Epidemiology of childhood mortality

Infant mortality rate is defined as the number of deaths of children under one year of age in one calendar year per 1000 live births in the same calendar year.

<table>
<thead>
<tr>
<th>Worldwide infant mortality</th>
<th>In Australia:</th>
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<tbody>
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<td>- In 1950: 180</td>
<td>- In 1900: 107</td>
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<tr>
<td>- In 2000: 67</td>
<td>- In 2000: 5</td>
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- Chances of dying as an infant decrease with increasing age:
  - 0–28 days: 3.4 infants in every 1000
  - 4-52 weeks: 1.6 infants in every 1000
  - 1-4 years: 0.2 infants in every 1000

Most infant deaths occur on the first day of life. Birthdays is the most dangerous day. As in every other statistic, infant males are more likely to die of any cause.

Causes of death in infancy

Newborns: issues of prematurity (eg respiratory prematurity, hemorrhage, immune etc)
1 month to 1 year old: SIDS (improving over the last few years)
After 1 yr of age: trauma;$+$ infection in developing countries

Epidemiology of cardiac arrest in children

VERY FREQUENTLY DUE TO HYPOXIA
And the hypoxia frequently due to ASPHYXIA – eg. inhalation
  Usually, by the time they have a cardiac arrest, they have been hypoxic for a while and they have had enough metabolic acidosis and hypoxia to really screw all their other organs.

The next most frequent cause: circulatory failure
Meaning exsanguination, gastroenteritis dehydration, anaphylaxis, or similar.
Unlike adults: VERY RARELY due to primary cardiac disease

In summary:
- Respiratory obstruction eg. asthma, foreign body, croup
- Respiratory depression eg. convulsions, poisoning, raised ICP
- Fluid loss eg.blood loss or dehydration from burns or vomiting,
- Fluid maldistribution eg. sepsis, anaphylaxis or cardiac failure

Outcome of cardiac arrest in children

Invariably poor. Even worse if you arrive to the hospital apnoeic and pulseless. Typically, a period of acidosis and hypoxia has preceded the arrest anyway.

If CPR has been going on for 20 minutes or longer, there is NO chance of intact neurological survival.