



Poster Number
500

Abstract The Rwanda Ministry of Health harmonized the coding of diseases and medical procedures with the World Health Organization's (WHO) International Classification of Health Interventions (ICHI). Most of the national medical terms used in health facilities showed a partial match with the ICHI, ranging from 65% to 79%. Implementing the harmonized medical procedures will provide the foundation to further maturing the health financing system.

Conclusions

Methods & Materials

[illegible]



ICHI CODING: MAPPING EARLY INTERVENTIONS FOR CHILDREN AND THEIR FAMILIES TO THE CLASSIFIER OF REHABILITATION SERVICES

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Abstract In Russia, a draft standard for early assistance services contains services which are based on the International Classification of Functioning, Disability and Health (ICF). Within the ongoing project on the development of the methodology to use an interagency classifier of rehabilitation services for persons with disabilities (2022-2024) [1], each standardized service was mapped to ICHI intervention codes (n=816) built earlier in correspondence with descriptions of services from practices.

Introduction

In accordance with the Russian legislation, the early assistance for children and their families, i.e. early interventions, is considered as a part of the comprehensive rehabilitation and habilitation. A draft standard for early assistance services has been discussed in the professional community widely. Its current version contains services which are based on the International Classification of Functioning, Disability and Health (ICF). Within the ongoing project on the development of the methodology to use an interagency classifier of rehabilitation services for persons with disabilities (2022-2024) [1], at the first stage we studied data on interventions which were delivered by specialists in practice and could be considered as early assistance services. The main difficulties are the variety of service names delivered by different organizations on the large territory of the country, and cross-sectoral nature of services within healthcare, social protection and education fields, both state and non-governmental organizations. In accordance with the law, the early assistance services in the all sectors should not differ while the activities of organizations are regulated by several legislative acts. An additional difficulty was the correlation of the developed classifier with the Statistical Classification of Products by Activity in the European Economic Community, 2008 version (CPA 2008), and Statistical classification of economic activities in the European Community (NACE Rev.2) while (re-)habilitation, especially the early assistance, is almost not represented in them.

Methods & Materials

To systematize the variety of services we used the developed interagency classifier for comprehensive rehabilitation and habilitation services [1]. Its code structure inherits the one of the International Classification of Health Interventions (ICHI) with three axes Target, Action, and Means including extension codes. At the moment, targets and actions are coded like in ICHI while the code Means is unspecified (ZZ).

Results

The draft standard for early assistance services for children and their families (the version of January 2024) contains 10 services on mobility, self-care, domestic life, communication, interpersonal interactions, play, stress factors, living environment, learning and applying knowledge, and environmental factors (the services of the upper level). From the other hand, we identified commonly used early assistance services with their descriptions and built ICHI stem intervention codes respectively (n=816).

1	Interventions on upper level	Description of intervention	Target	ICF	Description of target	Interventions
2	НАИМЕНОВАНИЕ УСЛУГИ	ОПИСАНИЕ УСЛУГИ	ЦЕЛЬ УСЛУГИ	МКФ	ОПИСАНИЕ ЦЕЛИ	УСЛУГИ
404	Оценка способности ребенка учиться, применять полученные знания, решать проблемы и принимать решения	Подбор методов и инструментов для проведения оценки. Проведение оценки способности ребенка учиться, применять полученные знания, решать проблемы и принимать решения в соответствии с категориями МКФ "Обучение и применение знаний". Оценка способности ребенка использовать зрение, слух или другие ощущения (использование рта, прикосновение, обоняние, вкусовые ощущения) для восприятия стимулов и изучения окружения. Оценка способности имитировать выражения лица, жесты, звуки, действия и др. Оценка способности описывать людей, события, чувства словами, символами, фразами и предложениями; формирование представлений; способность получать информацию. Оценка развития элементарных и сложных целенаправленных действий с предметами. Оценка способности ребенка осуществлять выбор среди вариантов, реализовывать этот выбор (принятие решений) и способности решать проблемы. Предоставление информации о результатах оценки родителям (законным представителям). Оформление заключения по результатам оценки. Использование результатов оценки для составления индивидуальной программы ранней помощи.	SAA Использование зрения	d110	Намеренное использование чувства зрения для восприятия визуальных стимулов, таких как визуальное отслеживание объекта, наблюдение за спортивным мероприятием, играющими людьми или детьми.	SAA AA ZZ Оценка наблюдения Оценка способности намеренно использовать чувство зрения для восприятия визуальных стимулов SAA AC ZZ Тест наблюдения Использование вопросника, рейтинговой шкалы или другого инструмента для проверки способности намеренно использовать чувство зрения для восприятия визуальных стимулов SAA AM ZZ Наблюдение за наблюдающими Визуальное получение информации (не непрерывное) для оценки способности намеренно использовать чувство зрения для восприятия визуальных стимулов SAA PH ZZ Тренировка наблюдения Обучение, укрепление и развитие навыков - намеренного использования чувства зрения для восприятия визуальных стимулов - посредством практики SAA PM ZZ Информирование о наблюдении Предоставление информации для улучшения знаний о преднамеренном использовании чувства зрения для восприятия визуальных стимулов SAA PN ZZ Рекомендации по наблюдению Предоставление рекомендаций по стимулированию изменения или сохранению стимулов в связи со здоровьем (или рисками) SAA RB ZZ Практическая поддержка при наблюдении Оказание практической помощи или руководства человеку в отношении преднамеренного использования чувства зрения для восприятия визуальных стимулов
405						
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411			SAD Использование слуха	d115	Намеренное использование чувства слуха для восприятия звуковых стимулов, таких как прослушивание радио, человеческого голоса, музыки, лекции или рассказанной истории.	SAD AA ZZ Оценка слушания Оценка способности намеренно использовать слух для восприятия звуковых стимулов SAD AC ZZ Тест на чувство слуха Использование вопросника, рейтинговой шкалы или другого инструмента для проверки способности намеренно использовать слух для восприятия звуковых стимулов SAD AM ZZ Наблюдение за слушанием Визуальное получение информации (не непрерывное) для оценки способности намеренно использовать слух для восприятия звуковых стимулов SAD PH ZZ Тренировка аудирования Обучение, укрепление и развитие навыков - намеренного использования чувства слуха
412						
413						

