Mortality rates

BPS-Statistics Indonesia

Islamabad, Pakistan
18-20 September, 2017

Crude death rate

Total number of deaths in specific year and place

$$\frac{\text{Total number of deaths in specific year and place}}{\text{Estimated mid year population of the same year and place}} \times 1000$$

Cause specific death rate

Number of deaths due to specific

disease in specific year and place
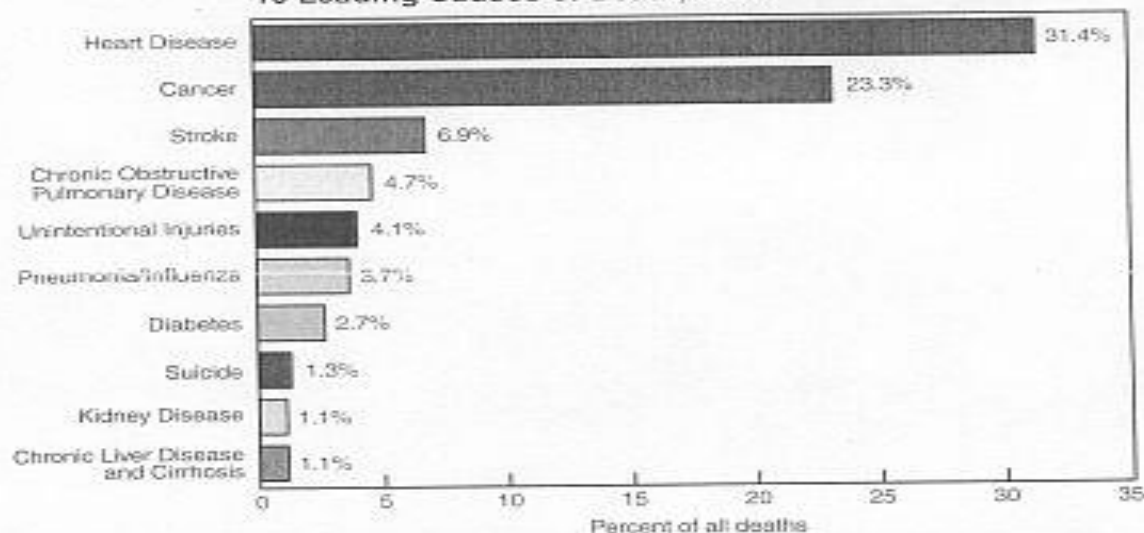
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Estimated mid year population of the

same year and place
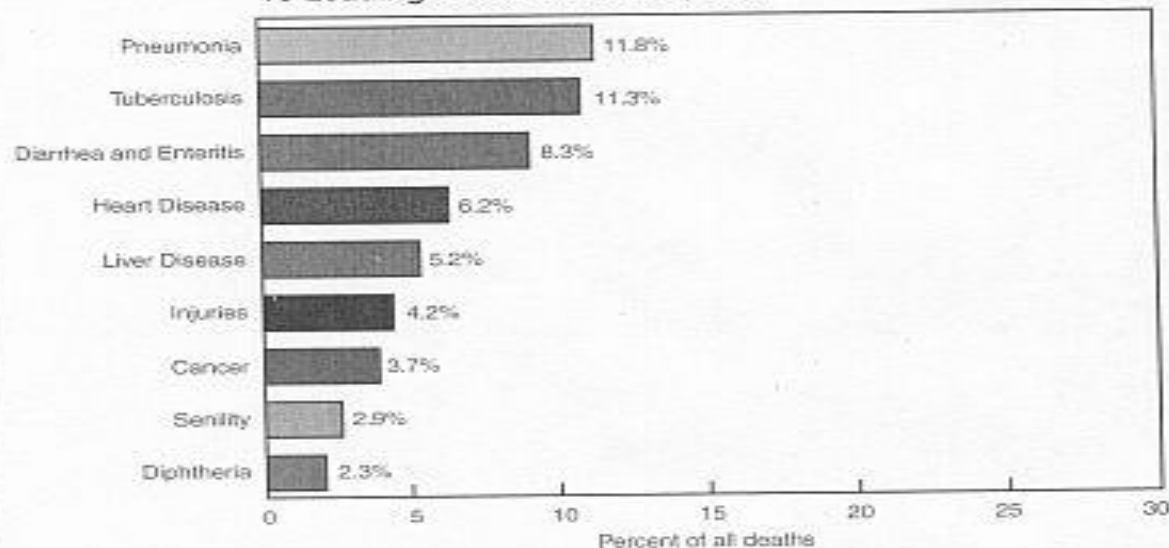
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10 Leading Causes of Death, 1997

Cause	Percent
Heart Disease	31.4%
Cancer	23.3%
Stroke	6.9%
Chronic Obstructive Pulmonary Disease	4.7%
Unintentional Injuries	4.1%
Pneumonia/Influenza	3.7%
Diabetes	2.7%
Suicide	1.3%
Kidney Disease	1.1%
Chronic Liver Disease and Cirrhosis	1.1%

Percent of all deaths

10 Leading Causes of Death, 1900

Cause	Percent
Pneumonia	11.8%
Tuberculosis	11.3%
Diarrhea and Enteritis	8.3%
Heart Disease	6.2%
Liver Disease	5.2%
Injuries	4.2%
Cancer	3.7%
Senility	2.9%
Diphtheria	2.3%

Percent of all deaths

865

470.5

1998

TABLE 1.3

CAUSES OF DEATH IN DEVELOPED AND DEVELOPING COUNTRIES, 1993

Cause of Death	Deaths from all Causes (%)	
	Developed Countries	Developing Countries
Infectious and parasitic diseases	1.2	41.5
Chronic lower respiratory diseases	7.8	5.0
Malignant neoplasms	21.6	8.9
Diseases of the circulatory system	46.7	10.7
Maternal causes	0	1.3
Perinatal and neonatal conditions	0.7	7.9
External causes of mortality	7.5	7.9
Other and unknown causes	14.5	16.8

