

Correcting misclassification of Maternal Mortality

10 – 16 October 2009
Seoul, Republic of Korea

Torres L, Soliz P, Lara J, Santillán A, Vazquez S, Alanis R, Ortega E
Mexican Collaborating Centre (CEMECE)

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Abstract Since 2003, Mexico is looking for maternal deaths, with help of a modification of RAMOS Methodology, for investigation of suspicious deaths of women by some selected causes or where there is not a real underlying cause to explain the causes in the death certificate. Every year are recovered more than one hundred deaths and corrected the underlying cause of death in many of them, in order to know the real number and causes of maternal deaths in the country. This task also contributes to disseminate the knowledge of the ICD among physicians and coders, who have some questions about coding and the definitions.

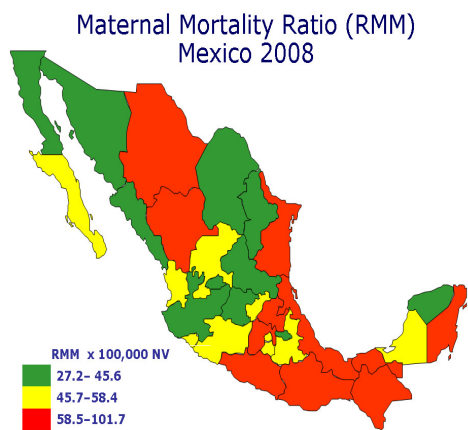
Introduction

Misclassification of maternal deaths is a worldwide problem. In Mexico we have had the opportunity to study an annual average of 1,200 stories of maternal deaths and correct the number and causes of death.

This project was implemented nine years ago as a component of some actions to accomplish the millennium goals, like:

- Immediate notification of maternal deaths,
- Use of modified RAMOS methodology,
- Documentation and revision of each case by committees of maternal mortality to implement preventive actions, and
- Reviewing and coding of all deaths by a group of coders and physicians of the Mexican Collaborating Centre.

These activities have corrected national mortality ratio and maternal causes of death, but also have generated some questions.



Every year CEMECE coordinates the following actions to improve the maternal death statistics:

- Reception, reviewing and coding of each maternal death, with support of medical records, verbal autopsies and other documents.
- Comparing with other sources of maternal deaths (hospital deliveries, National Office of Statistics, community information, etc.)

Methods & Materials

The main functions of the CEMECE in this project are:

- Reviewing of differences in coding with coders, and with physicians of the maternal mortality committees.
- Correcting of the maternal causes of death of the official statistics, to obtain the Maternal mortality ratio and
- Diffusion of the information.

We rescue each year about 15% of deaths initially coded as non maternal.

New maternal deaths added by the intentional seeking (2002-2008)

Year	Initial deaths	Final deaths	New cases	%
2002	1,155	1,330	175	13.2
2003	1,122	1,339	217	16.2
2004	1,131	1,275	144	11.3
2005	1,124	1,278	154	12.1
2006	1,018	1,202	184	15.3
2007	969	1,157	188	16.2
2008	1082	1,167	85	7.3

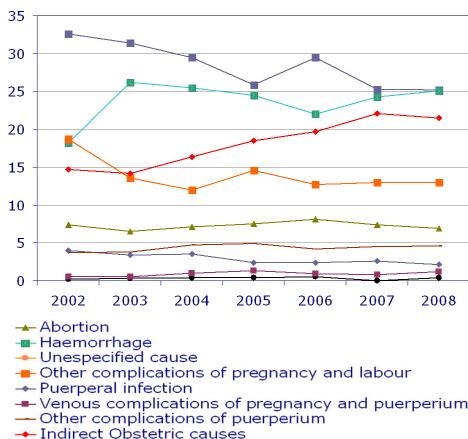
About 30% of underlying causes of death are corrected.

Some of them are haemorrhage postpartum. The Spanish term "atonía uterine" is a cause of death from haemorrhage, but it had been coded before as a non haemorrhagic cause in O62.2, according with the Index entry of ICD.

The credibility to the maternal mortality ratio in Mexico is higher, but as a consequence MMR continues high.

This has been also a great opportunity to spread the ICD-10 and to promote the correct register of death certificate among physicians, who are interested in understand and improve the register of death causes in death certificate.

%Maternal causes of death Mexico 2002-2008



Results

	Final coding with information of each case										
	Total	B20-B24	C58	O00-O06	O10-O16	O20, O44, O46, O67, O72	O85-O90	O95	O96-O97	O98-O99	Rest
Initial coding, only with death certificate	1,167	14	16	78	282	283	82	4	29	227	152
Maternal	1,050	12	16	74	271	274	66	3	17	182	135
B20-B24	12	11	0	0	0	0	0	0	1	0	0
C58	16	0	16	0	0	0	0	0	0	0	0
O00-O06	64	0	0	60	0	0	0	0	1	2	1
O10-O16	281	0	0	2	238	16	4	0	5	4	12
O20, O44-O46, O67, O72	246	0	0	5	7	217	1	0	0	1	15
O85-O90	80	0	0	1	5	10	53	0	0	4	7
O95	3	0	0	0	0	0	0	3	0	0	0
O96-O97	11	0	0	0	1	0	0	0	9	0	1
O98-O99	218	1	0	5	11	14	5	0	1	166	15
Rest	119	0	0	1	9	17	3	0	0	5	84
Initial coded as Non Maternal	117	2	0	4	11	9	16	1	12	45	17

Questions about coding of maternal mortality

1. Why the definition in Spanish of maternal mortality is not clear?
2. Why indirect obstetric deaths are difficult to understand by coders and physicians?
3. Why ICD-10 doesn't have a distinctive group of codes for direct obstetric causes?
4. Why some indirect obstetric causes appears in the ICD-10 like direct causes?

Conclusions

The Mexican Centre proposes to review the next issues:

- To clarify maternal mortality definition. The term **incidental** in Spanish means "everything" and it is opposed to the obstetric indirect causes.
- To substitute the phrase " .. but not from accidental or incidental causes .." by the causes or codes that are not included in the definition, like accidental, intentional or undetermined intentional injuries, external causes, etc.
- To establish the group for direct obstetrics causes in ICD-10.
- To exclude some codes of direct obstetrics causes, like K70-K76, because they don't have relation with the definition.
- To include some entries to the Spanish Index of ICD-10, to find the real code, like "atonía, atony, atonic uterine (haemorrhage) (post partum)" in O72.1
- To include more examples of maternal death coding in ICD.

Further information:
luism.torres@salud.gob.mx
patricia.soliz@salud.gob.mx