Chart 1: Fragment of the classifier of early assistance services for children and their families in the chapter Learning and applying knowledge

Afterwards, each standardized early assistance services (of 10 ones) was mapped with one or several ICHI intervention codes. In addition, the comparison of the services provided in the organizations with the legislation showed that artificially identified concepts, namely types of services in the federal laws, did not correlate with the functioning of a person who was a service recipient.

The proposed approach allows for the introduction of the common terminology in the country and become the framework to develop individualized (re-) habilitation programs, cross-sectoral interactions, routing, formation of standards, budgeting and accounting.

References

1. Shoshmin, A., Besstrashnova, Y., Petrishcheva, K. Development of the Classifier of Rehabilitation Services: the First Lessons Learned from ICHI Implementation in Russia. *WHO FIC Annual Meeting 16-20 October 2023, Bonn, Germany*, 2023. Poster Booklet. 2023, poster #505.

Acknowledgements or Notes

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Abstract A total of 59 items were mapped to the ICHI. In the first step, we developed provisional English translations of domestic emergency medical procedures, in the second step, assigned codes using the ICHI Coding Tool, and the third step, assigned the most appropriate ICHI code comprehensively reviewing the ICHI linearization in the ICHI Browser. Furthermore, at the ICHI online, the relationship between domestic procedures and interventions and the ICHI codes was examined. As a result, only 32 items (54.2%) were assigned a code using the coding tool; however, after comprehensively pondering the linearization coding system by using ICHI browser, assigning an ICHI code to 55 items (93.2%) was possible. Specifically, the relations were E (29; 49.2%), N (21; 35.6%), B (4; 6.8%), S (1; 1.7%), and none (4; 6.6%). Some issues were identified, such as that some frequently used English terms in Japan were not supported by the ICHI Foundation.

Introduction

The International Classification of Health Interventions (ICHI) is currently undergoing mapping with existing procedure codes in other countries. However, progress has been slow despite the government's goal of medical digital transformation in Japan. Due to aging in Japan, the demands of emergency medicine are increasing. It has caused the imbalance between demand and supplies in medical resource as the problem in policy making. As a preparatory step for international comparison of emergency medical care provision, we needed to try the mapping interventions of emergency medicine in Japan to ICHI codes. This study aimed to consider whether emergency medicine procedures and interventions in Japan can be assigned appropriately with ICH codes.

Methods & Materials

A total of 59 items, including 49 emergency medical procedures (35 titles), which are requirements for emergency physician certification by the Japanese Association for Acute Medicine, and 10 procedures and interventions frequently billed for medical fees in the emergency field, were mapped to the ICHI. First, three certified emergency physicians developed provisional English translations of domestic emergency medical procedures and interventions; next, two medical record managers assigned codes using the ICHI Coding Tool; and last, three emergency physicians assigned the most appropriate ICHI code to items for which a code could not be assigned by the coding tool, comprehensively reviewing the ICHI linearization coding system (Fig 2). Furthermore, at the ICHI online, the relationship between domestic procedures and interventions and the ICHI codes was examined. The relationship was assessed according to the rule which is modified the World Health Organization Family of International Classifications mapping process. Specifically, emergency medical procedures were classified into those that perfectly matched the assigned ICHI code (Equivalent: E), those that were narrow(Narrower: N), those that were wide (Broader: B), those that had both narrow and wide parts(Slipped: S),

and those that did not correspond (None)(Fig 2). In this study we did not used the Extension codes, because of no code number for each Extension code in the ICHI browser now.











