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## Early Childhood: Survival, Growth, and Development

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# Defining Terms

- Neonatal period: first 27 days of life
- Perinatal period: under 42 days of age
- Infancy: first year of life
- Early childhood: first five years of life



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## Section A

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### Infant Mortality

# Infant Mortality: Six Leading Causes

- Prematurity/low birth weight (LBW)
- Respiratory distress syndrome (RDS)
- Congenital anomalies
- Sudden infant death syndrome (SIDS)
- Accidents
- Pneumonia (influenza)

# LBW and Preterm Birth Over the Life Course

- Increased perinatal, neonatal, and postneonatal mortality
- Increased neonatal morbidity
- Increased developmental delays and neurological complications
- Decreased cognitive scores
- Increased learning disabilities

# LBW and Preterm Birth Over the Life Course

- Increase in adult chronic diseases
- Increased risk of LBW offspring among women
- Social outcomes associated with cognitive functioning

# Infant Mortality around the World: Select Countries

## ■ Infant mortality per 100 live births

100 to 180	50 to 75	10 to 25
<ul style="list-style-type: none"> <li>▪ Angola</li> <li>▪ Sierra Leone</li> <li>▪ Afghanistan</li> <li>▪ Liberia</li> <li>▪ Niger</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tanzania</li> <li>▪ Ivory Coast</li> <li>▪ Gambia</li> <li>▪ Pakistan</li> <li>▪ Uganda</li> <li>▪ Haiti</li> <li>▪ Bangladesh</li> </ul>	<ul style="list-style-type: none"> <li>▪ Honduras</li> <li>▪ Bahamas</li> <li>▪ Vietnam</li> <li>▪ Brazil</li> <li>▪ Ecuador</li> <li>▪ China</li> <li>▪ Colombia</li> <li>▪ Mexico</li> </ul>
<ul style="list-style-type: none"> <li>▪ Somalia</li> <li>▪ Mozambique</li> <li>▪ Mali</li> <li>▪ Zambia</li> </ul>	<ul style="list-style-type: none"> <li>▪ Senegal</li> <li>▪ Togo</li> <li>▪ Cambodia</li> <li>▪ Kenya</li> <li>▪ North Korea</li> <li>▪ Ghana</li> </ul>	<ul style="list-style-type: none"> <li>▪ Gaza Strip</li> <li>▪ Thailand</li> <li>▪ Malaysia</li> <li>▪ Jordan</li> <li>▪ Barbados</li> <li>▪ Fiji</li> <li>▪ Saudi Arabia</li> </ul>
75 to 100	25 to 50	≥2
<ul style="list-style-type: none"> <li>▪ Chad</li> <li>▪ Nigeria</li> <li>▪ Malawi</li> <li>▪ Sudan</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bhutan</li> <li>▪ Burma</li> <li>▪ Nepal</li> <li>▪ PNG</li> <li>▪ Bolivia</li> <li>▪ South Africa</li> <li>▪ Iraq</li> </ul>	<ul style="list-style-type: none"> <li>▪ Mongolia</li> <li>▪ Iran</li> <li>▪ Zimbabwe</li> <li>▪ Indonesia</li> <li>▪ India</li> <li>▪ Guatemala</li> <li>▪ Egypt</li> </ul>
<ul style="list-style-type: none"> <li>▪ Rwanda</li> <li>▪ Ethiopia</li> <li>▪ Congo</li> <li>▪ Laos</li> </ul>		<ul style="list-style-type: none"> <li>▪ Hong Kong</li> <li>▪ Bermuda</li> <li>▪ Japan</li> <li>▪ Singapore</li> <li>▪ Sweden</li> </ul>



# Infant Mortality in the U.S.

- At an infant mortality rate of 6.26, the U.S. ranks higher than ...
  - Cuba
  - Taiwan
  - Greece
  - Ireland
  - Canada
  - South Korea
  - Slovenia
  - Czech Republic
  - France
  - And 36 other countries

# Infant Mortality in Baltimore

- With an infant mortality rate of 11.3 per 1000 in Baltimore City, there are 75 countries in the world with better infant survival

## Infant Mortality by Race (U.S., 2002)

	Per 1000 live births
1. Asian Pacific Islander	4.8
2. Non-Hispanic White	5.8
3. Hispanic	5.6
4. American Indian/Alaskan Native	8.6
5. Non-Hispanic Black	13.9