Source: WHO, 1995a.

be a better indicator. But this information is only available from surveys of limited temporal and geographic scope. Systems for registering cases of important communicable diseases, such as AIDS, yellow fever, leprosy, and cholera, exist in most countries. Annual data on cancer incidence are reported to the Interna-

TABLE 2.3

ESTIMATED GLOBAL NUMBER OF DEATHS FROM INFECTIOUS AND PARASITIC DISEASES, 1993

Disease/Condition	Number of Deaths (thousands)
Acute lower respiratory infections under age 5 years	4110
Diarrhea under age 5, including dysentery	3010
Tuberculosis	2709
Malaria	2000
Measles	1160
Hepatitis B	933
AIDS	700
Whooping cough	360
Bacterial meningitis	210
Schistosomiasis	200
Leishmaniasis	197
Congenital syphilis	190
Tetanus	149
Hookworm diseases	90
Amoebiasis	70
Ascariasis (roundworm)	60
African trypanosomiasis (sleeping sickness)	55
American trypanosomiasis (Chagas' disease)	45
Onchocerciasis (river blindness)	35
Meningitis	35
Rabies	35
Yellow fever	30
Dengue/dengue hemorrhagic fever	23
Japanese encephalitis	11
Foodborne trematodes	10
Cholera	6.8
Poliomyelitis	5.5
Diphtheria	3.9
Leprosy	2.4
Plague	0.5
TOTAL	16,445

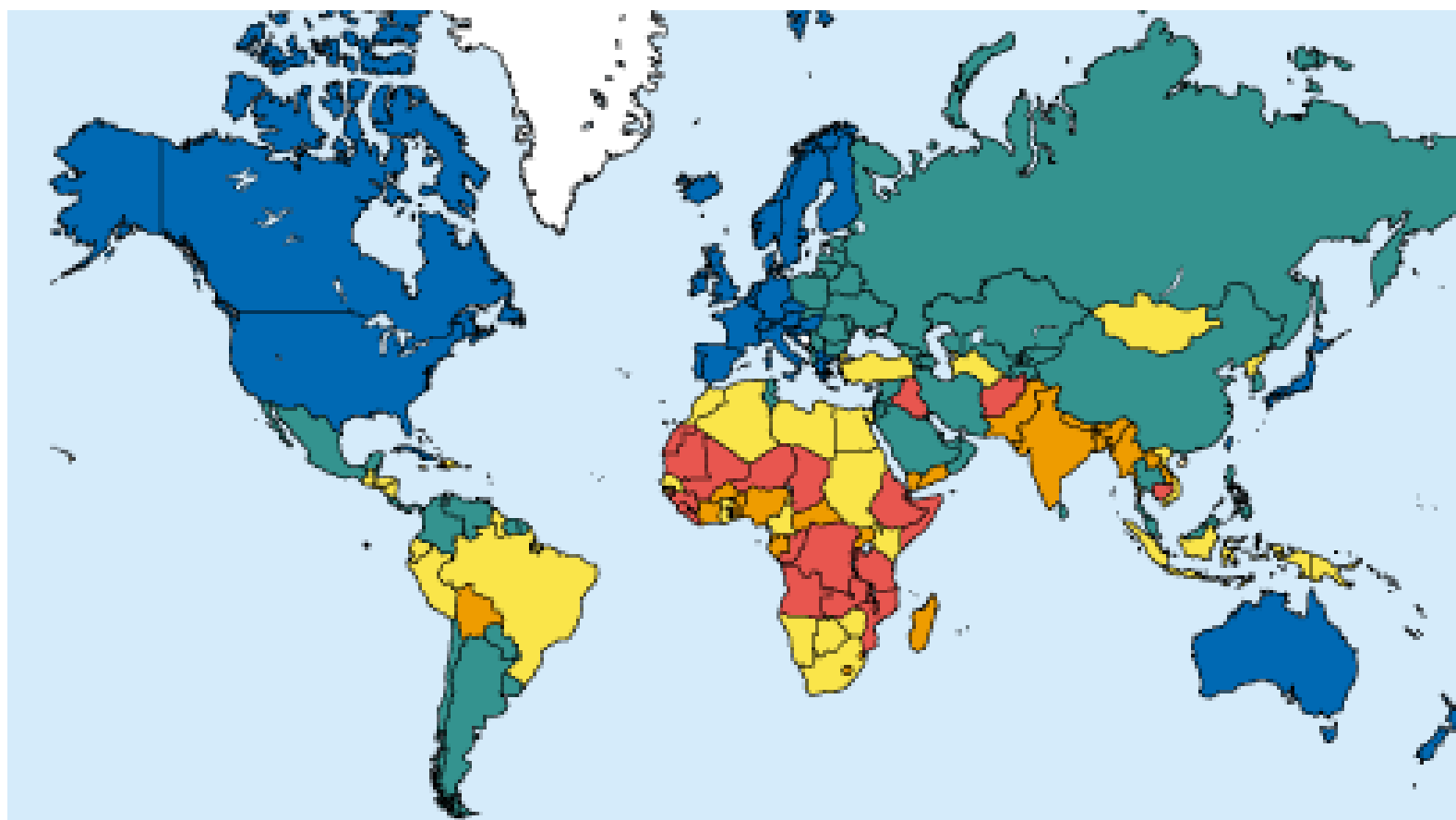Source: WHO, 1995a.

Infant Mortality Rate

Number of deaths of children <one year

In a given year and place.