Domestic title	ICHI code	Relation Key	Expansion
		E=equivalent	Exact match between domestic codes and ICHI codes.
		N=narrower	Domestic title indicates narrower concept than ICHI code.
		B=broader	Domestic title means broader concept than ICHI codes.
		S=slipped	Domestic title has both of narrower and broader.
		X=none	Domestic title can't be expressed by ICHI. n/a

Figure2: Modified from 'ICHI Mapping Process' paper in 2018 WHO-FIC FDC Mid-year Meeting

Results

In the first step, domestic items were translated by three certified emergency physicians in English, which detail were spared in this poster. In the second step, two coders individually mapped 59 domestic items to ICHI codes by using the ICHI coding tool (accessed in AUG 2024). Consensus was reached for 44 titles (74.5%). Of the remaining 15 titles, eight were due to differences in the words entered into the search box of the coding tool when the flexible search was required, two titles were due to differences in how relation were perceived, and the rest were for other reasons. Only 32 items (54.2%) were assigned a code using the coding tool in second step; however, after comprehensively pondering the linearization coding system, assigning an ICHI code to 55 items (93.2%) was possible in third step (Table 1).The level of relationship between domestic items and ICHI codes using single stem code alone were as follows: in 2nd step, Equivalent, 17 (28.8%); Narrower, 11 (18.6%); Broader, 4 (6.8%); Slipped, 0 (0%); None, 27 (45.8%), in third step, Equivalent, 29 (49.2%); Narrower, 21 (35.6%); Broader, 4(6.8%); Slipped, 1 (1.7%); None, 4 (6.8%). Some issues were identified, such as that some frequently used English terms in Japan were not supported by the ICHI Foundation.

Relation	2nd step		3rd step	
	by Coding Tool		by Browser	
Equivalent	17	28.8 %	29	49%
Narrow	11	18.6 %	21	36%
Broad	4	6.8 %	4	6.8%
Slipped	0	0 %	1	1.7%
Subtotal	32	54.2 %	55	93%
None	27	45.8 %	4	6.8%
Total	59		59	

Table1 :results of mapping between emergency medical procedures in Japan and ICHI Stem Codes .

Conclusions

Although a review of 59 procedures and interventions in the field of emergency medicine in Japan revealed that a certain percentage (93.2%) of these could be converted to ICHI, further public awareness and dissemination are needed. We hope that the present trial will act as the base for future ICHI mapping studies, and would arouse the interest of domestic emergency physicians and health information managers in ICHI and We would like to contribute to raising awareness among experts around the world of the current state of medical statistics in the field of emergency medical care in Japan.

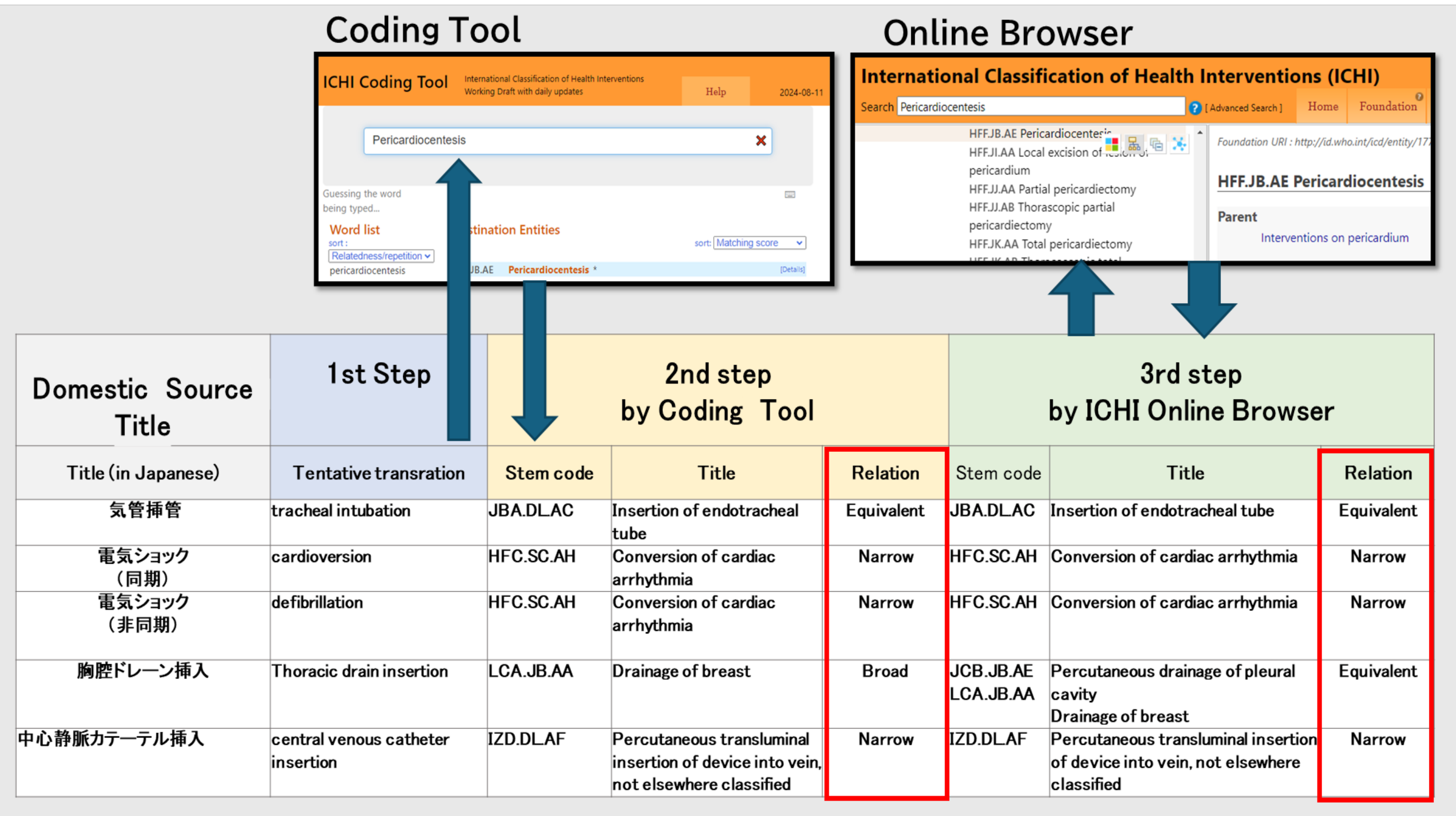
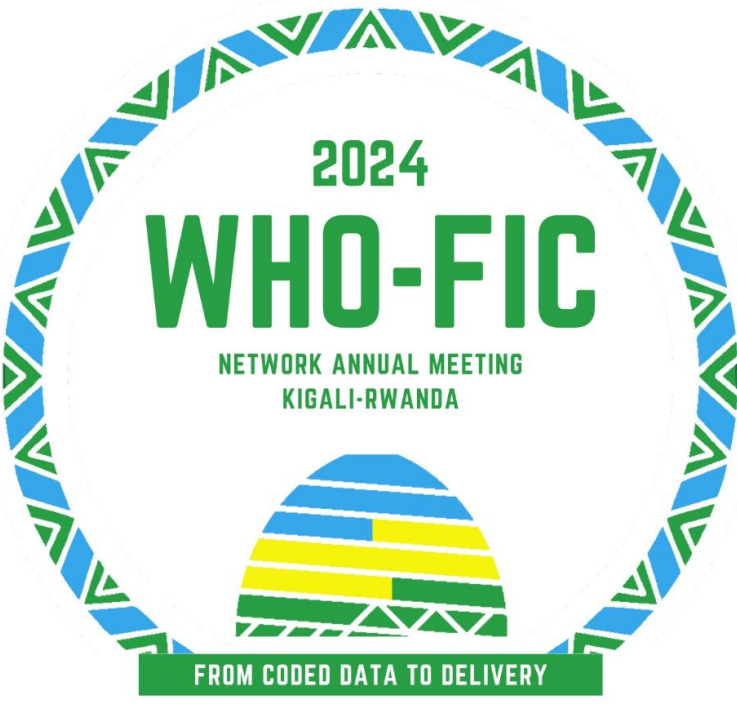


