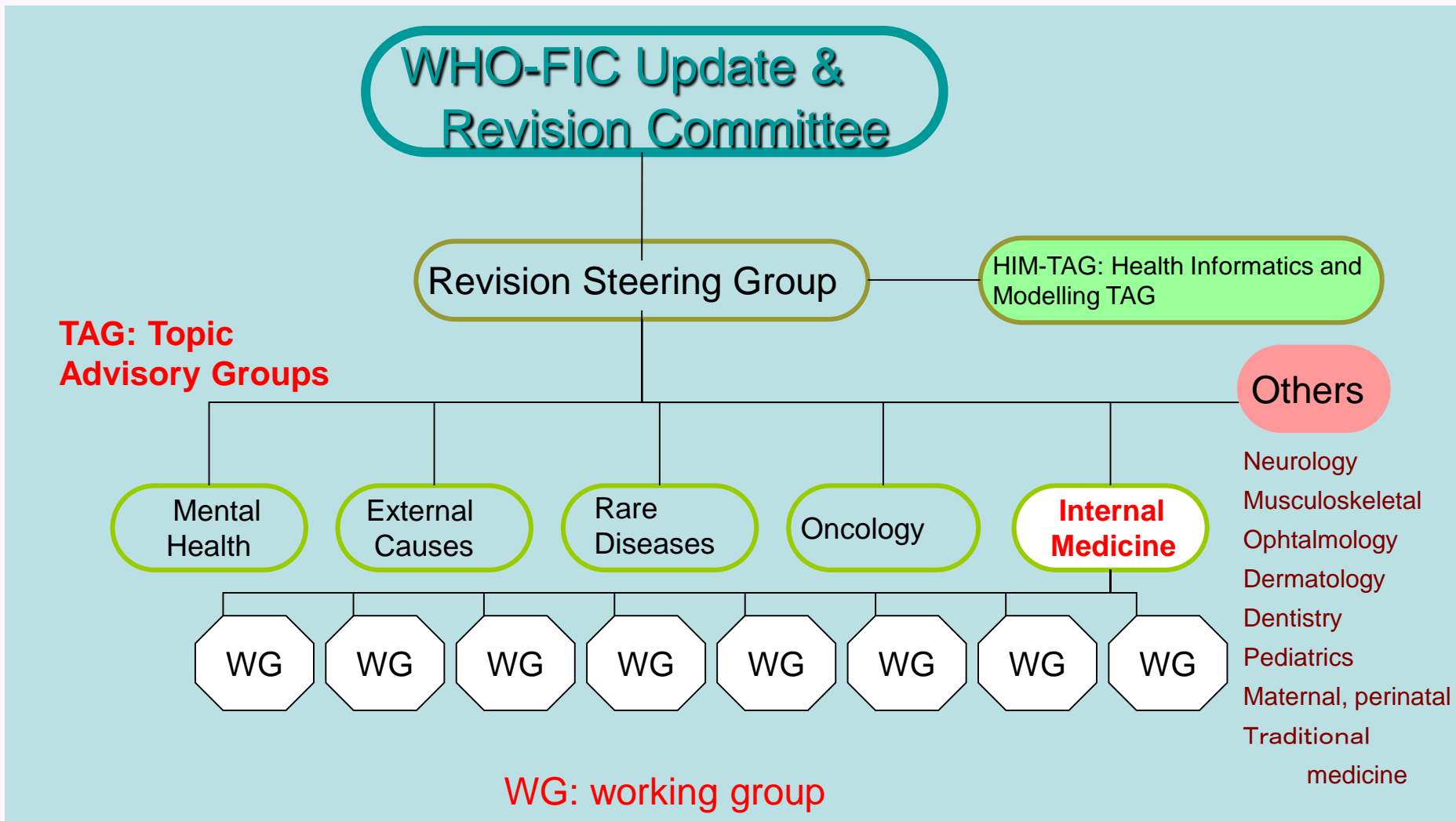
2017: Joint proposal submitted to WHO from Japanese Academic Medical Societies and Japan WHO-FIC Collaboration Center.

2018.6: ICD-11 Version for implementation released.

