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This publication contains the report of the workshop on Improving cause-of-death statistics in health facilities – Training of Trainers, April 2017, Geneva. and does not necessarily represent the decisions or policies of WHO.

Acknowledgements

The workshop was conducted with a grant from Vital Strategies with financial support from the Bloomberg Family Foundation, Inc. The contents of the workshop are the sole responsibility of the authors and can under no circumstances be regarded as reflecting the positions of Vital Strategies.
Background information
In 2015 WHO developed a Start-Up Mortality List (SMoL), a simplified list of broad cause of death fully in line with the ICD-10 structure. It contains 107 causes and 17 sub-categories. To facilitate the use of SMoL, WHO in collaboration with the University of Oslo have developed a module in the District Health Information Software (DHIS2) that comprises:

1. the Start-Up Mortality List (SMoL)\(^1\) – a simplified standard list of causes of death (107 causes and 17 optional subcategories)
2. WHO international form of the medical certificate of the cause of death – 2016 version
3. a specific training manual for certifiers and coders
4. a user-friendly interface into DHIS2 to input and store the data in one place
5. the IRIS\(^2\) automated coding tool
6. a dictionary of medical diagnostic terms
7. routine validation checks and statistical reports

Objectives of the workshop
The overall objective of the workshop was to empower low-resource countries in starting and improving their collection of cause of death information. The trainers were trained in:

- understanding the various components of the SMoL module
- completing the WHO 2016 medical certificate of the cause of death according to international standards
- selecting the underlying cause of death according to a set of rules
- supporting the SMoL implementation and roll-out plan

Participants
The workshop was attended by 23 participants including facilitators. A complete list of participants is included in Annex B.

Participants were from these six countries: Bangladesh, Lao People’s Dem. Republic, Burkina Faso, Mozambique, Somalia and Syria. In addition representatives from WHO regional offices for the Western Pacific, South-East Asia and Eastern Mediterranean also participated. There were also two participants from the Thailand WHO Family of International Classifications (WHO-FIC) Collaborating Centre.

Structure and content
The workshop was intended to be a training of trainers. During each of the three days, the workshop was structured with facilitators providing training instructions and country participants

\(^1\) [http://www.who.int/healthinfo/civil_registration/ICD_10_SMoL.pdf?ua=1](http://www.who.int/healthinfo/civil_registration/ICD_10_SMoL.pdf?ua=1)

doing practical exercises. At the end of each session, there was a review and discussion on the outcome of the exercises. The agenda of the workshop is found in Annex A.

A USB key containing the presentations, SMoL training manual, certification and coding exercises and answers was given to participants to enable them to conduct similar national training. The presentations were also audio-recorded so that the participants can listen to them again at their convenience.

**Workshop summary**

**Day 1 objective: Train in SMoL**
Dr Robert Jakob, WHO Team Leader Data Standards and Informatics gave the welcoming remarks.

A presentation on the situation in the low-resource countries, common barriers to implementing ICD-10 and the fundamental steps to obtain cause-of-death data was given. Participants were instructed on how to complete the WHO 2016 medical certificate of the cause of death according to ICD-10 and were requested to complete some of the said certificates from some case examples.

In the afternoon sessions, participants were introduced to the concept of the Start-Up Mortality List and the DHIS2 CoD module. SMoL rules were explained with exercises to complete. The DHIS2 CoD electronic platform was presented.

**Day 2 objective: Train in SMoL**
Participants were provided with some genuine-completed medical certificates of the cause of death and requested to apply the SMoL rules to select the underlying cause of death. They also accessed the DHIS2 CoD electronic platform to practice entering the information as well as to get a sense of the integrated functionalities of the module. A briefing on the technical specifications required for integrating the CoD module into current DHIS2 was provided.

**Day 3 objective: Implementation of SMoL**
Participants were guided on the steps to follow as well as the resources required to implement SMoL nationally. Experiences from Ghana recent national implementation of the same project were shared. Realistic timeline and milestones were discussed. Participants from each country then presented their views on the biggest challenges they would be likely to face in implementing SMoL.

In the afternoon, participants were assessed on their skills in applying the SMoL rules. Guidance were also provided on how to conduct a training workshop and how to best answer the frequently asked questions.

**Recommendations and next steps**
Some countries are already implementing ICD-10 in health facilities but their practices are not aligned with international standards and thus rendering the current data very limited in use to support health policies or monitor the impact of interventions.
A priority for countries is to review their current form of medical certificate of cause of death to be in line with the WHO international form of the medical certificate of cause of death for doctors or certifiers to complete.

Countries should strengthen their collaboration among national institutions, the health sector, civil registration office, ministry of justice or interior as key to the implementation of SMoL.

Some countries raised concerns about disjointed data collection system, for e.g. the Maternal Death and Surveillance Response (MDSR) and Integrated Disease Surveillance System (IDSR) are not linked to the DHIS2 HMIS system where general mortality information is captured, creating duplication of recorded deaths. The importance of system linkages was constantly stressed during the workshop.

At the same time the specific collection of data such as MDSR would be excellent entry point to improve the overall cause-of-death data collection.