_____   X1000

Total number of live births at the same

 Year and place

Infant deaths per 1,000 live births

- ☐ <10
- ☐ 10–35
- ☐ 36–70
- ☐ 71–100
- ☐ 100+
- ☐ Data not available

Main Causes of Death

Disease or Condition	Proportion of Under-five Deaths
Neonatal Illnesses	33%
Diarrhea	22%
Pneumonia	21%
Malaria	9%
AIDS	3%
Measles	1%
Other	9%
Malnutrition is an underlying cause of 53% of all child deaths	

Causes of infant mortality

- birth defects have been the leading cause of infant mortality.

- Prematurity/low birthweight (LBW) was the second leading cause of infant mortality.

- sudden infant death syndrome.

- maternal pregnancy complications.

- respiratory distress syndrome

- **Infant mortality rate:**

-

  total: 12.81 deaths/1,000 live births
  male: 14.71 deaths/1,000 live births
  female: 10.83 deaths/1,000 live births (2006 est.)

Neonatal mortality rate

Number of deaths below 28 days of life

During certain year and place

$$\frac{\text{Number of deaths below 28 days of life during certain year and place}}{\text{Total number of live births in the same Year and place}} \times 1000$$

Total number of live births in the same

Year and place

Post neonatal mortality rate

Number of deaths 28 days to one year

of life during certain year and place

_____   X 1000

Total number of live births in the same

Year and place
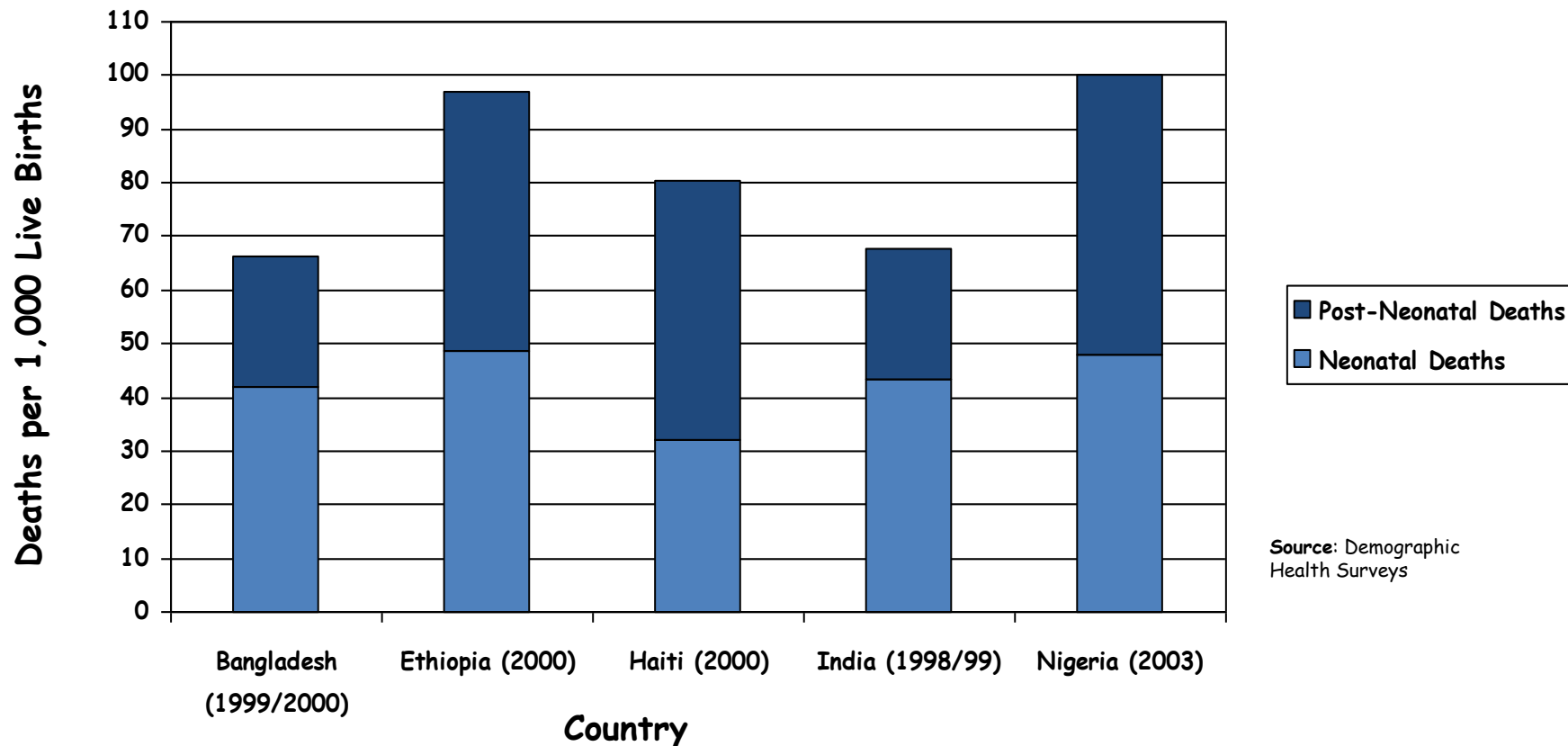
Neonatal Mortality Relative to Infant Mortality