2019.5: WHA adoption

2022: ICD-11 effective

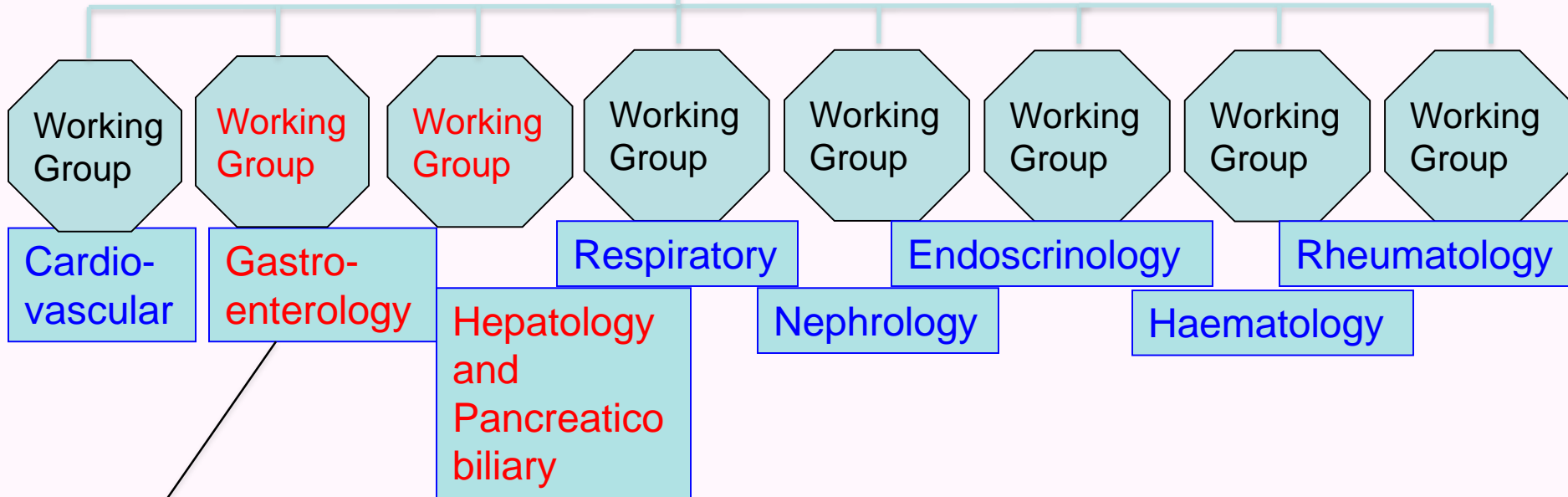
ICD-11 Revision Organization Structure



(from WHO document)

Internal Medicine Topic Advisory Group (IM-TAG)

Chair: Dr. Kentaro Sugano
(2007-2014)
Dr. Naoko Tajima
(2014-2017)



Chair: Dr. Peter Malfertheiner
Co-Chair: Soichiro Miura
Co-Chair: Hiroto Miwa

Chair: Dr. Emmet B. Keeffe
(2009-2011)
Dr. Geoffrey C Farrell
Co-Chair: Sumiko Nagoshi

Areas of responsibility in ICD-10 for IM-TAG

ICD-10 Version:2016

Search [Advanced Search]

ICD-10

Versions - Languages

Info

▼ ICD-10 Version:2016

- ▶ I Certain infectious and parasitic diseases
- ▶ II Neoplasms
- ▶ III Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
- ▶ IV Endocrine, nutritional and metabolic diseases
- ▶ V Mental and behavioural disorders
- ▶ VI Diseases of the nervous system
- ▶ VII Diseases of the eye and adnexa
- ▶ VIII Diseases of the ear and mastoid process
- ▶ IX Diseases of the circulatory system
- ▶ X Diseases of the respiratory system
- ▶ XI Diseases of the digestive system
- ▶ XII Diseases of the skin and subcutaneous tissue
- ▶ XIII Diseases of the musculoskeletal system and connective tissue
- ▶ XIV Diseases of the genitourinary system
- ▶ XV Pregnancy, childbirth and the puerperium
- ▶ XVI Certain conditions originating in the perinatal period
- ▶ XVII Congenital malformations, deformations and chromosomal abnormalities
- ▶ XVIII Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified
- ▶ XIX Injury, poisoning and certain other consequences of external causes
- ▶ XX External causes of morbidity and mortality
- ▶ XXI Factors influencing health status and contact with health services
- ▶ XXII Codes for special purposes

International Statistical Classification of Diseases and Related Health Problems 10th Revision