Overall feedback from workshop participants was highly positive. This was the first time that such workshop included participants from the Middle East and South-East Asia. The SMoL was seen as accessible and realistically applicable and scalable in the low-resourced countries. WHO would continue to collaborate with other international partners to provide support to countries in implementing the SMoL.
### Annex A. Agenda

**Workshop for improving cause-of-death statistics in health facilities**

Train the Trainers  
Geneva, 26-8 April 2017

**Day 1: 26 April 2017. Objective: train in SMoL**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>08.30 : 09.00</td>
<td>Registration</td>
<td>All participants</td>
</tr>
<tr>
<td>09.00 : 09.15</td>
<td>Welcome</td>
<td>Robert Jakob</td>
</tr>
<tr>
<td>09.15 : 09.30</td>
<td>Introduction to workshop</td>
<td>Doris Ma Fat</td>
</tr>
<tr>
<td>09.30 : 09.50</td>
<td>Introduction to coding with ICD</td>
<td>Linda Best</td>
</tr>
<tr>
<td>09.50 : 10.30</td>
<td>Medical certification</td>
<td>Linda Best</td>
</tr>
<tr>
<td>10.30 : 11.00</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>11.00 : 12.00</td>
<td>Medical certification: exercises</td>
<td>All participants</td>
</tr>
<tr>
<td>12.00 : 13.30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13.30 : 14.00</td>
<td>Feedback on exercises</td>
<td>Linda Best</td>
</tr>
<tr>
<td>14.00 : 14.30</td>
<td>Introduction to Start-Up Mortality List (SMoL)</td>
<td>Doris Ma Fat</td>
</tr>
<tr>
<td>14.30 : 15.00</td>
<td>DHIS2 CoD platform</td>
<td>Olav Poppe</td>
</tr>
<tr>
<td>15.00 : 15.30</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>15.30 : 16.00</td>
<td>SMoL: rules 1-7</td>
<td>Linda Best</td>
</tr>
<tr>
<td>16.00 : 16.30</td>
<td>SMoL: exercises</td>
<td>All participants</td>
</tr>
<tr>
<td>16.30 : 17.00</td>
<td>Feedback on SMoL exercises</td>
<td>Linda Best</td>
</tr>
</tbody>
</table>
### Day 2: 27 April 2017 - Objective: complete training in SMoL

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
<tbody>
<tr>
<td>09.00 : 09.10</td>
<td>Recap of previous day discussions</td>
<td>Doris Ma Fat</td>
</tr>
<tr>
<td>09.10 : 10.30</td>
<td>SMoL: remaining rules</td>
<td>Linda Best</td>
</tr>
<tr>
<td>10.30 : 11.00</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>11.00 : 11.30</td>
<td>Exercises: Specific to remaining rules covering all SMoL rules</td>
<td>All participants</td>
</tr>
<tr>
<td>11.30 : 12.00</td>
<td>Feedback on SMoL exercises</td>
<td>Linda Best</td>
</tr>
<tr>
<td>12.00 : 13.30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13.30 : 15.00</td>
<td>Using DHIS2 to record cause-of-death information – Exercises and feedback</td>
<td>All participants</td>
</tr>
<tr>
<td>15.00 : 15.30</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>15.30 : 16.15</td>
<td>Integrating SMoL into DHIS2 – guidance on technical implementation</td>
<td>Olav Poppe</td>
</tr>
<tr>
<td>16.15 : 17.00</td>
<td>Discussions on SMoL</td>
<td>All participants</td>
</tr>
</tbody>
</table>

### Day 3: 28 April 2017 . Implementation of SMoL

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
</tr>
</thead>
<tbody>
<tr>
<td>09.00 : 09.10</td>
<td>Recap of previous day discussions</td>
<td>Doris Ma Fat</td>
</tr>
<tr>
<td>09.10 : 10.30</td>
<td>Designing an implementation plan</td>
<td>Doris Ma Fat</td>
</tr>
<tr>
<td>10.30 : 11.00</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>11.00 : 11.30</td>
<td>Group exercise: Country scenarios and implementation plans</td>
<td>All participants</td>
</tr>
<tr>
<td>11.30 : 12.00</td>
<td>Report on group exercise</td>
<td>All participants</td>
</tr>
<tr>
<td>12.00 : 13.15</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td>13.15 : 14.30</td>
<td>Assessing each participant’s skill in using SMoL rules - 3 minutes per participant</td>
<td>WHO and participants</td>
</tr>
<tr>
<td>14.30 : 15.00</td>
<td>Guidance on organizing a training workshop</td>
<td>Linda Best</td>
</tr>
<tr>
<td>15.00 : 15.30</td>
<td>Coffee break</td>
<td></td>
</tr>
<tr>
<td>15.30 : 16.30</td>
<td>Frequently asked questions and discussions</td>
<td>WHO and participant</td>
</tr>
<tr>
<td>16.30</td>
<td>Closure of workshop</td>
<td>Robert Jakob</td>
</tr>
</tbody>
</table>
Annex B. List of participants

Training workshop on Start-Up Mortality List of Causes-of-Death
WHO HQ, Room M505
26-28 April 2017

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