Source: Demographic Health Surveys

Table 1.1 Leading causes of death in children in developing countries, 2002

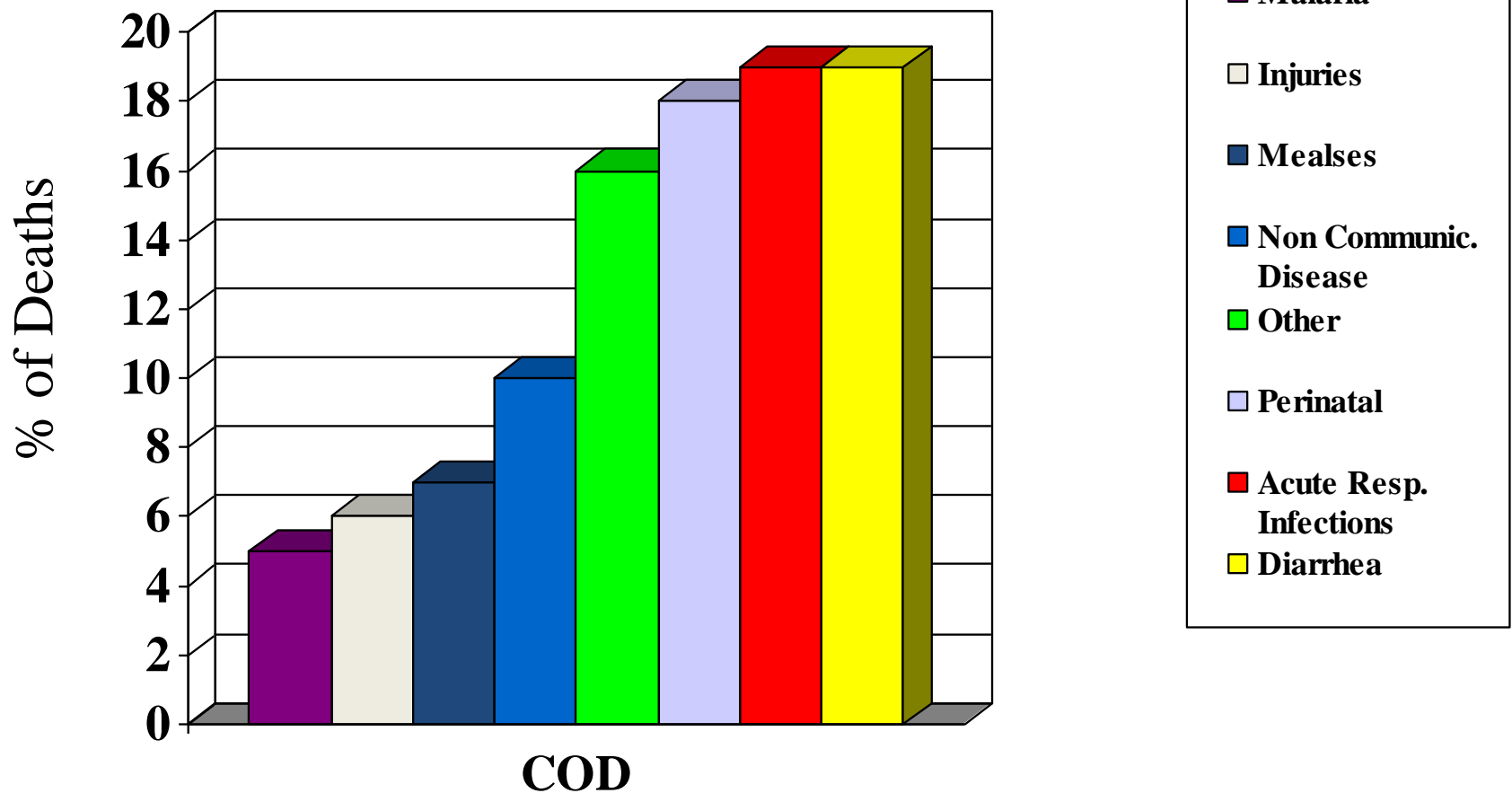| Rank	Cause	Numbers (000)	% of all deaths
1	Perinatal conditions	2 375	23.1
2	Lower respiratory infections	1 856	18.1
3	Diarrhoeal diseases	1 566	15.2
4	Malaria	1 098	10.7
5	Measles	551	5.4
6	Congenital anomalies	386	3.8
7	HIV/AIDS	370	3.6
8	Pertussis	301	2.9
9	Tetanus	185	1.8
10	Protein-energy malnutrition	138	1.3
	Other causes	1 437	14.0
Total		**10 263**	**100**

Preschool mortality rate

Number of deaths of children
1-4 year In a given
year and place.

_____   X 1000

Mid year population at the same
 Year and place

~11 Million Children Die/year
(70% From 5 Major Causes)