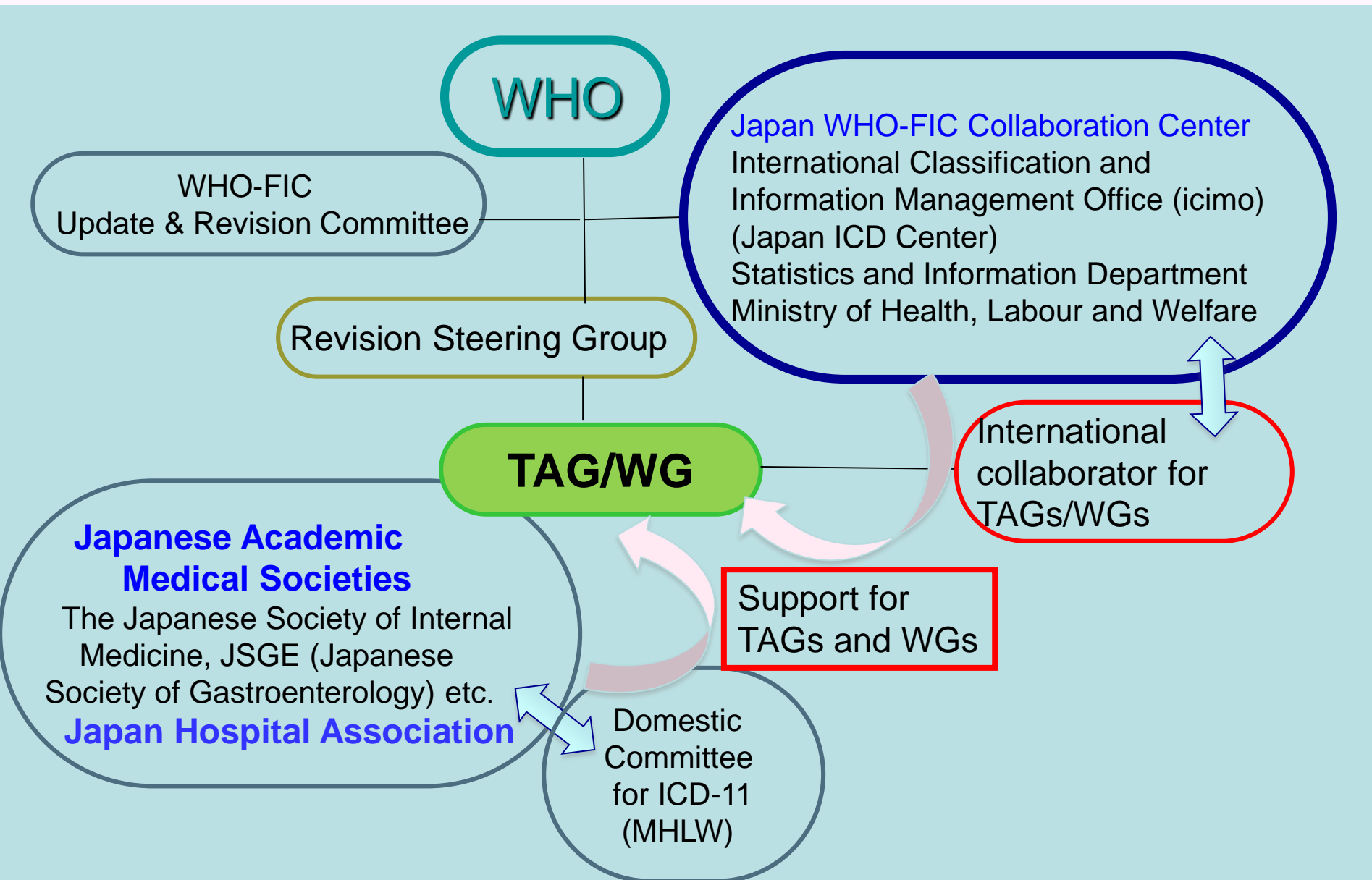
You may browse the classification by using the hierarchy on the left or by using the search functionality

More information on how to use the online browser is available in the Help

7/22
(Areas of responsibility)

related areas

Role of Japanese Government and Academic Societies



藤原研司先生を偲んで

Condolences for
Dr. Kenji Fujiwara
(1938-2012)

Chairman (2006-2012)

Technical Committee of International
Statistical Classification of Diseases and
Related Health Problems



2001-2004

President: The Japanese Society of Gastroenterology

President of the 35th General Meeting of the Japan Society of Hepatology (1999)

President of the 89th General Meeting of the Japanese Society of Gastroenterology
(2003)

President of the Asian-Pacific Digestive Week (APDW) 2007 (2007)

Japanese ICD-related members (Japanese Society of Gastroenterology)

GI-related

(Medical Terminology Committee)

Takahiro Fujimori, MD, Tochigi
Katsutoshi Obara, MD, Fukushima
Shinichi Takahashi, MD, Tokyo
Akio Yamaguchi, MD, Fukui

(ICD-11 Revision Committee)

Soichiro Miura, MD, Saitama (Chair)
Hidemi Goto, MD, Nagoya
Junichi Akiyama, MD, Tokyo
Akira Andoh, MD, Shiga
Takafumi Ando, MD, Nagoya
Toshiyuki Itoh, MD, Kyoto
Takanori Kanai, MD, Tokyo
Yasuo Ohkura, MD, Tokyo
Naoki Ohmiya, MD, Nagoya
Mitsuo Shimada, MD, Tokushima
Nobuhiro Kurita, MD, Tokushima
Atsushi Iida, MD, Fukui