Figure1: the process for mapping the domestic items to ICHI codes in this study

(This poster contains content under submission to a medical journal.)



Challenges In Mapping ICD–9–CM Codes To ICHI Codes For Breast Cancer Surgery.

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Abstract In selecting the ICHI codes for the 19 surgical procedures for malignant tumours that correspond to the ICD-9-CM surgical codes for breast cancer, it was necessary to combine 'Interventions on the breast' as breast surgery and 'Interventions on the lymphatic system’.

Background and Purpose

In Japan, there are hospitals where ICD-9-CM codes are registered as surgical codes in electronic medical records or clinical databases. In the future, it will be necessary to solve the problems of adapting the Japanese version of ICD-9-CM to the ICHI codes. The aim of this study is to take the Japanese ICD-9-CM 2003 for breast cancer surgery as an example and to organise the issues extracted in the process of mapping with ICHI codes.

Methods

Among the surgical procedures to be reported when applying for certification as a breast surgeon by the Japanese Breast Cancer Society, the National Clinical Database(NCD) codes corresponding to ICD-9-CM surgical codes are extracted for the 19 surgical procedures applicable to malignant tumours. The surgical codes are retrieved from the Standard Master of Surgery and Procedures (MEDIS-DC) and the English reference names are identified. An attempt is made to see if an ICHI code can be extracted from the English name using the ICHI Coding Tool. The English name should also refer to '85 Operations on the breast' in ICD-9-CM 2010.

Results and Discussion

In selecting the ICHI codes for the 19 surgical procedures for malignant tumours that correspond to the ICD-9-CM surgical codes for breast cancer, it was necessary to combine 'Interventions on the breast' as breast surgery and 'Interventions on the lymphatic system’.

The need to link ICHI to ICD-11 codes has also been identified in the breast area, where concepts such as 'malignant' tumours are included in NCD codes, and the need to link ICHI to ICD-11 codes to adequately represent this information has been identified.

Furthermore, the mapping to ICHI codes was similar to the mapping of K codes to ICHI codes for orthopaedic procedures by Abe et al. (2024), where the operations indicated by the ICHI codes were 1) equivalent (exact match), 2) narrower concept than ICHI, 3) broader concept than ICHI, 4) slipped (both broader and narrower), 5) none (cannot be expressed by ICHI codes).

Acknowledgements

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Conclusions

The coding of medical procedures in Japan to date has not provided for the use of codes in conjunction with either KJ codes or ICD-9-CM; for ICHI to be used in Japan, systems compatible with the combined use of codes in the WHO Family of International Classification will need to be disseminated or a national list of mapping codes will need to be developed.

