The state of civil registration and MDG monitoring: a global view

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Why civil registration matters

- **Human rights** issue: civil registration provides legal proof of the occurrence and characteristics of births and deaths; ensure rights and obligations of individuals

- **Policy** issue: the best source of vital statistics which are the basis for policy-making, monitoring and evaluation

- **Planning** issue: provides governments with key data: where, when and how many people are born and die and why

- **Development** issue: civil registration is an indicator of good governance

- **Monitoring** issue: generates a continuous flow of data for smallest administrative areas; continuous, comprehensive, complete record of events.
## Data needs for MDG monitoring

<table>
<thead>
<tr>
<th>MDG indicator</th>
<th>Data requirements</th>
<th>Data source in developing countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infant mortality rate</td>
<td>Deaths in children &lt;1 year Live births</td>
<td>Household surveys</td>
</tr>
<tr>
<td>Under 5 mortality rate</td>
<td>Deaths in children &lt;5 Live births</td>
<td>Household surveys Direct or indirect</td>
</tr>
<tr>
<td>Maternal mortality ratio</td>
<td>Maternal deaths Population</td>
<td>Household surveys Direct, indirect; Sample reg.</td>
</tr>
<tr>
<td>HIV-, malaria-, tuberculosis-related mortality rate</td>
<td>HIV/AIDS, malaria, tuberculosis deaths Population</td>
<td>Hospital deaths; modelled based on incidence/prevalence</td>
</tr>
</tbody>
</table>
Where do we stand today?

- Weakest in the countries and regions where the burden of disease is most acute – sub-Saharan Africa, South-East Asia, low income countries

- Stagnation over past four decades in both birth and death registration in most regions.

- UN agencies focused on normative and standard-setting role but little attention to the development of systems at country level.

- Vital statistics a global public good but unfunded mandate – neither developing country governments nor development partners have prioritized necessary investments.
## Current status of mortality statistics

<table>
<thead>
<tr>
<th>Region</th>
<th>Usable data</th>
<th>Complete coverage</th>
<th>Total countries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>4</td>
<td>1</td>
<td>46</td>
</tr>
<tr>
<td>Americas</td>
<td>32</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>South-East Asia</td>
<td>4</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>Europe</td>
<td>48</td>
<td>39</td>
<td>51</td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>7</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td>Western Pacific</td>
<td>22</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>117</strong></td>
<td><strong>66</strong></td>
<td><strong>192</strong></td>
</tr>
</tbody>
</table>
Quality of cause-of-death data from national civil registration systems, circa 2005
## Percentage of population in countries with complete civil registration

<table>
<thead>
<tr>
<th>WHO Region</th>
<th>Deaths</th>
<th></th>
<th></th>
<th></th>
<th>Births</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>27</td>
<td>25</td>
<td>28</td>
<td>26</td>
<td>33</td>
<td>31</td>
<td>28</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Africa</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>9</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Americas</td>
<td>69</td>
<td>66</td>
<td>64</td>
<td>61</td>
<td>58</td>
<td>55</td>
<td>53</td>
<td>53</td>
<td></td>
</tr>
<tr>
<td>Eastern Mediterranean</td>
<td>17</td>
<td>21</td>
<td>15</td>
<td>1</td>
<td>21</td>
<td>25</td>
<td>17</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>Europe</td>
<td>62</td>
<td>61</td>
<td>92</td>
<td>86</td>
<td>95</td>
<td>94</td>
<td>93</td>
<td>92</td>
<td></td>
</tr>
<tr>
<td>South-East Asia</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Western Pacific</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>13</td>
<td>12</td>
<td>14</td>
<td>13</td>
<td>18</td>
<td></td>
</tr>
</tbody>
</table>
Problems with vital statistics from civil registration

- **Completeness**
  - Not all births and deaths are registered by the system (under-registration in certain areas, ages, population groups)

- **Quality**
  - Especially cause of death data
  - Not all deaths medically certified
  - Challenge of correct coding to ICD

- **Timeliness**
  - Compilation and publication delays reduce the usefulness of the data
Why under-registration matters

- Under-registration cannot be assumed uniform across a population.
- Usually higher in rural areas, among poorer groups and for specific events.
- Typically, out-of-hospital births and deaths, deaths in first week of life, deaths from certain causes are underreported (e.g. maternal).
- Late registration also more common for certain events (e.g. homicides, suicides, accidents).
- Result in biased information (worse than no information?)
Problems with cause of death data

- Inaccurate cause of death on the death certificate (chronic diseases, maternal deaths, injuries, violence, older people)
- High proportion of ill-defined deaths (no value for health policies)
- Confusion between immediate and underlying cause of death
- Poor collaboration between the different authorities responsible
- Low emphasis on death certification in medical community
- Lack of investments (weak infrastructure, low salaries, etc)
- Data not readily available, or poor quality of data
- Little use made of the data in countries
Why civil registration remains poorly developed