HPB-related

(Medical Terminology Committee)

Kazuyuki Suzuki, MD, Iwate (Chair)
Shigeki Arii, MD, Tokyo
Keisho Kataoka, MD, Shiga
Shuheji Nishiguchi, MD, Hyogo
Naotaka Fujita, MD, Miyagi
Fuminori Moriyasu, MD, Tokyo

(ICD-11 Revision Committee)

Sumiko Nagoshi, MD, Saitama
Hirohide Ohnishi, MD, Akita
Akio Ido, MD, Kagoshima
Masayuki Kurosaki, MD, Tokyo
Tomoaki Tomiya, MD, Tokyo
Etsuko Hashimoto, MD, Tokyo
Tetsuhide Ito, MD, Fukuoka
Yoshifumi Takeyama, MD, Osaka
Hitoshi Yoshida, MD, Tokyo
Fukuo Kondo, MD, Tokyo

Need for ICD revision

1. Because of medical advances in 25 years, current disease classification of ICD-10 becomes unsatisfactory for many users. Some codes are already old-fashioned, while important new disease entities are arising.

2. Re-construction of coding structure must be done, and also creation of an internet-based permanent platform is necessary for multidisciplinary users.

● For instance in GI disorders:

A dramatic change in our understanding of esophagitis and gastritis occurred.



● Eosinophilic oesophagitis

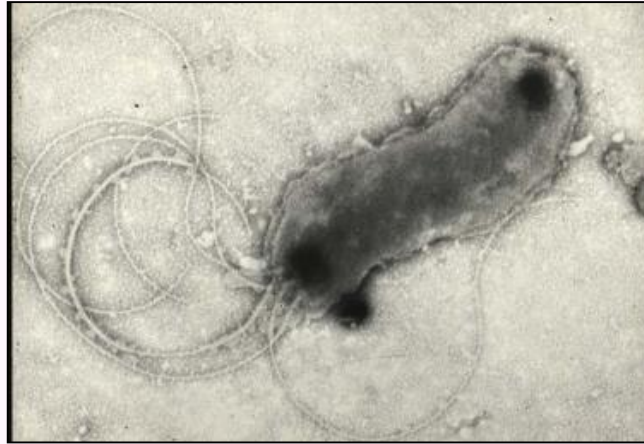
New disease entity since mid 1990s.

Endoscopic image demonstrating linear furrows, white specks and rings.

Photo from Furuta FT & Katzka DA.

Eosinophilic esophagitis.

N Engl J Med 2015; 373:1640-1648

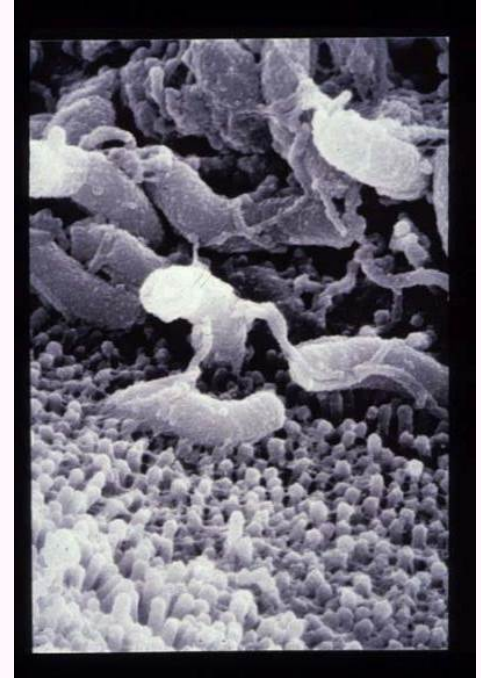


● Discovery of Helicobacter pylori in 1982.

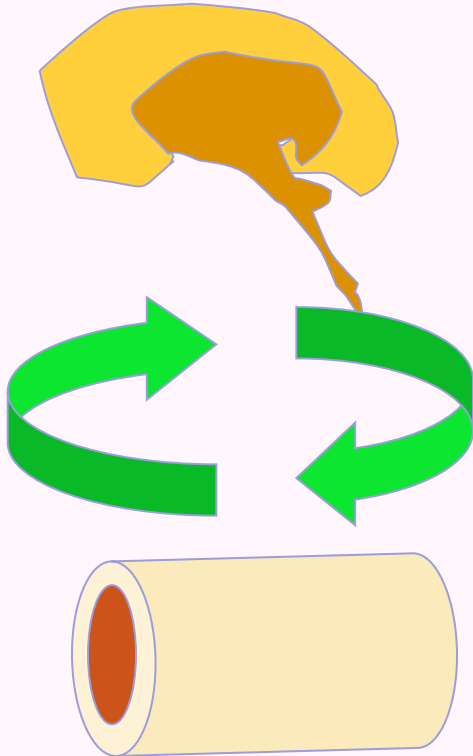
H. pylori- induced gastritis

H. pylori associated gastric ulcer

Adenocarcinoma of stomach etc.