Reference

1. ICD-9-CM 2010 .
http://akademiperekammedis.ac.id/wp-content/uploads/2017/10/ICD9CM.pdf (2024/08/08 accessed)
2. List of surgical procedures. Japanese Breast Cancer Society.
https://jp.jssoc.or.jp/uploads/files/speci alist/curriculum-new_02.pdf (2024/08/08 accessed)
3. Medical Information System Development Center (MEDIS-DC) MEDIS 標準手術・処置マスター Ver.20240510
https://www.medis.or.jp/4_hyojyun/me dis-master/
https://www2.medis.or.jp/stdcd/shujut u/shujutu_download2019.html (2024/08/08 accessed)
4. Abe K, Kawase H, Yokogawa N, et al.Mapping the Japanese orthopedic association national registry(JOANR) to the international classification of health interventions(ICHI).Journal of Orthopaedic Science. 2024;29(2):675-680.

Table 1.Mapping Results

【2019-2022】 National Clinical Database(NCD) No.	【2019-2022】 NCD Name of the surgical interventions	ICD-9-CM2003 Japanese	ICD-9-CM2003 English	ICD-9-CM 2010	ICHI codes	ICHI	Level of equivalence (Relation) (Abe 2024)
OP0014	乳腺腫瘍切開術	850 乳房切開術	Mastotomy	850 Mastotomy	LCA.JJ.AA	Partial excision of breast tissue	Narrower
OP0015	乳輪下腫瘍根治術	8521 乳房の病変部分切除術	Local excision of lesion of breast	8521 Local excision of lesion of breast	LCA.JI.AA	Local excision of lesion of breast	Equivalent
OP0016	乳腺組織試験採取術 1. 針穿刺による	8511 閉鎖的 [経皮的] [針] 乳房生検	Closed [percutaneous] [needle] biopsy of breast	8511 Closed [percutaneous] [needle] biopsy of breast	LCA.AD.AE	Percutaneous biopsy of breast	
OP0017	乳腺組織試験採取術 2. 試験切開による	8512 開放性乳房生検	Open biopsy of breast	8512 Open biopsy of breast	LCA.AD.AA	Incisional or open biopsy of breast	
NP0185	乳腺腫瘍摘出術 1. 長径 5 cm未満のもの (乳腺良性病変)	8521 乳房の病変部分切除術	Local excision of lesion of breast	8521 Local excision of lesion of breast	LCA.JI.AA	Local excision of lesion of breast	Equivalent
NP0186	乳腺腫瘍摘出術 2. 長径 5 cm以上のもの (乳腺良性病変)	8521 乳房の病変部分切除術	Local excision of lesion of breast	8521 Local excision of lesion of breast	LCA.JI.AA	Local excision of lesion of breast	
NP0285	乳管腺葉区域切除術	8523 乳房垂全摘術 4051 腋窩リンパ節の根治的郭清術	Subtotal mastectomy Radical excision of axillary lymph nodes	8523 Subtotal mastectomy	LCA.JJ.AA /DFC.JL.AA	Subtotal mastectomy & Radical excision of axillary lymph node	
OP0023	画像ガイド下吸引式乳腺生検術	8511 閉鎖的 [経皮的] [針] 乳房生検	Closed [percutaneous] [needle] biopsy of breast	8511 Closed [percutaneous] [needle] biopsy of breast	LCA.AD.AE	Percutaneous biopsy of breast	Narrower
OP0024	乳房実物摘出術	8521 乳房の病変部分切除術	Local excision of lesion of breast	8521 Local excision of lesion of breast	LCA.JD.AA	Removal of internal device or foreign body from breast	
SP0025	乳房縮小術 (性適合手術目的)	8532 両側の乳房縮小術	Bilateral reduction mammoplasty	8532 Bilateral reduction mammoplasty	LCA.LL.AA	Reduction mammoplasty	Broader
NP0187	乳房切除術 (乳腺良性病変)	8521 乳房の病変部分切除術	Local excision of lesion of breast	8521 Local excision of lesion of breast	LCA.JI.AA	Local excision of lesion of breast	Equivalent
NP0188	乳腺悪性腫瘍手術 2. 乳房切除術 腋窩郭清を伴わないもの	8541 片側単純乳房切除術	Unilateral simple mastectomy	8541 Unilateral simple mastectomy	LCA.JK.AA	Simple mastectomy	
OP0028	乳腺悪性腫瘍手術 (乳房部分切除) (腋窩部郭清を伴う)	8543 所属リンパ節郭清を伴う単純乳房切除術	Simple mastectomy with excision of regional lymph nodes	8543 Simple mastectomy with excision of regional lymph nodes	LCA.JL.AA	Radical mastectomy with excision of axillary lymph nodes	
OP0029	乳腺悪性腫瘍手術 (乳房部分切除) (腋窩部郭清を伴わない)	8541 片側単純乳房切除術	Unilateral simple mastectomy	8541 Unilateral simple mastectomy	LCA.JK.AA	Simple mastectomy	
OP0030	乳腺悪性腫瘍手術 (乳房切除術) (腋窩鎖骨下部郭清を伴う) (胸筋切除を併施しない)	8543 所属リンパ節郭清を伴う単純乳房切除術	Simple mastectomy with excision of regional lymph nodes	8543 Simple mastectomy with excision of regional lymph nodes	LCA.JL.AA	Radical mastectomy with excision of axillary lymph nodes	Slipped
OP0031	乳腺悪性腫瘍手術 (乳房切除術) (腋窩鎖骨下部郭清を伴う) (胸筋切除を併施)	8545 乳房、胸筋および所属リンパ節[腋窩、鎖骨下、鎖骨上部、内胸、および縦郭]切除術	Excision of breast, pectoral muscles, and regional lymph nodes	8545 Excision of breast, pectoral muscles, and regional lymph nodes	LCA.JL.AA	Excision of breast, pectoral muscles, and regional lymph nodes	