- Not considered a development priority by governments and international institutions; not seen as key component in development strategies.
- Associated with colonial period; colonial practice rather than a governance tool benefiting everybody.
- Requires collaboration among different institutions, registration bodies, local government, police, health, statistics, civil society.
- Development of “quick fix” solutions - sample surveys, census, sample registration - diversion/distraction from CR.
- International mandate in the hands of statisticians; need for an institution for civil registration promoting the system for its primary legal purpose.
- No coordination of various institutions with responsibilities for civil registration – registrars-general, national statistics offices, ministries of health etc.
MoVE: a global movement for improving the coverage and quality of vital statistics

- **Global**
  - Advocacy: Lancet series
  - Verbal autopsy tools;
  - Stepping stones resource kit
  - Computer assisted training for death certification and coding

- **Country**
  - Political commitment
  - Vital statistics assessment tool
  - Interim approaches
  - Making better use of available data
MoVE initiative: Tools to support countries

Verbal autopsy standards:
Ascertaining and attributing cause of death

ICD computer assisted learning

Stepping Stones to Improving the Monitoring of Vital Events:
A resource kit for strengthening national vital statistics systems

Stepping Stones to Better Vital Statistics Systems

The measurement of vital events should be the cornerstone of evidence-based health programs and systems. Yet reliable age-, sex-, and cause-specific mortality data are still lacking for most of the world’s population. A growing number of nations are aware that the continued absence of these data is intolerable.

This resource kit has been produced to aid national agencies, development partners, and technical experts strengthen the monitoring of vital events. It is one step into building sustainable capacity for improving the coverage, quality, and consistency of vital statistics systems and the information they produce.

The materials assembled here represent international best practice and global standards in this critical area of population health metrics.
Demographic and health surveillance systems: strengths and weaknesses

- INDEPTH Network: 37 sites, 26 in Africa, in 19 countries. Population 50,000 to 200,000
- All vital events occurring are recorded.
- Generate life tables
- Process of surveillance varies: annual linked household surveys conducted by interviewers; regular visits to each household by local registrars.
- Individuals gain from improved health services
- Capacity-building for surveillance, data compilation and analysis
- DSS data limited to small geographic areas, often rural only; intervention trial sites
- Small, non random populations of limited generalizability
- Sites less representative over time
- Use of different verbal autopsy standards across sites
- Sustainability when research funding withdrawn
- Individuals do not benefit from certification
Sample registration with verbal autopsy: strengths and weaknesses

- Used in big countries: Bangladesh, China, India, Tanzania
- Random sample, nationally representative
- Use of standardized verbal autopsy tools across country
- Capacity-building
- Pathway to comprehensive civil registration, e.g. China, but not India
- Changing representativity over time
- Rely on lay reporting and verbal autopsy
- Existence of parallel sample and civil registration systems, e.g. India
- Cost, sustainability
- Individuals do not benefit, either from health services or from certification
Making better use of available data

- Data from urban areas
  - Possibilities for using the partial information available but not tabulated because of concerns about quality
  - In around 40 developing countries reporting is complete enough for the recorded deaths to be plausibly representative of all deaths in terms of age distribution (minimum completeness level of 60%) the data can be utilized to arrive at largely unbiased estimates of adult mortality
  - CR often more complete in cities. Use locally-complete data to examine issues such as seasonal variation in mortality and the mortality impact of HIV.
Making better use of available data

- Hospital data; medical certification
  - Partial information on cause of death from hospital records: even though recording of cause of death in hospitals is far from perfect, the recorded cause has substantial information content, especially in combination with case notes.
  - Deaths in hospitals cannot be considered a random sample of all deaths in a population. However, if the selection process can be satisfactorily modeled, the recorded distribution can be weighted appropriately to provide a distribution that is representative of the population as a whole.
  - The information from hospital records also provides valuable insights into the multiple cause of deaths, which is becoming increasingly relevant given the rising proportion of non-communicable diseases worldwide.
Role of WHO in support of civil registration/vital statistics

- Civil registration/vital statistics assessment tool – pilot testing Sri Lanka, Philippines; WHO with University of Queensland
- Regional collaboration – PAHO, WPRO & UNESCAP
- Computer assisted training for death certification and coding - collaboration with WHOFIC, IFHRO
- Use of verbal autopsy – need for implementation research
- Improving tabulation and dissemination; making vital statistics relevant to policy-makers
Moving forward

- Policy community cohesion – HMN, World Bank, ESCAP, ECA, WHO/PAHO, academics,
- Policy windows – MDG monitoring; Global Fund, GAVI
- Global governance – UN Statistics Division, WHO, UNICEF, World Bank; role of registrars-general, home office, police
- Leadership and institutional commitment – Who are the champions?
- Civil society mobilization – the neglected component; involvement of NGOs, media, non-health sectors
- Effective strategies – interim measures; implementation research; role of academic institutions, e.g. University of Queensland
- Monitoring indicators – completeness, accuracy, timeliness
The importance of mortality statistics

- "The Health Metrics Network … has drawn attention to the consequences of inadequate systems for civil registration – that is, counting births and deaths and recording the cause of death.

- Without these fundamental health data, we are working in the dark. We may also be shooting in the dark. Without these data, we have no reliable way of knowing whether interventions are working, and whether development aid is producing the desired health outcomes."

Dr Margaret Chan, Director-General WHO
12 November 2007