Brain-Gut AXIS

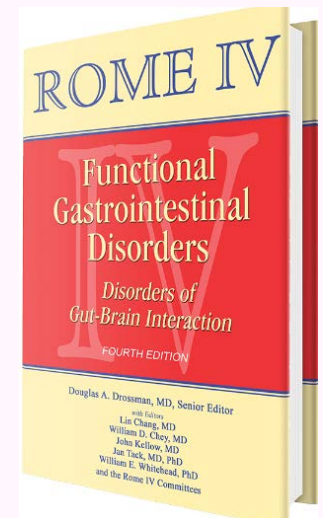


‘Functional gastrointestinal disorders (FGID)’ should be independently described because its pathophysiology is considered from the standpoint of ‘Brain-Gut axis’, not only from GI tract.

- **Dyspepsia = symptom (bad digestion)**

Pain or discomfort centred in the upper abdomen

- **Functional dyspepsia = disease entity diagnosed by Rome criteria (Rome I, 1992)**



Eight Face-to-face Meetings for IM-TAG Chairpersons and Managing-Editor of IM-TAG

Number	Year/Month	Venue
Kick-off for the revision process	2007/April	Odawara, Japan
1 st Face-to-face meeting	2009/April 7-9	Tokyo
2 nd Face-to-face meeting	2009/November 3-6	Geneva
3 rd Face-to-face meeting	2010/April 7-8	Tokyo
4 th Face-to-face meeting	2012/February 8-9	Tokyo
5 th Face-to-face meeting	2013/February 5-6	Tokyo
6 th Face-to-face meeting	2014/December 16-17	Tokyo
7 th Face-to-face meeting	2015/September 29-30	Tokyo
8 th Face-to-face meeting	2016/October 14	Tokyo

Role	Name (Nation)	Year
Chairperson of IM-TAG	Dr. Kentaro Sugano (Japan)	2007-2014
	Dr. Naoko Tajima (Japan)	2014-2016
Co-chairman of IM-TAG	Dr. Rodney Franklin (UK)	2009-2016
Managing Editor if IM-TAG	Ms. Julie Rust (Australia)	2009-2015
	Ms. Megan Cumerlato (Australia)	2010-2016



INTERNAL
MEDICINE
WHO ICD
revision
TAG
TOKYO 2013

*The 5th
Face-to-Face
Meeting of
the Internal
Medicine
TAG, WHO*

Co-organizers
WHO

Japanese Ministry of Health,
Labour and Welfare
The Japanese Society of
Internal Medicine

TOKYO 2013

Core Members of IM-TAG WGs

Section	Chair/Co-Chair (Nation) at the 1 st Meeting	Chair/Co-Chair/Managing Editor (Nation) at the 8 th Meeting
Nephrology	Dr. M. Iino/Dr. L. Stevens (Japan/USA)	Dr. G. Becker/Dr. K. Iseki/Dr. Y. Ubara (Australia/Japan/Japan)
Gastroenterology	Dr. P. Malfertheiner (Germany)	Dr. P. Malfertheiner/Dr. S. Miura/Dr. H. Miwa, Dr. J. Akiyama (Germany/Japan/Japan/Japan)
Hepatology & Pancreatobiliary	Dr. E.B. Keefe (USA)	Dr. G. Farrell/ Dr. S. Nagoshi, Dr. T Ishikawa (Australia/Japan/Japan)
Respiratory	Dr. D.H. Ingbar (USA)	Dr. H. Takizawa/Dr. T. Suzuki (Japan/Japan)
Hematology	Dr. W. E. Fibbe (Netherlands)	Dr. W.E. Fibbe/Dr. S. Okamoto (Netherlands/Japan)
Endocrinology	Dr. A. Shimatsu (Japan)	Dr. E. Gregg/Dr. A. Shimatsu/Dr. M. Hotta Suzuki (USA/Japan/Japan)
Cardiovascular	Negotiating	Dr. R Franklin/Dr. B. Gersh/Dr. T. Kohro (UK/USA/Japan)
Rheumatology	Dr. J. Kay (USA)	Dr. J. Kay/Dr. M. Harigai/ Dr. M. Kihara (USA/Japan/Japan)

