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Name of the University, Hospital, Research Institute, Academy or Ministry

Regional Central Health Directorate

Name of the Division, Department, Unit, Section or Area

Classification Area, General Directorate

City Udine **Reference Number** ITA-85

Title WHO Collaborating Centre for Family of International Classifications

Report Year 07-2019 to 07-2020

1. Annual report on the agreed workplan

Describe progress made on the agreed workplan. For each activity, detail (1) the actions taken, (2) the outputs delivered, as well as (3) any difficulties that may have been encountered. Three responses are expected. [maximum 200 words per activity]. Indicate, if an activity has been completed previously, has not yet started or has been placed on hold.

Activity 1

Title: Support ICD-11 implementation

Description: This activity and respective deliverables will support ICD-11 implementation in Italy.

Status: ongoing

In the last year, the new activities were carried out in collaboration with Università di Udine, Istituto Nazionale di Statistica (ISTAT) and Italian Ministry of Health.

At national level, very initial approaches were established with the Ministry of Health for an agreed roadmap and translation of ICD-11.

In developing the ICD-10 clinical modification under a national programme started some years ago, Lucilla Frattura and her team took into account ICD-11 in order to make the Italian modification as aligned as possible to ICD-11 itself. In this framework, some analyses were made by the Italian WHO-FIC Collaborating Center (CC) core team in order to study some specific health conditions and how ICD-11 could be updated considering the way by which the draft of the Italian ICD-10 clinical modification codes the same conditions.

Some activities were carried out by the ISTAT experts with the aim of building knowledge on the content and application of ICD-11. In particular, given the experience acquired in the evaluation of the impact of ICD-11 in automated coding (in collaboration with the Iris Institute), ISTAT has promoted some internal experiences of knowledge sharing with organized seminars on the basics of ICD-11 and its use in mortality statistics.

DISSEMINATION OF RESULTS

Zavaroni C, Morassutto C, Nardo E, Bassi G, Frattura L. Current limit of ICD-11 post-coordination: the case of gouty tophi. WHO-FIC Network Annual Meeting Poster Booklet, Banff 2019, ID 312

Zavaroni C, Bassi G, Nardo E, Frattura L. Usefulness of the classification of cervical and vaginal smear findings in ICD-11. Poster submitted at WHO-FIC Network Virtual Annual Meeting 2020

Zavaroni C, Bassi G, Nardo E, Frattura L. A comprehensive classification system facilitates effective communication among health workers, comparative studies and development of systematic treatment strategies: the case of muscle and tendon injuries & proposal for avoiding a ICD-11 tumble. Poster submitted at WHO-FIC Network Virtual Annual Meeting 2020

Zavaroni C, Nardo E, Bassi G, Frattura L. ALECT2 amyloidosis, a frequent form of systemic amyloidosis: evocative case for ICD-11 flowering. Poster submitted at WHO-FIC Network Virtual Annual Meeting 2020

Activity 2

Title: Support management of the WHO FIC maintenance process

Description: This activity and respective deliverables will support update and maintenance of ICD-11, ICF and ICHI.

Status: ongoing

ITALIAN WHO-FIC CC EXPERTS INVOLVED IN THE MAINTENANCE OF ICF AND ICD:

Lucilla Frattura acted as CSAC Co-Chair for ICF (second mandate, expiring in October 2020) and CSAC voting member for ICF updates

Francesco Grippo (ISTAT) acted as CSAC voting member for ICD-11 updates and Chiara Orsi (ISTAT) was requested to be added as observer for ICD-11 update process.

Paula Tonel acted as CSAC Secretariat.

Matilde Leonardi acted as FDRG Co-Chair (second mandate, expiring in October 2020).

Carlo Zavaroni acted as MbRG member.

ICF updates 2019: In 2019 summer, two voting rounds were set on 2019 ICF update proposals. Votes were then collected and documents were prepared for the annual meeting. At the 2019 WHO-FIC Network annual meeting held in Banff, the CSAC ratified 57 recommendations for updating the ICF. An extraordinary CSAC ICF session was held via teleconference in February 2020 to complete discussion on 10 ICF update proposals that could not be discussed in Banff due to time restrictions. The annual update documents for the ICF updates approved during the 2019 update process and to be implemented in 2020 were prepared and delivered to WHO.

