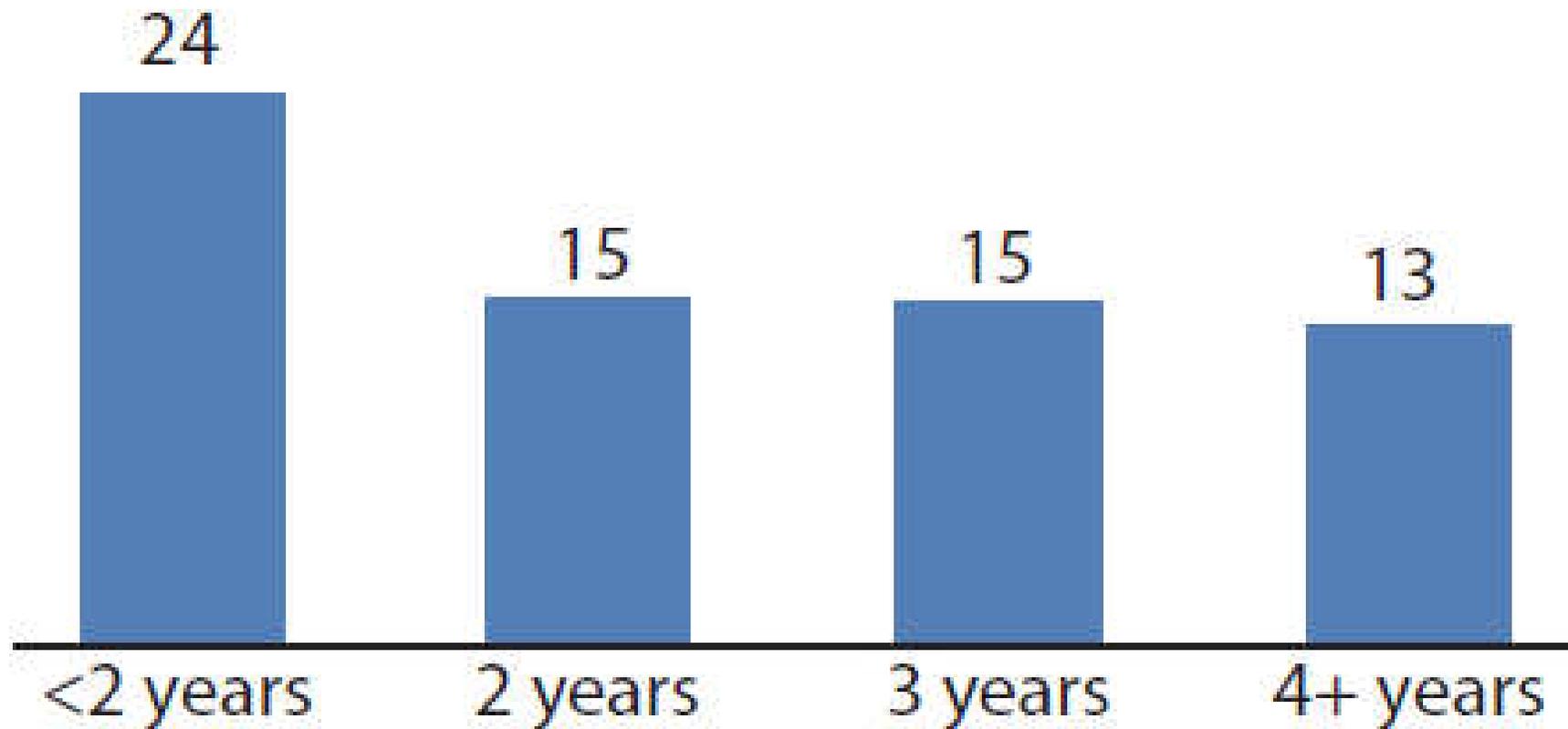


MDGs and maternal/child health

- **Unfortunately, on present trends, most countries are unlikely to achieve either of these goals.**
- **A recent review of MDG progress, show that the world have only 32% of the way to achieving the child health goal and less than 10% of the way to achieving the goal for maternal health**