Assigned tasks to IM-TAG members



*Sail to the ocean
in pursuit of ICD-11*

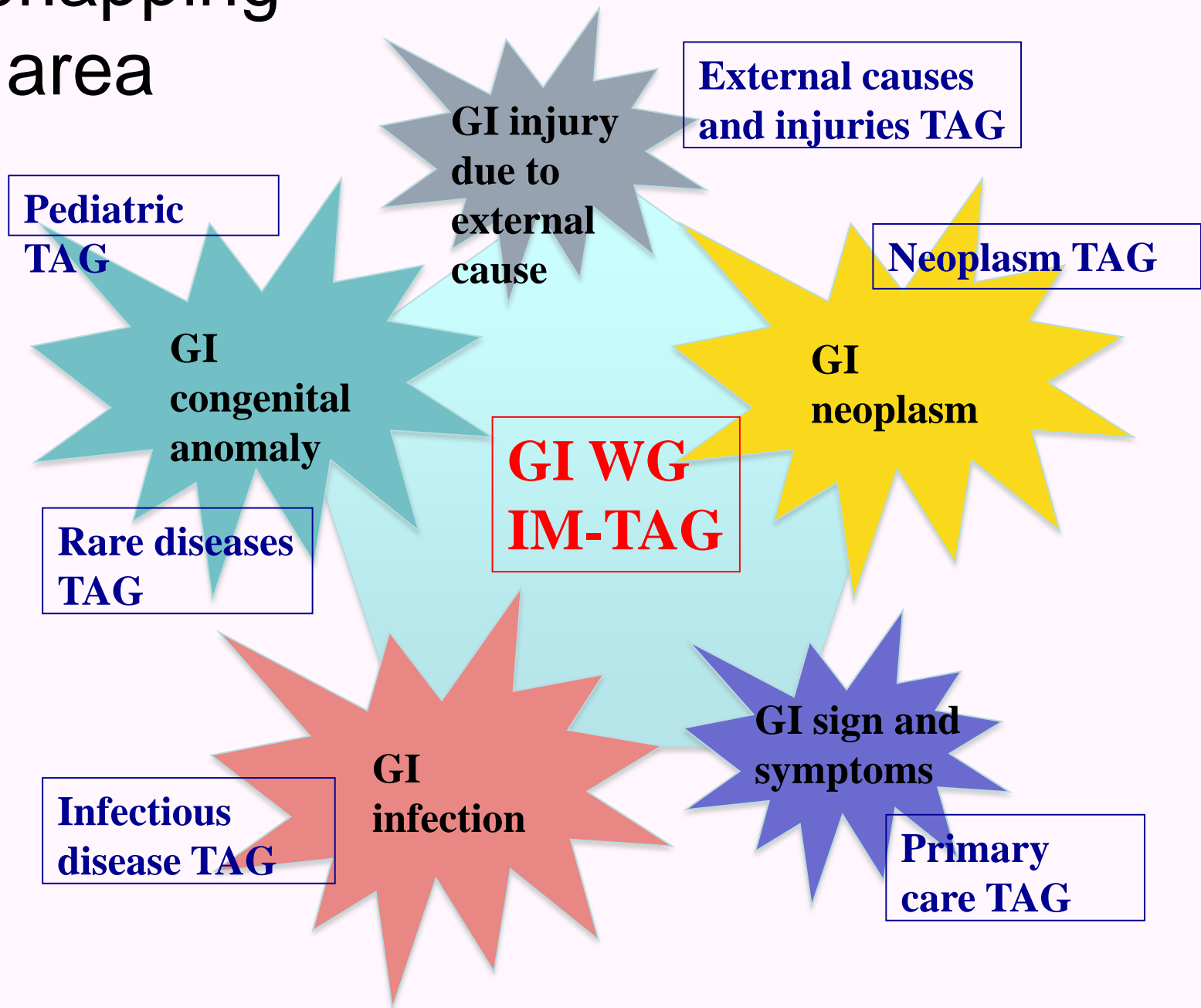
1. Identification of problems in current ICD-10 and proposal of the new basic framework in their sections (including introduction of new concepts).
2. Identification of overlaps with other TAGs.
Infectious disease/ Oncology/ Rare Disease/ Pediatrics/
Signs and Symptoms etc.
3. Preliminary works on the Content model for an alpha drafting.

International WG members

Face to Face Joint Meeting of GI & HPB WG for IM-TAG in Tokyo (April 2010)

Region	Gastroenterology WG	Hepatology and Pancreaticobiliary WG
Western pacific (WPRO)	Dr. Francis KL Chan (Hong Kong) Dr. Kwong Ming Fock (Singapore) Dr. Soichiro Miura (Japan) Dr. Nick Talley (Australia)	Dr. Mei-Hwei Chang (Taiwan) Dr. Geoffrey C Farrell (Australia) Dr. Yulan Liu (China) Dr. Sumiko Nagoshi (Japan) Dr. Tomoaki Tomiya (Japan)
European (EURO)	Dr. Serhat Bor (Turkey) Dr. Peter Malfertheiner (Germany) Dr. Kenneth E.L. McColl (UK) Dr. Jaroslaw Regula (Poland) Dr. Jan Tack (Belgium)	Dr. Guido Costamagna (Italy) Dr. Michael P. Manns (Germany)
Pan-American (PAHO)	Dr. Michael Camilleri (USA) Dr. Jamie N Eisig (Brazil)	Dr. Flair Jose Carriho (Brazil) Dr. Emmet B Keefe (USA) Dr. Glen A Lehman (USA)
South-East Asian (SEARO)	Dr. Varocha Mahachai (Thailand)	Dr. Yogesh K Chawla (India)