OP0032	乳腺悪性腫瘍手術 (拡大乳房切除術) (胸骨旁、鎖骨上、下窩など郭清併施)	8547 片側の拡大根治的乳房切除術	Unilateral extended radical mastectomy	8547 Unilateral extended radical mastectomy	LCA.JL.AA	Extended radical mastectomy	
OP0035	乳頭形成術 (陥没乳頭の形成)	8587 乳頭のその他の修復術または再建術	Other repair or reconstruction of nipple	8587 Other repair or reconstruction of nipple	LCA.ML.AA	Other repair or reconstruction of nipple	Equivalent
OP0036	乳頭形成術 (再建乳房乳頭形成術)	8587 乳頭のその他の修復術または再建術	Other repair or reconstruction of nipple	8587 Other repair or reconstruction of nipple	LCA.ML.AA	Other repair or reconstruction of nipple	
NP0189	一期的乳房再建術 (乳房切除後) (人工乳房による)	857 乳房全再建術	Other mammoplasty	8579 Other total reconstruction of breast	LCA.ML.AA	Reconstruction of breast	
NP0190	一期的乳房再建術 (乳房切除後) (自家組織による)	857 乳房全再建術	Other mammoplasty	8570 Total reconstruction of breast, not otherwise specified	LCA.ML.AA	Reconstruction of breast	Broader
OP0039	二期的乳房再建術 (人工乳房)	857 乳房全再建術	Other mammoplasty	8579 Other total reconstruction of breast	LCA.ML.AA	Reconstruction of breast	
NP0191	二期的乳房再建術 (自家組織による)	857 乳房全再建術	Other mammoplasty	8570 Total reconstruction of breast, not otherwise specified	LCA.ML.AA	Reconstruction of breast	
NP0239	乳腺腫瘍MR I ガイド下吸引術	8591 乳房の吸引術	Aspiration of breas	8591 Aspiration of breas	LCA.AD.AE	Percutaneous biopsy of breast	
NP0283	皮膚温存乳房全切除術	8534 その他の片側性皮下乳房切除術 4051 腋窩リンパ節の根治的郭清術	Other unilateral subcutaneous mamnectomy Radical excision of axillary lymph nodes	8534 Removal of breast tissue with preservation of skin and nipple	LCA.JJ.AA /DFC.JL.AA	Skin sparing mastectomy & Radical excision of axillary lymph node	
NP0284	乳頭温存乳房全切除術	8534 その他の片側性皮下乳房切除術 4051 腋窩リンパ節の根治的郭清術	Removal of breast tissue with preservation of skin and nipple Radical excision of axillary lymph nodes	8534 Removal of breast tissue with preservation of skin and nipple	LCA.JJ.AA /DFC.JL.AA	Partial excision of breast tissue & Radical excision of axillary lymph node	Broader
OV0002	センチネルリンパ節生検術 (乳腺悪性腫瘍)	4011 リンパ組織の生検	Biopsy of lymphatic structure	4011 Biopsy of lymphatic structure	DFA.JJ.AA	Sentinel lymph node biopsy of lymph node, NEC	Broader
OV0015	リンパ節群郭清術・鎖骨上窩及び鎖骨下窩	4059 その他のリンパ節の根治的郭清術	Radical excision of other lymph nodes	4059 Radical excision of other lymph nodes	LCA.JL.AA	Radical mastectomy with excision of clavicular lymph nodes	Narrower
OV0016	リンパ節群郭清術・腋窩	4051 腋窩リンパ節の根治的郭清術	Radical excision of axillary lymph nodes	4051 Radical excision of axillary lymph nodes	DFC.JL.AA	Radical excision of axillary lymph node	Equivalent
OV0017	リンパ節群郭清術・胸骨傍	4059 その他のリンパ節の根治的郭清術	Radical excision of other lymph nodes	4059 Radical excision of other lymph	DFA.JL.AA	Radical excision of lymph node, not elsewhere classified	Narrower
Green are 19 malignancy-related operations.		ICD-9-CM has different codes for unilateral or bilateral , but those with no mention of unilateral or bilateral are assumed to be unilateral .					

Abstract

Various classification systems provided by the World Health Organization (WHO) have been used in research and practice in hearing healthcare. The latest addition, the International Classification of Health Interventions (ICHI), presents an opportunity for hearing healthcare to structure and standardize the description of assessment and interventions services. The current study aimed to determine the use of the ICHI for hearing healthcare assessments and interventions commonly delivered to adults with sensorineural hearing loss (SNHL).

Introduction

The World Health Organization’s (WHO) International Classification of Diseases (ICD) and the International Classification of Functioning, Disability and Health (ICF) are widely recognized and have been integrated into research and clinical practice in hearing healthcare. For example, comprehensive and brief ICF core sets for hearing loss have been developed and used in developing patient-reported outcome measures (Granberg et al., 2014; Karlsson et al., 2023).