# Federal Initiatives to Reduce Infant Mortality

- Healthy Start
- SCHIP/Medicaid

# Federal Initiatives to Reduce Infant Mortality

- Healthy Start
- SCHIP/Medicaid
- Back-to-Sleep Campaign
- Reducing mother-to-child HIV transmission
- Reducing teen pregnancy

## Known Solutions Suggested by Researchers

- Reductions in teen births likely to have only a modest effect on differences
- Changes in health behaviors are likely to have some impact, although, again, probably modest on differences
- A reduction in unwanted pregnancies likely to have no effect

## Known Solutions Suggested by Researchers

- Improved access to prenatal care likely to have only a modest effect on LBW rates—in fact, use of prenatal care has increased among black and Hispanic women, with no reduction in LBW
- Improved quality of care may have a larger effect, but its effect is difficult to predict

## Known Solutions Suggested by Researchers

- Reduction of infections has not directly been tested with regard to racial differences in preterm births
- Antibiotic treatment for preterm membrane rupture may prolong the interval between rupture and delivery, but there is limited evidence that it significantly affects birth weight or preterm birth
- Studies of antibiotic treatment of preterm labor with intact membranes have equivocal results
- Studies of antibiotic treatment for group B strep and for asymptomatic bacterial vaginosis have equivocal results

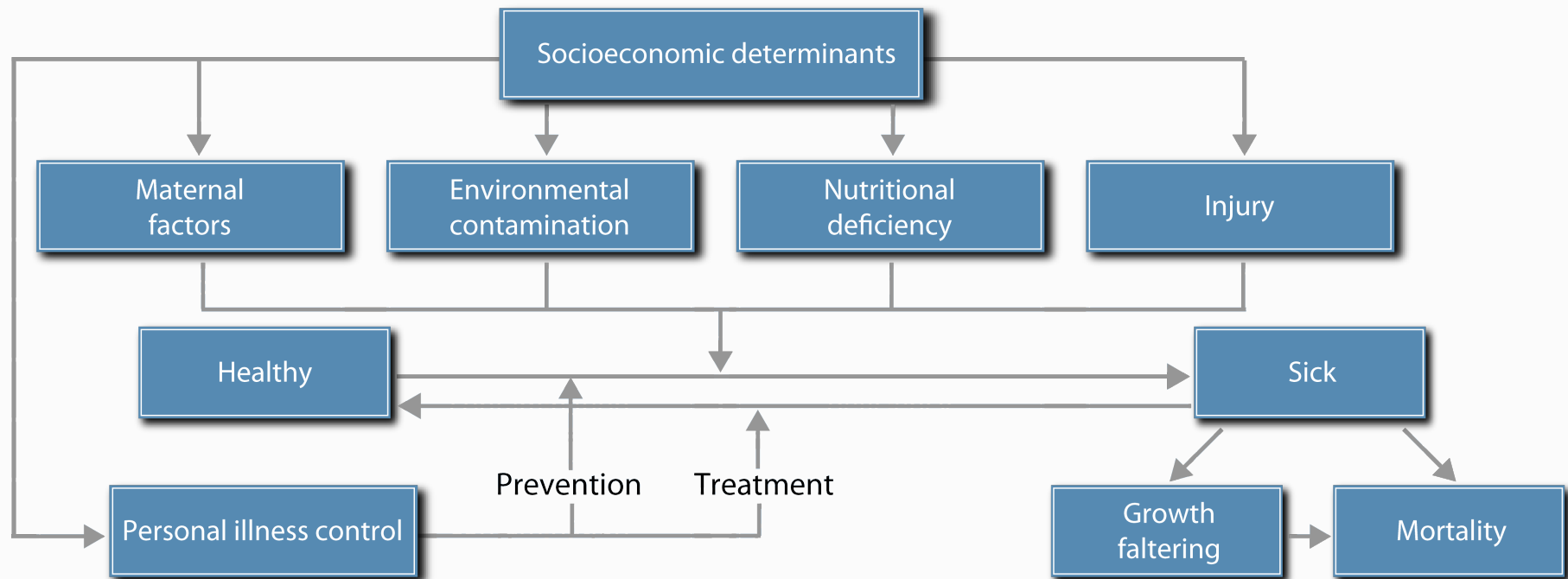


## Known Solutions Suggested by Researchers

- Solutions may need to address health status deficits among black children long before the reproductive period, when improvements in health may be possible, including notions of transgenerational and gene-environment effects

# Conceptual Framework for Child Survival

A Conceptual Framework for Child Survival in Developing Countries



Adapted by CTLT from Mosley and Chen. (2003).