Overlapping area



• Open and Collaborative Platform

The logo for iCAT, featuring the lowercase letter 'i' in a white, italicized font, followed by the uppercase letters 'CAT' in a white, bold, sans-serif font. The logo is set against a dark orange rectangular background.

Collaborative Authoring Tool
for ICD Revision

- Web based
- Like WIKI – Trip Advisor
- But **structured by**

the Content Model
(required parameters)

1. **TITLE of ENTITY:** Name of disease, disorder, syndrome...
2. **Classification Properties**
3. **Textual definition**
4. **Terms:** Synonyms - Inclusion – Exclusion - Index terms
5. **Body System(s) / Part(s)**
6. **Temporal Properties**
7. **Severity Properties**
(Functioning Properties, Causal mechanism and risk factors, Diagnostic criteria, Treatment) etc.

ICD11 Components

Foundation: ICD categories with

- Definitions, synonyms
- Clinical descriptions
- Diagnostic criteria
- Causal mechanism
- Functional Properties

Linearizations



A000 Cholera due to Vibrio cholerae 01, biovar cholerae
 A001 Cholera due to Vibrio cholerae 01, biovar eltor
 A009 Cholera, unspecified
 A0100 Typhoid fever, unspecified
 A0101 Typhoid meningitis
 A0102 Typhoid fever with heart involvement
 A0103 Typhoid pneumonia
 A0104 Typhoid arthritis
 A0105 Typhoid osteomyelitis
 A0109 Typhoid fever with other complications
 A011 Paratyphoid fever A
 A012 Paratyphoid fever B
 A013 Paratyphoid fever C
 A014 Paratyphoid fever, unspecified
 A020 Salmonella enteritis
 A021 Salmonella sepsis
 A0220 Localized salmonella infection, unspecified
 A0221 Salmonella meningitis
 A0222 Salmonella pneumonia
 A0223 Salmonella arthritis
 A0224 Salmonella osteomyelitis
 A0225 Salmonella pyelonephritis
 A0229 Salmonella with other localized infection

Primary Care

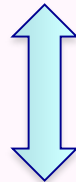
Morbidity, Mortality Surveillance (statistics)

A000 Cholera due to Vibrio cholerae 01, biovar cholerae
 A001 Cholera due to Vibrio cholerae 01, biovar eltor
 A009 Cholera, unspecified
 A0100 Typhoid fever, unspecified
 A0101 Typhoid meningitis
 A0102 Typhoid fever with heart involvement
 A0103 Typhoid pneumonia
 A0104 Typhoid arthritis
 A0105 Typhoid osteomyelitis
 A0109 Typhoid fever with other complications
 A011 Paratyphoid fever A
 A012 Paratyphoid fever B
 A013 Paratyphoid fever C
 A014 Paratyphoid fever, unspecified
 A020 Salmonella enteritis
 A021 Salmonella sepsis
 A0220 Localized salmonella infection, unspecified
 A0221 Salmonella meningitis
 A0222 Salmonella pneumonia
 A0223 Salmonella arthritis
 A0224 Salmonella osteomyelitis
 A0225 Salmonella pyelonephritis
 A0229 Salmonella with other localized infection
 A028 Other specified salmonella infections
 A029 Salmonella infection, unspecified

A000 Cholera due to Vibrio cholerae 01, biovar cholerae
 A001 Cholera due to Vibrio cholerae 01, biovar eltor
 A009 Cholera, unspecified
 A0100 Typhoid fever, unspecified
 A0101 Typhoid meningitis
 A0102 Typhoid fever with heart involvement
 A0103 Typhoid pneumonia
 A0104 Typhoid arthritis
 A0105 Typhoid osteomyelitis
 A0109 Typhoid fever with other complications
 A011 Paratyphoid fever A
 A012 Paratyphoid fever B
 A013 Paratyphoid fever C
 A014 Paratyphoid fever, unspecified
 A020 Salmonella enteritis
 A021 Salmonella sepsis
 A0220 Localized salmonella infection, unspecified
 A0221 Salmonella meningitis
 A0222 Salmonella pneumonia
 A0223 Salmonella arthritis
 A0224 Salmonella osteomyelitis
 A0225 Salmonella pyelonephritis
 A0229 Salmonella with other localized infection
 A028 Other specified salmonella infections
 A029 Salmonella infection, unspecified
 A030 Shigellosis due to Shigella dysenteriae
 A031 Shigellosis due to Shigella flexneri
 A032 Shigellosis due to Shigella boydii
 A033 Shigellosis due to Shigella sonnei
 A038 Other shigellosis
 A039 Shigellosis, unspecified
 A040 Enteropathogenic Escherichia coli infection

Financial management

Harmonize with SNOMED-CT, ICF etc.