ICF update process for 2020: In 2020, in the ICF update platform, 10 new update proposals were submitted, four of them by Lucilla Frattura. A first check on new update proposals was performed by the CSAC secretariat. In February, the Initial Review Group (IRG) reviewed the new update proposals for ICF and later

these were reviewed also by FDRG members. In addition to the 10 new update proposals, in the ICF update platform, there were also update proposals held over from past years and among these some proposals coming from ICF-CY. In spring 2020, considering the necessity to complete the merging of ICF-CY codes into ICF and considering the upcoming release of a 2020 ICF version, WHO asked CSAC Co-Chair for ICF and CSAC secretariat to speed up the process regarding proposals coming from ICF-CY. Therefore, 3 teleconferences were held in May 2020 to discuss and vote on the 12 update proposals coming from ICF CY. Documents related to these CSAC ICF teleconferences were prepared and delivered to WHO by CSAC Co-Chair for ICF and CSAC secretariat. Of the remaining update proposals to be considered in 2020 (10 newly submitted update proposals and 6 held over proposals), 12 have been put to vote. The first online voting round was opened on 21 July 2020 and closed on 23 August 2020. A second online voting round was held from 24 August 2020 to 20 September 2020. During the year, the CSAC Co-Chair for ICF and CSAC secretariat also participated in some FDRG teleconferences in relation to ICF updates. More details are provided for 2020 activities:

ICF UPDATES 2019 (with implementation in 2020)

January:

- worked on the ICF update platform with regard to 2019 ICF update proposals: moved proposals to Accepted, back to Open Discussion layer and made modifications, if any, as per decisions taken at WHO-FIC Banff meeting in 2019

February:

- prepared documents for extraordinary CSAC ICF session (held via teleconference) to discuss and vote on pending ICF update proposals that could not be discussed in Banff due to time restrictions
- participated in CSAC ICF teleconference held on 11 February 2020 to discuss and vote on remaining ICF update proposals from Banff meeting
- worked on the ICF update platform with regard to ICF update proposals as per decisions taken at Banff meeting and at the February CSAC ICF session
- completed minutes of CSAC ICF sessions of 2019 Banff meeting and prepared minutes of February CSAC ICF teleconference and sent out to CSAC ICF voting members for review
- prepared the annual update documents for ICF updates approved in the 2019 update cycle and to be implemented in 2020 and sent out to CSAC ICF voting members for review

May:

- finalized and delivered to WHO the annual update documents for ICF updates approved in the 2019 update cycle and to be implemented in 2020

ICF UPDATE PROCESS FOR 2020:

January:

- checked the new ICF update proposals submitted on the ICF update platform to see if they were properly written and complete. Contacted authors when clarifications were necessary or for other requests.

February:

- moved new proposals that were ready to be reviewed to IRG layer
- moved new proposals to FDRG layer, once IRG review was completed

March:

- prepared document to be sent to WHO concerning ICF update proposals coming from ICF CY that still needed to be discussed and possibly incorporated in ICF
- participated in a call (23 March) with WHO to discuss ICF update process for 2020, in particular with regard to ICF CY proposals and forthcoming ICF 2020 version
- prepared a draft document in preparation of the anticipated voting session on ICF update proposals coming from ICF CY. Document related to ICF proposals coming from ICF CY proposals was to be sent to CSAC ICF voting members to facilitate their review of the proposals before anticipated voting session via teleconference.

April

- finalized document for CSC ICF voting members useful for their review of ICF CY proposals and sent email to explain voting process for 2020 (6 April)
- moved proposals coming from ICF CY to CDL layer in order to be considered by CSAC ICF voting members for discussion and voting
- organized first teleconference for anticipated voting session on ICF update proposals coming from ICF CY and prepared related documents

- participated (partly) in FDRG teleconference on 24 April (some of the issues dealt with concerned ICF - ICF modernization)

May:

- participated in the first teleconference to discuss and vote on ICF proposals coming from ICF CY (4 May)
- organized, prepared material for and participated in the second teleconference to discuss and vote on ICF proposals coming from ICF CY (14 May)
- organized, prepared material for and participated in third teleconference to discuss and vote on ICF proposals coming from ICF CY (25 May)
- prepared draft minutes of the three teleconferences and draft document of voting results and of approved updates.
- moved the remaining update proposals to be considered in 2020, and that followed the normal procedure, to ODL for review and comment by the general public
- participated in FDRG teleconference on 22 May (some of the issues dealt with were related to ICF updates and modernization).

