Birth Defects in Cuba 2001–2013

Every year, an estimated 7.9 million children worldwide are born with severe birth defects that are totally or partially genetically determined. More than 90% of them are born in low- and middle-income countries lacking the infrastructure to provide the health care these infants need. In the most developed countries, about 30% of these children die in early childhood, 30% receive palliative treatment and live with chronic disability, and the remaining 40% receive curative treatment or have the condition’s health impact significantly reduced, mainly through surgery.[1]

In Cuba, birth defects are the second leading cause of death in children aged <1 year, preceded by certain conditions originating in the perinatal period and followed by influenza and pneumonia, septicemia (except of the newborn) and unintentional injuries (Table 1).[2]

Table 1: Main causes of infant mortality, Cuba (2013)

<table>
<thead>
<tr>
<th>Cause</th>
<th>Deaths</th>
<th>Rate/1000 live births</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain conditions originating in the perinatal period</td>
<td>273</td>
<td>2.2</td>
</tr>
<tr>
<td>Congenital malformations, deformities and chromosomal abnormalities</td>
<td>113</td>
<td>0.9</td>
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<tr>
<td>Influenza and pneumonia</td>
<td>27</td>
<td>0.2</td>
</tr>
<tr>
<td>Septicemia, except of the newborn</td>
<td>16</td>
<td>0.1</td>
</tr>
<tr>
<td>Unintentional injuries</td>
<td>12</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Health Statistics Yearbook, Cuba, 2013

Table 2: Deaths, overall and from birth defects, in children aged <1 year, Cuba (2001–2013)

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>Live births</td>
<td>138718</td>
<td>141276</td>
<td>136795</td>
<td>127192</td>
<td>120716</td>
<td>111323</td>
<td>112472</td>
<td>122569</td>
<td>130037</td>
<td>127746</td>
<td>133067</td>
<td>125674</td>
<td>125880</td>
</tr>
<tr>
<td>Total deaths</td>
<td>861</td>
<td>922</td>
<td>859</td>
<td>736</td>
<td>746</td>
<td>589</td>
<td>592</td>
<td>579</td>
<td>626</td>
<td>581</td>
<td>653</td>
<td>581</td>
<td>525</td>
</tr>
<tr>
<td>Total deaths from birth defects</td>
<td>233</td>
<td>273</td>
<td>238</td>
<td>214</td>
<td>203</td>
<td>147</td>
<td>141</td>
<td>116</td>
<td>143</td>
<td>127</td>
<td>151</td>
<td>154</td>
<td>113</td>
</tr>
<tr>
<td>Mortality rate, birth defects</td>
<td>1.7</td>
<td>1.9</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.3</td>
<td>1.3</td>
<td>0.9</td>
<td>1.1</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>0.9</td>
</tr>
<tr>
<td>Mortality rate, overall</td>
<td>6.2</td>
<td>6.5</td>
<td>6.3</td>
<td>5.8</td>
<td>6.2</td>
<td>5.3</td>
<td>5.3</td>
<td>4.7</td>
<td>4.5</td>
<td>4.9</td>
<td>4.6</td>
<td>4.2</td>
<td>3.0</td>
</tr>
<tr>
<td>Birth defects as % of infant mortality</td>
<td>27.1</td>
<td>29.6</td>
<td>27.7</td>
<td>29.1</td>
<td>27.2</td>
<td>25.0</td>
<td>23.8</td>
<td>20.0</td>
<td>22.8</td>
<td>21.9</td>
<td>23.1</td>
<td>26.5</td>
<td>21.5</td>
</tr>
</tbody>
</table>

Sources: Health Statistics Yearbook, Cuba, 2013, National Medical Records and Health Statistics Bureau, Ministry of Public Health, Cuba

In the period 2001–2013, birth defects caused 20%–30% of deaths in children aged <1 year (Table 2, Figure 1).[2] Mortality from birth defects is slightly higher in boys than girls (Figure 2). Malformations of the heart and great vessels are the most frequent fatal birth defects, followed by abnormalities in the digestive, musculoskeletal and respiratory systems (Figure 3). Provinces with highest infant mortality from birth defects in 2007–2013 were Santiago de Cuba, Guantánamo, Villa Clara, Camagüey, Cienfuegos and Havana (Figure 4).

Cuba has implemented a national program for diagnosis, management and prevention of birth defects,[3] which, at different pregnancy stages, provides options for antenatal diagnosis of birth defects and genetic diseases. In cases where a severe congenital defect is detected in the fetus, meaning the child is likely to die in the first year of life, a couple may choose to terminate pregnancy. Statistics for 2001–2013 show that couples choose this alternative in 7 of 1000 pregnancies. In Western Europe the comparable figure for 1980–1999 was 3.5/1000 pregnancies, ranging from 1/1000 in Portugal to nearly 6/1000 in France.[1]

In Cuba, a total of 19.2 million births occurred between 2001 and 2013. Although the annual number of births varied, there were about 111,323 births per year. The highest increase was observed in the years 2002–2003. Birth defects were detected in 273 out of every 10,000 births per year, a rate which is significantly lower than in other countries.[2]

In Cuba, about 50% of the infants born with birth defects are boys. Birth defects are slightly more frequent in boys than girls (44.6% vs. 45.4%).[2]

Table: Deaths from birth defects in children aged <1 year by sex, Cuba (2001–2013)

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</thead>
<tbody>
<tr>
<td>Female</td>
<td>53.6</td>
<td>57.5</td>
<td>57.5</td>
<td>57.0</td>
<td>53.2</td>
<td>51.0</td>
<td>51.1</td>
<td>51.0</td>
<td>51.7</td>
<td>51.7</td>
<td>54.3</td>
<td>53.6</td>
<td>53.9</td>
</tr>
<tr>
<td>Male</td>
<td>50.4</td>
<td>49.6</td>
<td>49.6</td>
<td>49.6</td>
<td>49.6</td>
<td>49.6</td>
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<td>49.6</td>
</tr>
</tbody>
</table>

Sources: Mortality Records, National Medical Records and Health Statistics Bureau, Ministry of Public Health, Cuba


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**Facts & Figures**

**Figure 3:** Most frequent types of fatal birth defects in children aged <1 year, Cuba (2001–2013)

- Circulatory system: 54%
- Digestive system: 15%
- Musculoskeletal system: 15%
- Respiratory system: 7%
- Central nervous system: 3%
- Chromosomal abnormalities: 7%
- Urinary system: 4%
- Other: 6%

Source: Mortality Records, National Medical Records and Health Statistics Bureau, Ministry of Public Health, Cuba

**Figure 4:** Infant mortality rates from birth defects in Cuba by province*, 2007–2013

- PR: Pinar del Río
- ART: Artemisa
- HAV: Havana
- MY: Mayabeque
- MT: Matanzas
- VC: Villa Clara
- SS: Sancti Spíritus
- CA: Ciego de Ávila
- CG: Camagüey
- LT: Las Tunas
- HG: Holguín
- GR: Granma
- SC: Santiago de Cuba
- GT: Guantánamo
- IJ: Isla de la Juventud Special Municipality

*Includes Isla de la Juventud Special Municipality; the provinces of Artemisa and Mayabeque reflect a new political-administrative division effective in 2011, so their data are for 2011–2013 only.

Source: Mortality Records, National Medical Records and Health Statistics Bureau, Ministry of Public Health, Cuba