Malaria 7%

ARI 29%

Malnutrition 56%

Measles 8%

Other 31%

Birth Trauma
Neonatal Deaths
Tetanus
Fever
Low Birth Weight

Diarrhea 25%
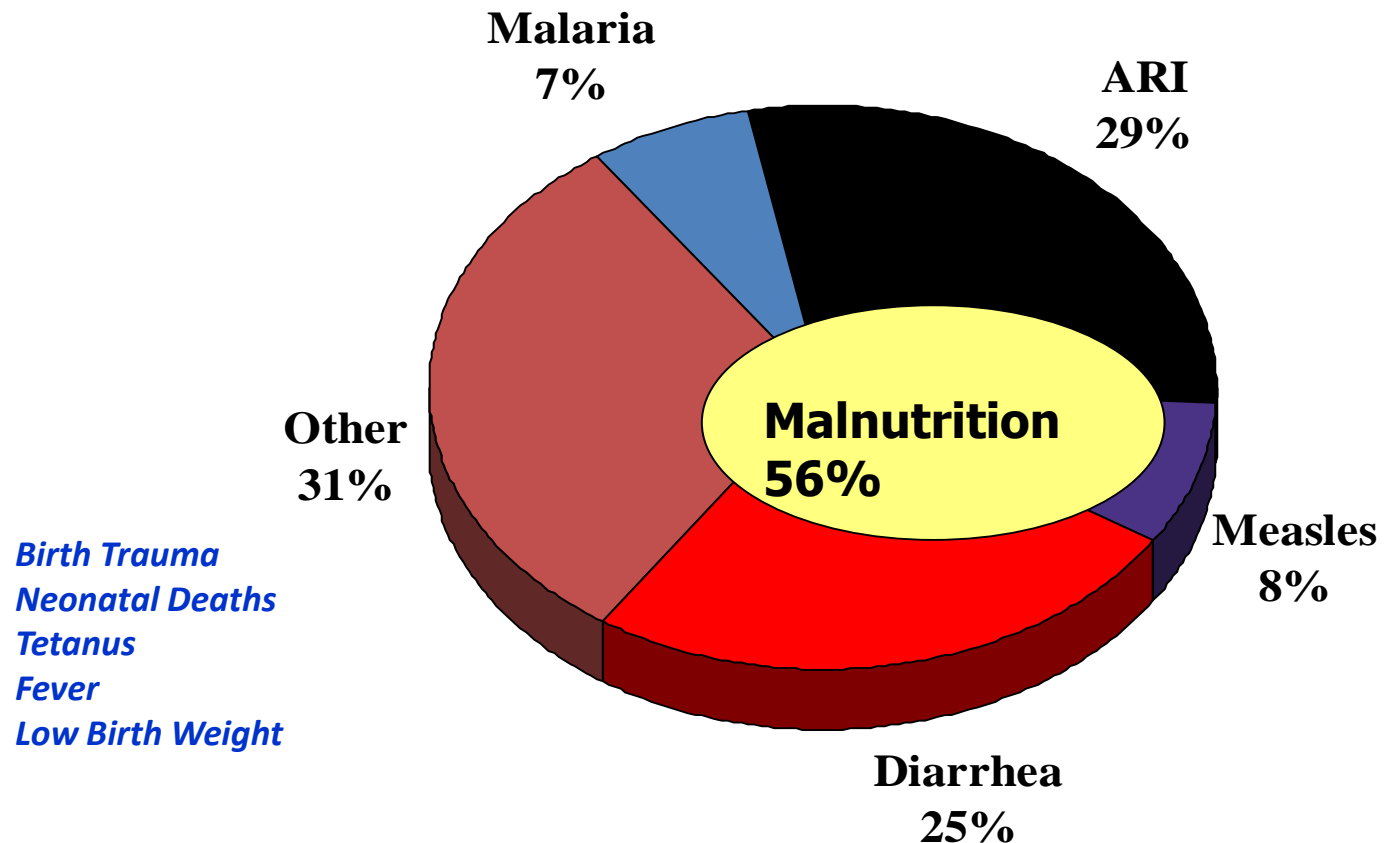