June:

- emailed authors of 'held over' ICF update proposals to update their proposals if the case
- informed members and others that ODL was open
- sent draft documents of May CSAC ICF teleconferences to WHO

July:

- worked on the ICF update platform with regard to ICF update proposals coming from ICF CY as per decisions taken at May CSAC ICF sessions
- checked remaining update proposals to be considered for 2020 before moving them to the Closed Discussion layer. In some cases, contacted author and agreed on some modifications.
- moved the update proposals to the Closed Discussion layer and opened first voting round (21 July – 23 August 2020).

General: answered to emails requesting information/clarifications about ICF codes/update proposals/update process. Helped authors of proposals or other CSAC ICF members with ICF update platform.

ICD-11 UPDATES 2019

November:

Participated in CSAC ICD sessions at the WHO-FIC annual meeting in Banff and in a teleconference for discussion and voting on ICD-11 update proposals that could not be discussed in Banff due to time restrictions and for discussion of other issues related to ICD-11 (14 November 2019)

ICD-11 UPDATE PROCESS FOR 2020

March:

- participated in CSAC Briefing with WHO and small CSAC group (13 March)

May:

- participated in small CSAC subgroup meeting to discuss and 'triage' some ICD-11 update proposals (online meeting 11-13 May 2020)

June:

- participated in small CSAC subgroup meeting to discuss and 'triage' ICD -11 update proposals (online meeting on 23 June 2020)

WHO-FIC NETWORK AND OTHER

January:

- CSAC Co-Chair for ICF (Lucilla Frattura) and CSAC Secretariat (Paula Tonel) participated in WHO FIC Network Council on 21 January 2020
- CSAC Co-Chair for ICF (Lucilla Frattura) and CSAC Secretariat (Paula Tonel) participated in a CSAC call to discuss the emergency code for 2019-nCoV acute respiratory disease on 31 January 2020

February:

Lucilla Frattura participated at the CSAC small working group face to face meeting held in Geneva 12-16 February 2020.

March:

- CSAC Co-Chair for ICF (Lucilla Frattura) and CSAC Secretariat (Paula Tonel) participated in a CSAC call to discuss COVID-19 coding of suspected cases (11 March)

July:

- CSAC Co-Chair for ICF (Lucilla Frattura) and CSAC Secretariat (Paula Tonel) participated in teleconference concerning annual meeting 2020 (20 July).

The CSAC Co-Chair, the CSAC Secretariat, Paula Tonel, and Francesco Grippo also participated in some WHO teleconferences related to COVID-19 coding organized in the first part of 2020.

CSAC annual report.

The 2019 report was published on the WHO-FIC Network annual meeting held in Banff, Canada. The 2020 report was submitted as an abstract on the Annual meeting website.

DISSEMINATION OF RESULTS

Frattura L, Tonel P, Maribo T. The 2019 ICF update process: steps towards a new ICF release. In: 2019 WHO-FIC Network Annual Meeting Poster Booklet

Frattura L, Hargreaves J, Tonel P, Makeperson B. CSAC report 2019 In: 2019 WHO-FIC Network Annual Meeting Poster Booklet

Frattura L, Hargreaves J, Tonel P, Makeperson B. CSAC report 2020, submitted at the 2019 WHO-FIC Network Annual Virtual Meeting

Activity 3

Title: Contribute to the development and testing of the International Classification of Health Interventions (ICHI)

Description: This activity and respective deliverables will support the field testing and further development of ICHI.

Status: ongoing

The Italian WHO-FIC CC has been covering the function of Co-Chair (Andrea Martinuzzi) of the ICHI technical working group participating in the various activities related to the finalization of this classification. In view of the results of the field tests and considering the comments received, WHO convened an ICHI finalization working group whose chairmanship was covered by Andrea Martinuzzi for the Italian WHO-FIC CC. The group completed the round of revision during a virtual meeting on June 28-29th 2020.