The ICHI classification is under active development, aiming to support various healthcare initiatives, including statistical analysis, cost comparisons, and the establishment of classification systems in countries where they are currently lacking (WHO, 2019). The application of ICHI has been explored across a few healthcare fields, including public health, medical surgery, nursing, and acute stroke care.

Given that ICHI is still under development, there is an opportunity to structure and standardize the description of interventions and rehabilitation services in the field of hearing healthcare (Manchaiah et al., 2020). This study therefore aimed to assess the draft ICHI classification’s coverage of interventions commonly provided by hearing healthcare professionals for adults with sensorineural hearing loss (SNHL). This would be important as adults are expected to be the primary consumers of hearing aids as the global prevalence of hearing loss (moderate or higher grade severity) increases exponentially with age (WHO, 2021). Through this assessment, proposed changes to improve the utility and reliability of the ICHI classification system for hearing healthcare will be provided.

Methods & Materials

The coverage of hearing healthcare interventions for adults with SNHL in the current draft of the ICHI was determined using a content mapping approach, with semantic matching of the source and target terms (Fortune et al., 2017). A three-phase content mapping method was followed:

Phase 1: As there is currently no specific hearing healthcare database of rehabilitation options available, the research team created a list.

Components of intervention identified by Laplante-Lévesque et al. (2010) was expanded on and shared with 10 experts in audiology rehabilitation to review and provide recommendations. This iterative process was conducted electronically via email.

Phase 2: The team collaborated with the WHO Collaborating Centre for Strengthening Rehabilitation Capacity in Health Systems. 3 coders (2 Audiologists, 1 Physiotherapist) utilized the publicly available ICHI (<https://icd.who.int/dev11/l-ichi/en>) between January to March 2024 to code the items identified in phase 1. To ensure consistency and reliability, cross-checking of 40% of the coding was conducted by an independent, expert ICHI coder (SM).

Phase 3: The coders discussed the identified codes selected during phase 2. Where possible, a consensus ICHI code was assigned for each source term. The component or axe of discrepancy (target, action, means) or reasons for discrepancies in codes assigned during Phase 2 were recorded (e.g., different interpretations of source term meaning). Source terminology not linked to a specific code was captured.

Results

The results for each phase is provided below:

Phase 1: Assessment and interventions were grouped corresponding to the main phases of the hearing care intervention process, namely (1) screening and diagnostic assessment; (2) technological rehabilitation options (i.e., personal acoustic amplification options, implantable device options); and (3) rehabilitation intervention (i.e, psychosocial rehabilitation solutions). 18 items for were identified for screening and diagnostic assessment with 40 for technological rehabilitation options, and 36 for rehabilitation intervention.

Phase 2: 100% agreement was found between the 2 audiologist coders. All three coders assigned the same ICHI code for 54.3% of source terms (n=94), no ICHI code was identified for 8.5% with the remaining 37.2% had no commonality of results.

Phase 3: The greatest number of discrepancies arose from the action (26) followed by the target (16). For 82% of coded source terms, the Means was “Other and unspecified means”.

Furthermore, a single ICHI code was matched to multiple source terms. Extension codes were also only available for telehealth options. Although other ICHI extension codes are listed on the current publicly available ICHI, no specific codes were available for items identified in this study. Extension codes from the Beta version were thus recommended.

Table 1. Examples of a single ICHI code matched to multiple source terms

Source term	Coding result
Screening tests: Questionnaires for person with hearing loss Questionnaires for significant others Speech-in-noise tests Tuning fork testing Otoacoustic emissions	CT2.AC.ZZ “Test of hearing and vestibular functions”
Personal acoustic amplification options: BTE hearing aid with earmould Open-fit hearing aid ITE hearing aid CIC hearing aid RIC hearing aid	UAF.RD.ZZ “Providing goods for communication”
Informational counselling: Impact of HL Causes and types of HL Identifying risk factors Evidence of benefits	CTB.PM.ZZ “Education about hearing functions”

Coding discrepancies included the following:

- The understanding of source terms and the clinical use thereof between the coders. Examples provided in the table below.
- Difficulty determining the type of Target. It was difficult to decide whether the target of a source term should be regarded as a provision of an intervention option or a anatomical target with the action linked to the intervention.

Conclusions

While the ICHI classification generally provides comprehensive coverage of audiological assessment and intervention options for adults with SNHL, there remains several areas of insufficient content and limited detail. Further development of definitions and coding guidance is required to ensure consistency in application in the context of hearing healthcare.

References

- Granberg, S., Möller, K., Skagerstrand, Å., Möller, C., & Danermark, B. (2014). The ICF Core Sets for Hearing Loss: Researcher Perspective, Part II: Linking Outcome Measures to the International Classification of Functioning, Disability and Health (ICF). *International Journal of Audiology*, 53(2), 77-87.
- Karlsson, E., Mäki-Torkko, E., Granberg, S., Widén, S., Manchaiah, V., Swarnalatha Nagaraj, V., Pichora-Fuller, K. M., Selb, M., Swanepoel, D. W., Yerraguntla, K., & Gustafsson, J. (2023). Hearing and Functioning in Everyday Life Questionnaire: Development and Validation of an ICF-Based Instrument. *Ear and Hearing*, 44(6), 1498-1506.
- Manchaiah, V., Swanepoel, D. W., & Fortune, N. (2020). The International Classification of Health Interventions (ICHI)—a new tool for describing and reporting interventions in audiology. *International Journal of Audiology*, 59(6), 403-405.
- World Health Organisation. 2019. “International Classification of Health Interventions (ICHI).”
- World Health Organization. (2021). World report on hearing.