Figure 1.4 Child mortality in the six WHO regions, 2002
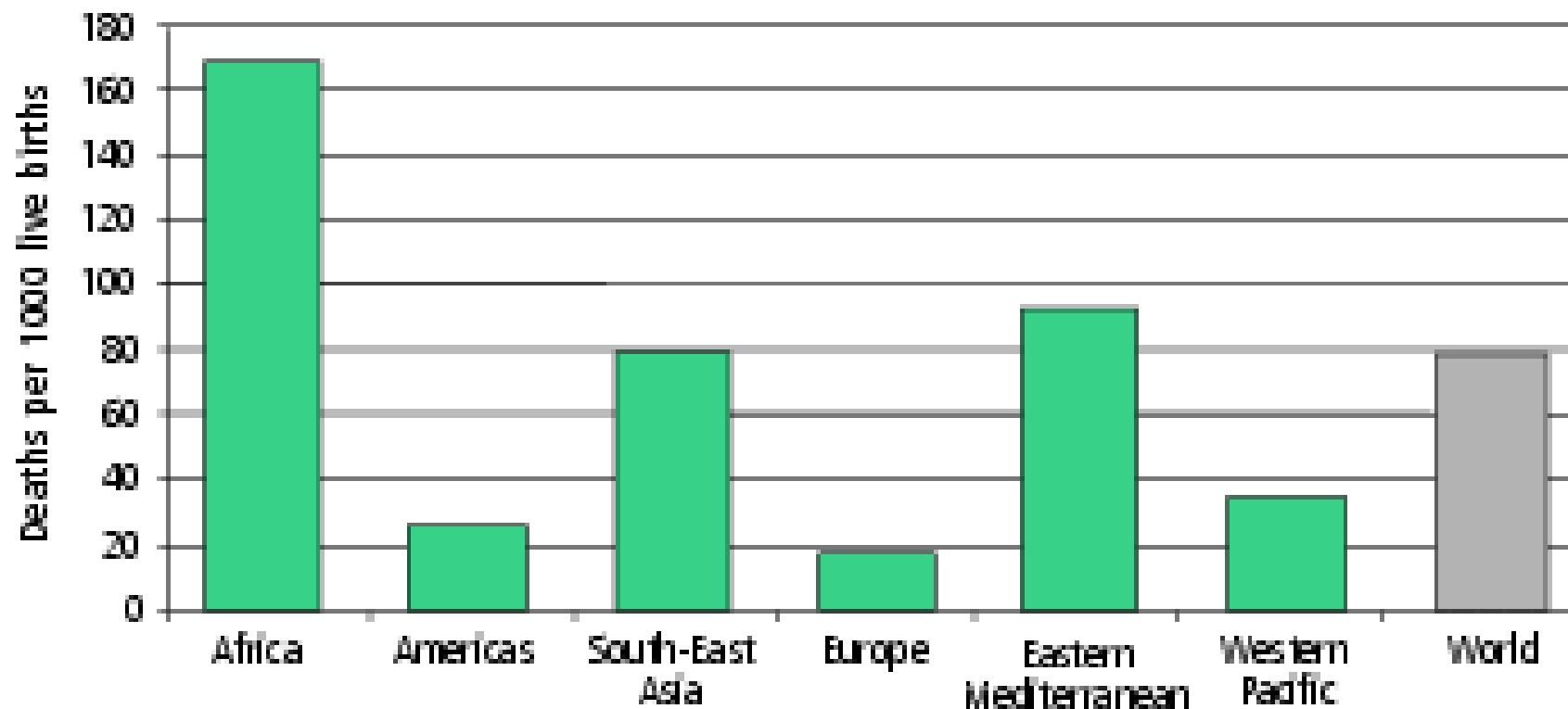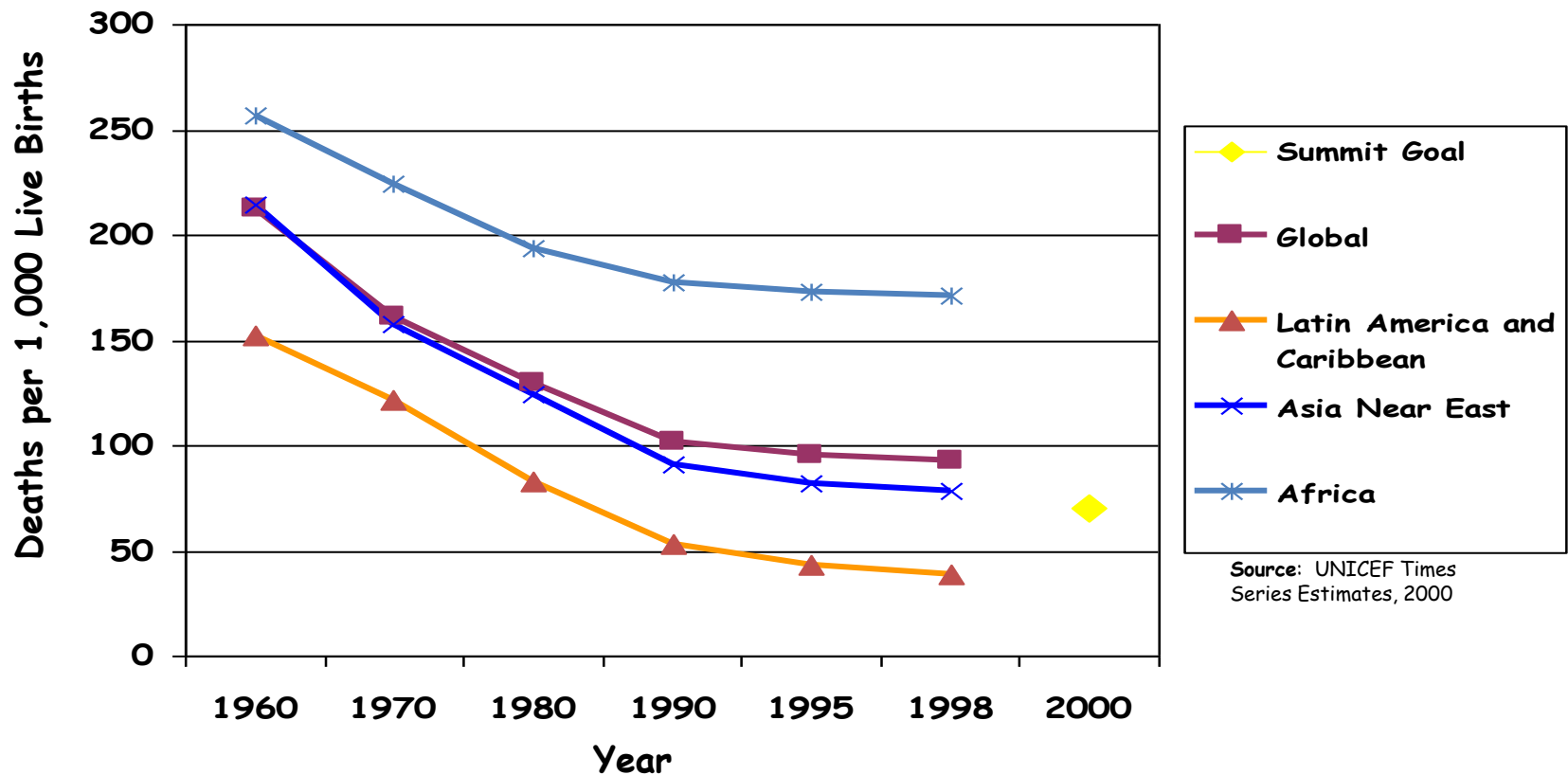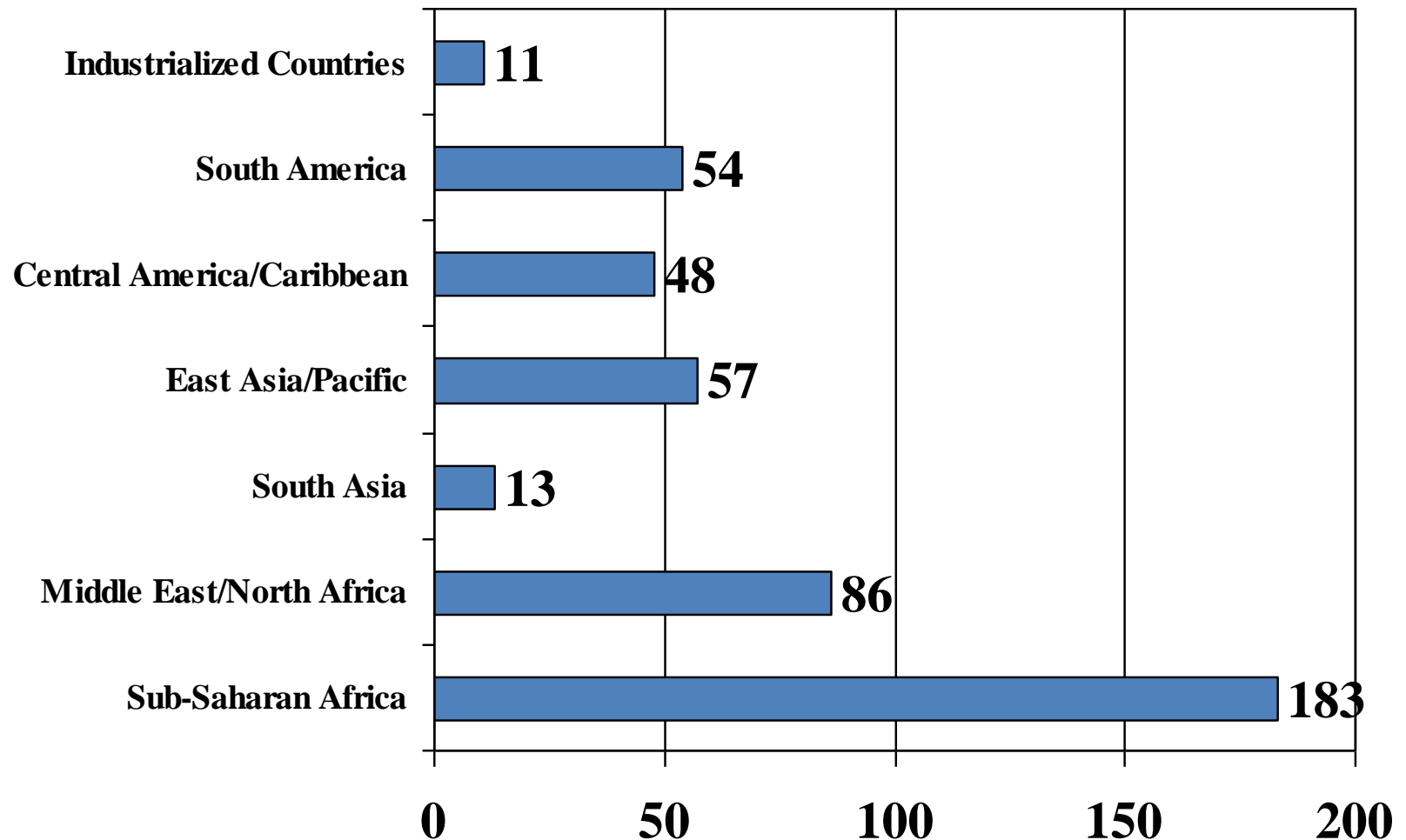
Current Situation