University of Udine provided the platform for the ICHI field testing (ICHIfit), derived from the previously developed ICDfit. The platform was used to collect about 55000 codings for line-style studies, and about 3600 for case-style studies. The ICHI platform was updated according to the requests of the ICHI Task Force until the last ICHI release, for which support was provided. Then support was provided to WHO in transferring the classification editing process to the WHO iCat platform, by converting the ICHI classification into an intermediate format suitable for transfer. At present, the ICHI platform is hosted at the University of Udine and it is read-only, acting as a browser for ICHI.

DELIVERABLES

revised beta 3 ICHI draft

<https://mitel.dimi.uniud.it/ichifit/>

<https://mitel.dimi.uniud.it/ichi/>

Activity 4

Title: Support ICF implementation and modernization

Description: This activity and respective deliverables will support ICF modernization and implementation at national and international level.

Status: ongoing

The ICF implementation in the NHS is led by the Ministry of Health with the support of the Italian WHO-FIC CC. Lucilla Frattura was part of the national team involved in this programme. Her team actively contributed to develop an ICF-based assessment protocol and its implementation in a web tool. The new Italian translation of an updated version of ICF was started considering that Italian CC is completely aware of the ICF update process, because of its role in CSAC.

Some details are provided on this programme:

In Italy, the assessment of medical requirements and their consequences for eligibility to disability benefits is a health matter. The current disability assessment is made according to the medical model of disability and the ICDH. In 2017, Italian law n. 66 introduced new requirements based on the ICF for ascertaining disability status in children for educational inclusion, and it modified the reference law n. 104 approved in 1992. Under law n. 66/2017, the Italian Ministry of Health has the responsibility to implement the ICF in disability assessment in the National Health System, taking into account the need to be simple, transparent, and uniform across the country. A national work group was established with representatives of five ministries and many administrative bodies, including the Italian WHO-FIC CC. A specific disability/functioning assessment framework and related web tools were developed and proposed by the Italian WHO-FIC CC for school inclusion purposes under an agreement with the Italian Ministry of Health. The need to be consistent with the UN Convention of the Rights of Persons with Disabilities, ratified in Italy in 2009 (law n.18/2009), was also considered.

DELIVERABLES

Italian Ministry of Health, Guidelines for disability eligibility of children and youth for school inclusion purposes and for providing their functioning profile based on the ICD and the ICF
ACCEDI webtool

DISSEMINATION OF RESULTS

Frattura L, Bassi G, Morassutto C, Nardo E. Disability/functioning assessment framework for school inclusion: the Italian perspective, WHO-FIC Network Annual Meeting Poster Booklet, Banff 2019

Activity 5

Title: Supporting WHO-FIC cross-cutting activities

Description: This activity and respective deliverables will support promotion of WHO-FIC.

Status: ongoing

ITALIAN PORTAL OF HEALTH CLASSIFICATIONS: The Italian Portal of Health Classifications for the WHO-FIC was implemented, according to an agreement between the Italian Ministry of Health and the Friuli Venezia Giulia Ministry of Health.

NATIONAL DATABASE ON THE WHO-FIC IMPLEMENTATION. An implementation database was set up in order to show the multiple initiatives realized and under realization for ICF implementation.

ACTIVE PARTICIPATION IN THE WORK AND MEETINGS OF THE WHO FIC NETWORK

In the last year, Italian CC experts served as Co-Chairs of CSAC-ICF (Lucilla Frattura, from Oct 2016, second term), FDRG (Matilde Leonardi, from Oct 2016, second term), FDC (Andrea Martinuzzi, from Oct 2016, second term). The Italian Center also provided the CSAC Secretariat for ICD and ICF (Paula Tonel) and participated in the ICF and ICD update process with two CSAC voting members (Lucilla Frattura and Francesco Grippo). Italian experts are also members of CSAC (Chiara Orsi as observer), FDRG (Lucilla Frattura as voting member, Giovanni Bassi as observer), MRG (Francesco Grippo), ITC (Vincenzo della Mea), MbRG (Carlo Zavaroni), EIC (Lucilla Frattura and Matilde Leonardi) and ICHI Task Force (Andrea Martinuzzi) (see at the specific committee reports for 2019 and 2020 presented at the annual WHOFIC Network meetings).