Necklace for Marie Antoinette

(by Dr. Üstün with modification)

Contents of works of IM-TAG and WG

2009-2013

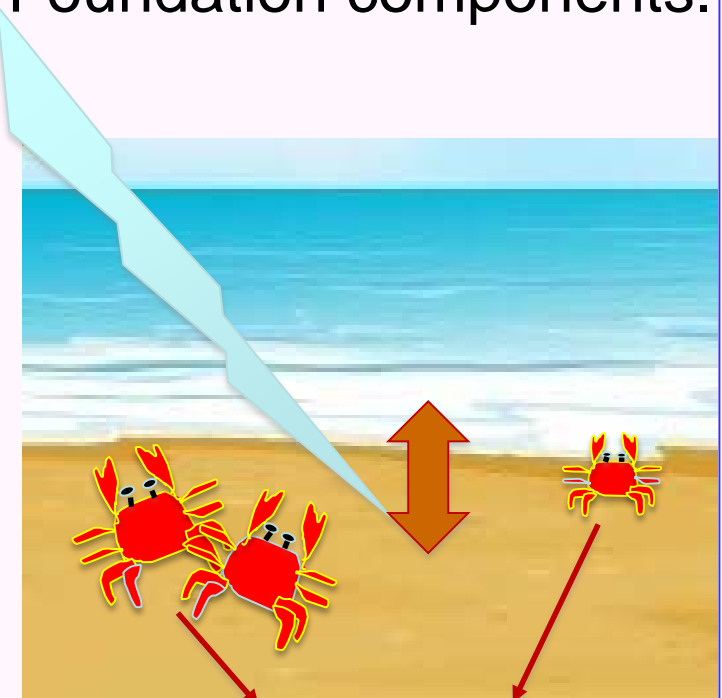
- WG members discussed about the re-arrangement of structure of ICD and proposed a new framework, - that appeared in iCAT.
- The appeared code hierarchy in iCAT was reviewed, edited and modified by WG members and WHO.
(by face-to face meeting, e-mail, and teleconference etc.)
- Start working on the disease definitions for alpha-draft (incl. Textual definition, Synonyms - Inclusion – Exclusion).

2013-2016

- After release the beta-draft with Joint Linearization of MMS (JLMMS), many questions and proposals were reviewed with specialists and other TAGs, and then modification was arranged for improvement.
- Usability of ICD-11 codes was checked based on practical cases in the field trial (incl. comparison of ICD-10 and ICD-11).
- Information campaign (promotion) of ICD-11 has been done in each specialty field.

Many difficulties encountered during the ICD-11 revision (Hard time trying to create ICD-11)

1. Difficulty in smooth **transfer of items from ICD-10 to 11**, particularly when introducing a new disease entities.
2. Difficult setting of ideal **'Sea-shore level'**, especially at Mortality and Morbidity Statistics using Foundation components.
3. Difficulty in **stem code selection** and arrangement of convenient **extension codes**.
4. Information about **diagnosis and treatment has not been completed in the content model**.
5. In the field trials, certain items did not fit well with the new platform.



Sometimes missing in the beach?

The advantages of ICD-11

1. Many specialists has been largely involved in all fields from the beginning of ICD-revision process. Thus abundant information reflecting modern medical advances has been well covered ([Voice from IM-TAG!!](#)).
2. Users in the various fields can utilize ICD-11 according to a variety of situations (depending on different use-cases) using linearization system.
3. For many users of ICD-10, ICD-11 will be relatively acceptable, since basic hierarchical structure is well conserved.
4. Updating of ICD-11 is regularly scheduled. Because of its computer-based structure, continuous improvement of ICD will be much easier than before ([ICT innovations](#)).

Future prospects of ICD-11

1. **More detailed information** for each item such as etiology, pathophysiology, diagnostic criteria, treatment etc. should be added **in the information model** (content model).
2. **Post-coordination system** using extension code should be more refined and enriched in order to deal with various disease conditions.
3. In future, based on the enhancement of information **various setting of linearizations** (other than ICD-11 for Mortality and Morbidity Statistics) including 'Specialty Linearization' will be produced.
4. ICD-11 in **multiple languages** will be published to enhance world-wide understanding for ICD-11.