- **Each year nearly *11 million children die* before the age of five,30,000 every day, largely from preventable causes.**

- **41% of these deaths occur in Africa, which has only 10 % of the world's under-five population.**

- **33% of all child deaths occur in the first month of life.**

Maternal Mortality rate

Number of maternal deaths associate with

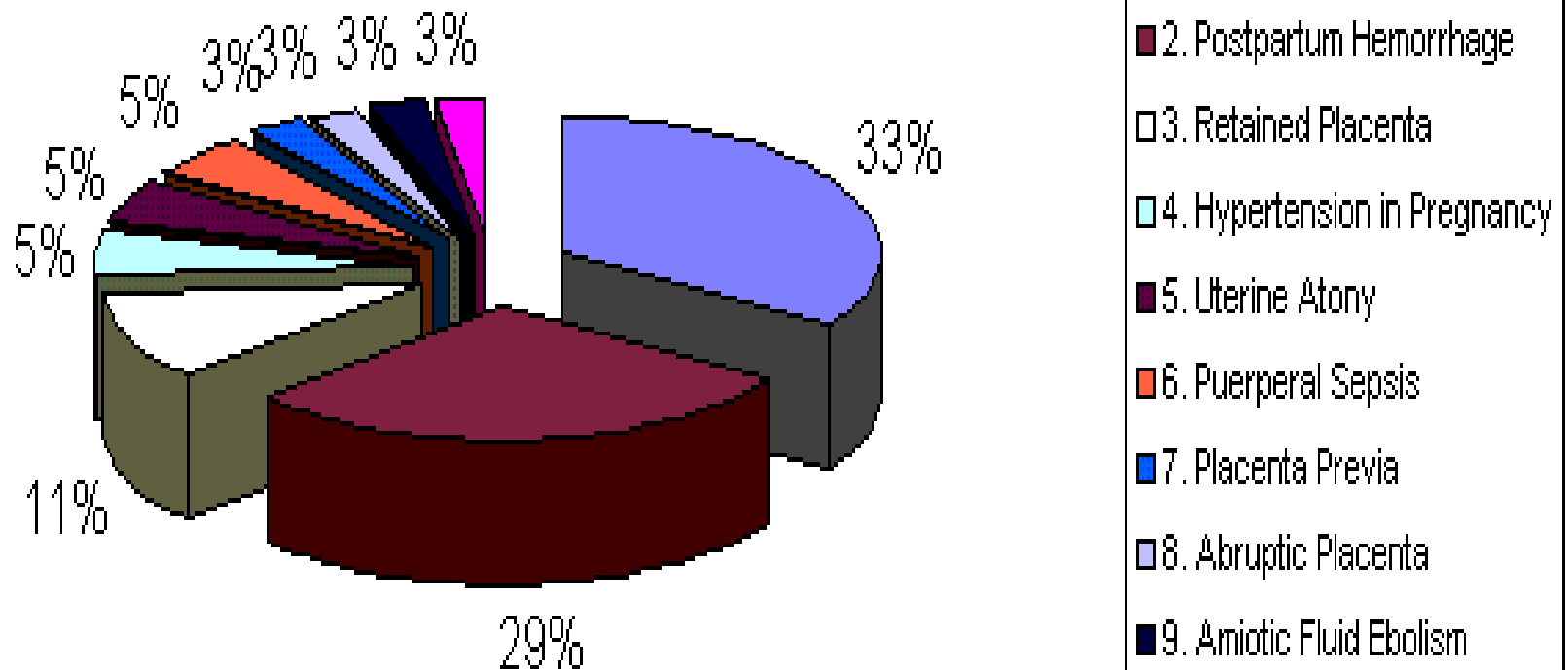Pregnancy, delivery & puerperium during certain year and place

$$\overline{} \quad \text{X 1000}$$

Number of live births in the same year

And place

Maternal Mortality: Leading Causes
Percent Distribution
2001

Legend:
- 1. Eclampsia
- 2. Postpartum Hemorrhage
- 3. Retained Placenta
- 4. Hypertension in Pregnancy
- 5. Uterine Atony
- 6. Puerperal Sepsis
- 7. Placenta Previa
- 8. Abruptic Placenta
- 9. Amiotic Fluid Ebolism
- 10. Rheumatic Heart Disease