NETWORK ACTIVITIES NOT ALREADY DESCRIBED IN OTHER SECTIONS OF THIS PROGRESS REPORT

Harmonization of the WHO-FIC reference classifications: In the past year, the Italian WHO-FIC CC team participated and contributed substantially to the task aiming at harmonizing WHO-FIC reference classifications with special relevance for the foundation content and its model. The vision of a harmonized ICD/ICF/ ICHI

Content Model and Foundation includes: 1. One single Foundation from which all variants of all WHO-FIC classifications are derived as linearizations; 2. A core WHO-FIC Content Model shared and extended by different classifications; 3. Harmonized Foundation content, without duplicates and with mutual references, that serves the requirements of all classifications; 4. Clear relationship to underlying ontologies; 5. Integrated tools that facilitate the development, maintenance, versioning, and publication of all WHO-FIC classifications. Two main lines of work have been identified: one dealing with the model and the other addressing the harmonization of the content. This latter group will concentrate on the existing entities now represented in the three reference classifications.

The working group meets regularly by teleconference and has had also an in-presence meeting in Conegliano, Italy. In the latter, the basis for the first concrete steps have been set, starting from a preliminary work about the content models of the current classifications, to find similarities and differences at the present time and suggest further developments.

Vincenzo Della Mea (University of Udine) participated in the work about the WHO-FIC harmonization by building software to extract and compare candidate concepts for harmonizing ICD-11 and ICF. The software was also exploiting the ICD-11 API. Della Mea was also among the organizers of the workshop about harmonization that was to be held during MIE2020 in Geneva, then suspended due to Covid-19 pandemic. He also explored the application of different deep learning techniques to the problem of Underlying Cause of Death selection. Basing on death certificates datasets openly released by CDC, the developed models obtained an accuracy of up to 99.03%. One paper has been accepted at a major conference, another one has been submitted to a journal.

DELIVERABLE:

- A comparison file for all identical and cognate terms in ICD-11 and ICF was generated.

WHO-FIC for the monitoring of SDG3 objectives: The assessment of relevant indicators such as those listed in the “100 core health indicators” recently reviewed is a way in which achievements within the SDGs and more specifically in SDG3 and the health sensitive topics across the other SDGs can be monitored. Universal Health Coverage (UHC) is an essential part of SDGs, and its progression should also be monitored. The WHO-FIC reference classifications can provide a useful framework to gather and analyse the needed data. A systematic mapping of the health indicators on specific codes of the three reference WHO classifications has been tested by a small group of FDC members to which the members of the Italian WHO-FIC CC have contributed first by defining the relevant classification where the information could be retrieved, then by identifying within the selected classification the appropriate code(s) containing the information.

DELIVERABLE:

- annotated list of categories useful to monitor the 100 core health indicators through the WHO-FIC

FDC co-chairmanship: The Italian WHO-FIC CC provided Andrea Martinuzzi as one of the Co-chairs for the FDC across the whole year. The Co-Chair participated and coordinated all the committee activities including the bi-weekly Co-Chairs/Secretariat Teleconferences.

FDRG co-chairmanship: The Italian WHO-FIC CC provided Matilde Leonardi as one of the Co-chairs for the FDC across the whole year. The Co-Chair participated and coordinated all the committee activities including the regular FDRG teleconferences.

DELIVERABLES:

- FDC SWP
- Reports of FDC annual and mid year meetings
- Reports of FDRG annual meeting and teleconferences

MRG: Francesco Grippo and Chiara Orsi participated in the mid-year meeting of the MRG, contributing especially to the development of rules for the correct coding of COVID-19 related deaths. Some examples were provided and discussed at that meeting. Active participation was also provided during the CSAC meeting aiming at updating the ICD for the COVID-19 coding, in particular concerning the codes and rules for the “post-COVID-19” condition. In collaboration with the Iris Institute, ISTAT decisively contributed to the refinement of the knowledge base (decision tables) for the correct coding of COVID-19 in manual and

automated coding.