Transforming Coding in South African Physiotherapy: A Comparative Analysis of ICHI Coding and Current Practices

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Abstract The field of physiotherapy in South Africa is on the brink of a transformative evolution, driven by the need for more accurate and comprehensive coding systems. This poster presents a comparative analysis of the International Classification of Health Interventions (ICHI) coding system against existing physiotherapy coding practices in South Africa, highlighting significant gaps and potential advancements. ICHI offers a comprehensive and standardized framework designed to encompass the wide array of health interventions across medical disciplines. In response to the pressing need for improvement, The South African Society of Physiotherapy (SASP) has engaged special interest groups within the profession to provide input on the gaps present in both the ICHI and the current physiotherapy coding structure. Key gaps in current South African physiotherapy coding systems are identified. These deficiencies can lead to inconsistencies in data collection, impact clinical decision-making, and hinder the overall advancement of the profession and care delivered to patients. Our findings suggest that development and adoption of the ICHI coding system could significantly benefit physiotherapy practice in South Africa by providing the accuracy and representation of therapeutic interventions. Further work is required to cater for the physiotherapy context. This would not only enhance clinical documentation and patient care but also facilitate better data-driven research and policy-making. By bridging the gaps identified, we can pave the way for a more precise, efficient, and impactful physiotherapy practice, ultimately improving patient outcomes and advancing the field in South Africa.

Introduction

The South African Physiotherapy profession is at a pivotal point regarding the coding of its interventions. The current system based on the National Reference Price List (NHRPL) has not been updated formally since 2006, creating significant obstacles in both describing new interventions as well as providing data for research, efficient management of costs, and access to quality healthcare.

The SASP supports current national processes underway to standardise clinical coding and, if possible, standardise such coding in line with the WHO-FIC.

This study aims to compare the International Classification of Health Interventions (ICHI) with current South African physiotherapy coding practices, identifying gaps and proposing advancements.

Methods & Materials

The codes in the current physiotherapy coding structure were searched and compared to ICHI to identify which codes are accurately represented based on their descriptions and inclusions. Additionally, special interest groups of The SASP were approached for input to identify areas where the NHRPL does not offer representation of health interventions used in practice. The results were tabled as either direct compliance with ICHI, codes of which the descriptors could be used as an alternative for a specific intervention or no comparable ICHI code found.

Results

Intervention Description	ICHI code	Alternative ICHI code	No ICHI code
NHRPL 72301 - Percussion	MRS.PC.ZZ <ul style="list-style-type: none">Massage of soft tissue of unspecified sitePercussion of soft tissue, not otherwise specified	JTB.JB.ZZ <ul style="list-style-type: none">Postural drainagePostural drainage by percussion technique	
72328 – Dry Needling			None
72401 – Spinal Mobilisation of joints		NOCODEASSIGNED .PA.AH <ul style="list-style-type: none">Manipulation of vertebra, not elsewhere classified	
Supplementary Interventions Pain Neuroscience Education (PNE)	AXA.PM.ZZ <ul style="list-style-type: none">Education about pain	AXA.PP.ZZ <ul style="list-style-type: none">Counselling for pain	
Graded motor Imagery work			None
Graded exercise / Pacing		VEB.TI.ZZ <ul style="list-style-type: none">Prescription for physical activity behaviours	

Table 1: Example of search results between NHRPL, Supplementary interventions and ICHI.

There were several NHRPL codes identified with insufficient and ambiguous descriptors, which limited ICHI search parameters to find comparative codes. Additionally, multiple NHRPL codes describing similar interventions were identified.

Some suggested supplementary interventions, e.g. Exercise, were not specific enough to be compatible with ICHI.

It was challenging to identify comparable codes due to the extreme specificity of intervention descriptions within ICHI.

Conclusions

Certain gaps emerged regarding the suitability of ICHI for physiotherapy in the South African context. Further investigation is required to identify overlap with ICHI and current clinical physiotherapy practice in South Africa. Additionally, the acceptability of ICHI amongst Physiotherapists needs to be explored.

ICHI could assist in ensuring a standardised coding system for physiotherapy across South Africa, if it is inclusive and comprehensive. A context appropriate ICHI could provide one standardised intervention code list for clinical practice, research and quality profiling especially in the context of the National Health Insurance.

Limitations of ICHI include the lack of attached remuneration suggestions. Within the South African context, the utilization of ICHI would be challenging due to the need for a comprehensive remuneration structure. Additionally, the duration and frequency of intervention is not catered for which is important to measure efficiencies and costs, and to reflect on the quality of care.

We are open to collaborate with other rehabilitation professionals and associations in other countries through WHO-FIC.

Acknowledgements or Notes



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