Pie chart values: 33%, 29%, 11%, 5%, 5%, 5%, 3%, 3%, 3%, 3%
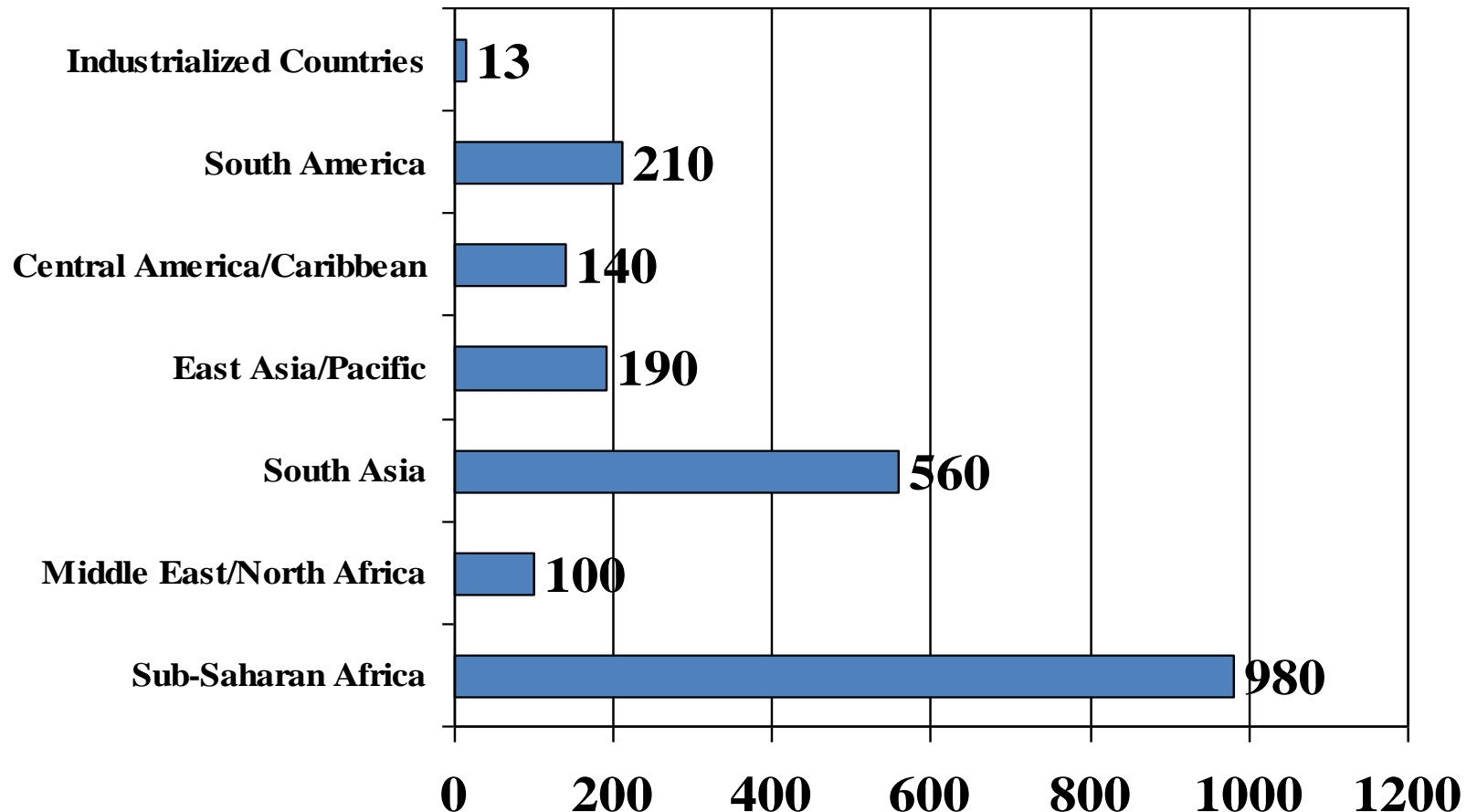
Maternal Mortality Rates
(deaths 100,000 live births)

Still birth rate

Number of still births during specific
year and place
_____ X 1000

Total births during that year and place

Still birth ratio

Number of fetal deaths of 28 weeks of gestation or more in certain year

and place

———————————————————————— X 1000

Number of live births in the same

year and place

- **Placental problems.** Placental abruption due to pre-eclampsia and smoking.
- Birth defects: between 5 and 10 percent of stillborn babies have abnormalities involving their chromosomes.
- **Growth restriction.** Babies who are small for gestational age.
- **Infections.** Bacterial infections are an important cause of fetal deaths that occur between 24 and 27 weeks of gestation.

Proportionate mortality rate

$$\frac{\text{Number of deaths due to a particular cause during certain year and place}}{\text{Total number of deaths due to all causes in the same year and place}} \times 100$$

Case fatality rate

Number of deaths due to a particular disease

————————————————————————————— X 100

Total number of cases of that disease

Thank you

Terima Kasih