IMPLEMENTING COVID-19 CODING RULES: A big effort was devoted by the Italian WHO-FIC CC to support the Italian Ministry of Health to coding COVID-19 adapting WHO indications to the Italian way of coding morbidity and mortality.

For morbidity coding purposes, Frattura and Zavaroni provided technical materials to introduce new ICD-9-CM codes able to be transcoded for international purposes to WHO codes in ICD-10. The Italian Ministry of Health coordinated this effort and will be responsible for its implementation at hospital level.

ISTAT worked for the translation and adaptation of WHO material on COVID-19 related to deaths certification and coding. Guidelines for certifiers were issued by Istat at the beginning of the pandemic (http://www.salute.gov.it/imgs/C_17_pagineAree_5373_11_file.pdf). Successively, with the collaboration of ISS (Istituto Superiore di Sanità), an extensive report on the Italian adaptation of WHO definition and guidelines was produced (<https://www.istat.it/it/archivio/244763>).

DISSEMINATION OF RESULTS

Tu SW, Nyulas CI, Tudorache T, et al. Toward a Harmonized WHO Family of International Classifications Content Model. *Stud Health Technol Inform.* 2020;270:1409-1410

Della Mea V, Popescu MH, Roitero K. Underlying Cause of Death Identification from Death Certificates via Categorical Embeddings and Convolutional Neural Networks. In: *Proceedings of IEEE Int.Conf of Health Informatics, 2020*

Della Mea V, Popescu MH, Roitero K. Underlying Cause of Death Identification from Death Certificates using Reverse Coding to Text and a NLP Based Deep Learning Approach. Submitted to *Informatics in Medicine Unlocked, 2020*

Martinuzzi A., Della Mea V, Tu S, ten Napel H, Hardiker N, Frattura L, Madden R, Sive W, Whitelaw L, Sykes C, Chute C, Maart S, Van Gool C, Jakob R. Alignment of WHO-FIC content within a unifying model: preliminary steps. 2019 WHO-FIC Network Annual Meeting Poster Booklet

Zavaroni C, Frattura L. An ICD-11 update proposal for coding COVID-19. Submitted at 2020 WHO-FIC Network Virtual Annual Meeting

Navarra S, Orsi C, Grande E, Simeoni S, Cinque S, Cialesi R, Frova L, Marchetti S, Pappagallo M, Grippo F. Selection of coexisting causes of death in COVID-19 related deaths, submitted at 2020 WHO-FIC Network Virtual Annual Meeting

2. Annual report on other activities requested

Should WHO have requested activities in addition to the agreed workplan, please describe related actions taken by your institution [maximum 200 words]. Please do not include in this report any activity done by your institution that was not requested by and agreed with WHO.

No additional activities were requested.

3. Resources

Indicate staff time spent on the implementation of activities agreed with WHO (i.e. those mentioned in questions no. 1 and no. 2 above). Do not include any data related to other activities done by your institution without the agreement of WHO. Please indicate staff time using the number of “full-day equivalents” – a day of work comprising 8 hours (e.g. 4 hours work per day for 7 days should be recorded as 3.5 full-day equivalents).

Number of staff involved (either partially or fully)

Senior staff	Mid-career staff	Junior staff, PhD students
4	0	1

Number of full-day equivalents, total for all staff involved

Senior staff	Mid-career staff	Junior staff, PhD students
3	0	0

Implementation of the agreed workplan activities (i.e. those mentioned in questions no. 1 and no. 2 above) normally require resources beyond staff-time, such as the use of laboratory facilities, purchasing of materials, travel, etc. Please estimate the costs of these other resources as a percentage of the total costs incurred (e.g. if you incurred costs of USD 100 and the value of your staff time was USD 50 which makes the total of USD 150, please report 33.3% and 66.7%).

Percentage of costs associated with staff time	Percentage of costs associated with other resources	Total
85.00	15.00	100.00

4. Networking

Describe any interactions or collaboration with other WHO Collaborating Centres in the context of the implementation of the agreed activities. If you are part of a network of WHO Collaborating Centres, please also mention the name of the network and describe your involvement in that network [maximum 200 words].

The Italian WHO-FIC CC is part of the WHO-FIC Network. The workplan takes into account the activities run under the network and this progress report shows them.