Under-5 Mortality by Previous Birth Interval

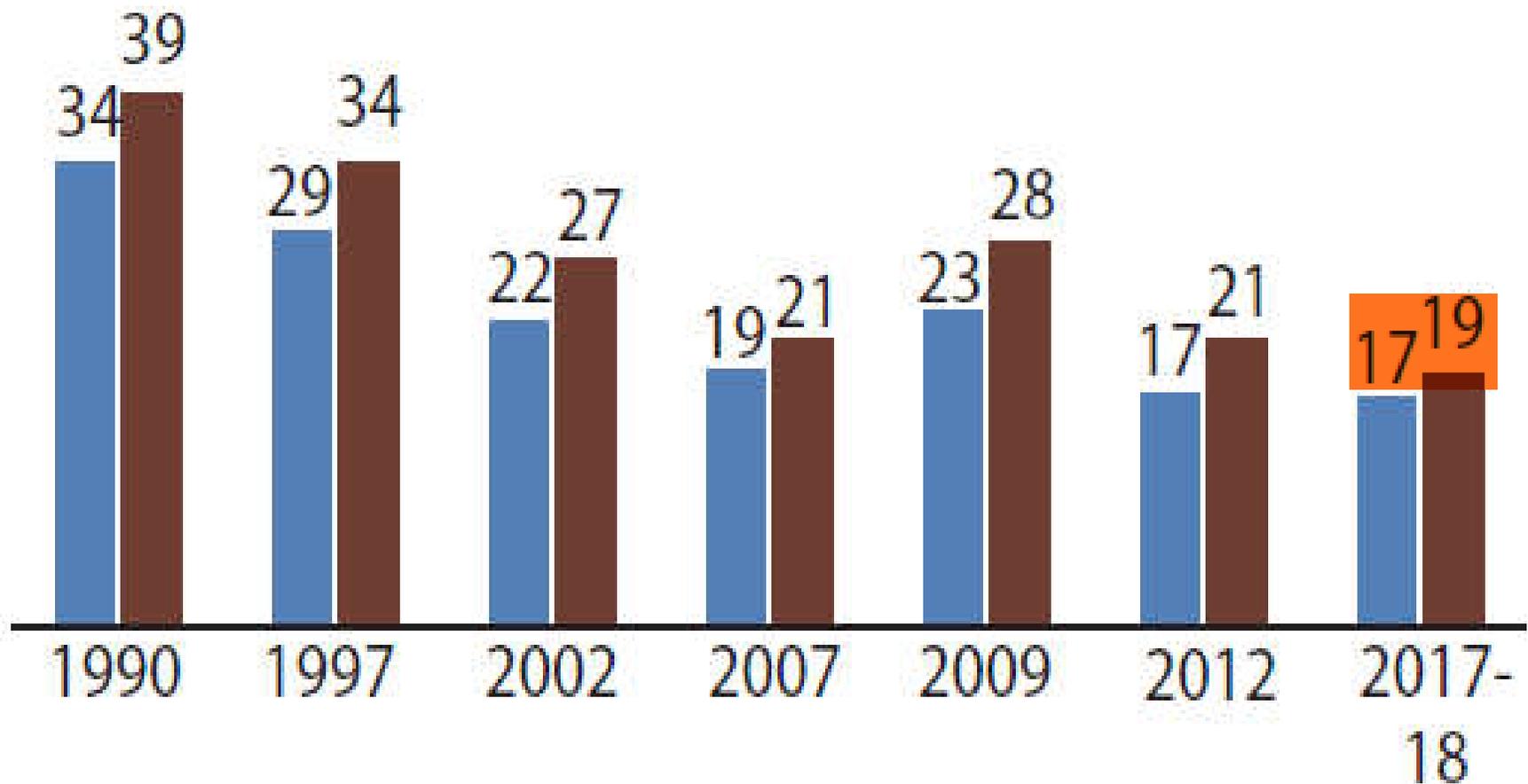
Deaths per 1,000 live births for the 10-year period before the survey



Trends in Childhood Mortality

Deaths per 1,000 live births for the 5 year period before the survey

■ Infant mortality ■ Under-5 mortality



Key facts (as of May 2012)

- 1- Every day approximately 800 women die from preventable causes related to pregnancy and childbirth.
- 2- 99% of all maternal deaths occur in developing countries.
- 3- Under-five mortality has improved dramatically – yet each and every day in 2016, 15 000 children died before reaching their fifth birthday. After unprecedented global gains in malaria control, progress has stalled because of a range of challenges, including a lack of sustainable and predictable funding
- 4- Young adolescents face a higher risk of complications and death as a result of pregnancy.

- Skilled care before during and after childbirth can save the lives of women and newborn babies.
- Between 1990 and 2010 maternal mortality worldwide dropped by almost 50%
- Everyday 8000 newborn babies die from preventable causes.
- Nearly 99% of all neonatal deaths occur in low and middle income countries

- 70% of global deaths among newborn babies happen in just two WHO regions: Africa and South East Asia
- Essential maternal and newborn care and access to care for complications can save the lives of mothers and newborn babies.

Conclusions.

- **Maternal, neonatal and child mortality has been very persistent in a global context.**

Now 38 percent of all child deaths (4 million) occur in the first month of life.

More than 10 million children under 5yr die each year. Most result from preventable and treatable causes. That's 30,000 children a day.

Most of these children live in developing countries

Conclusions

- **Improving newborn health and care is critical to attaining the MDG targets for child survival**
- **To do so would require concerted efforts to improve maternal care, outreach and provide innovative models of community support and education**
- **Emerging data from demonstration projects in health system settings indicate that this is doable and can be scaled up using affordable models of care**
- **Community engagement and ownership is a critical element in successful intervention models for maternal and newborn care**

Few indicators for health status of children

- MCH coverage;
- Vaccination Coverage
- % of Fully Immunized
- Infant mortality rate
- Under five mortality rate
- ORT use rate → important in diarrhea

Well Baby Clinic

- Very imp. Preventive child health clinic.
- From 6 weeks of age to 5 years.
- Main goals:
 - A- Health education
 - B- Growth and development.
 - C- Vaccination
 - D- Nutritional and Psychological counseling.

WBC

- baby should be seen by a health care provider at the following ages:
- two months

Four months

Six months

Nine months

Fifteen months

Eighteen months

Two years

Three years

- Monitoring Growth and Development.
- Growth : Head circ. Length and weight.(Growth chart.)
- **Infant Feeding.** → **mainly breast feeding in the first 6 months**
- Skills and Behavior.

Infant Morbidity

- Morbidity is a measure of disease, illness or injury within a population. Like infant mortality, conditions resulting from prematurity and low birth weight are strongly associated with infant morbidity.^{1,2} Infant morbidity can be measured by the presence of diagnosed conditions, such as respiratory distress and hyperbilirubinemia (or jaundice), as well as **by service utilization indicators, including admission to a neonatal intensive care unit (NICU) and length of hospital stay.**³

Prematurely and low birth (differentiate)
Higher Morbidity and Mortality rates

•

1- Respiratory distress syndrome

2- Birth Trauma

3- Hemorrhages.

4- Feeding problems

5- Infections

6- Failure to thrive → Growth problems

Prevention and control of Communicable Diseases

- Communicable diseases are **diseases that can be transmitted from a person to another** through different means (direct contact, droplet infection, sexual contact, or mother fetus infection.)

Steps followed to accomplish control of communicable diseases:

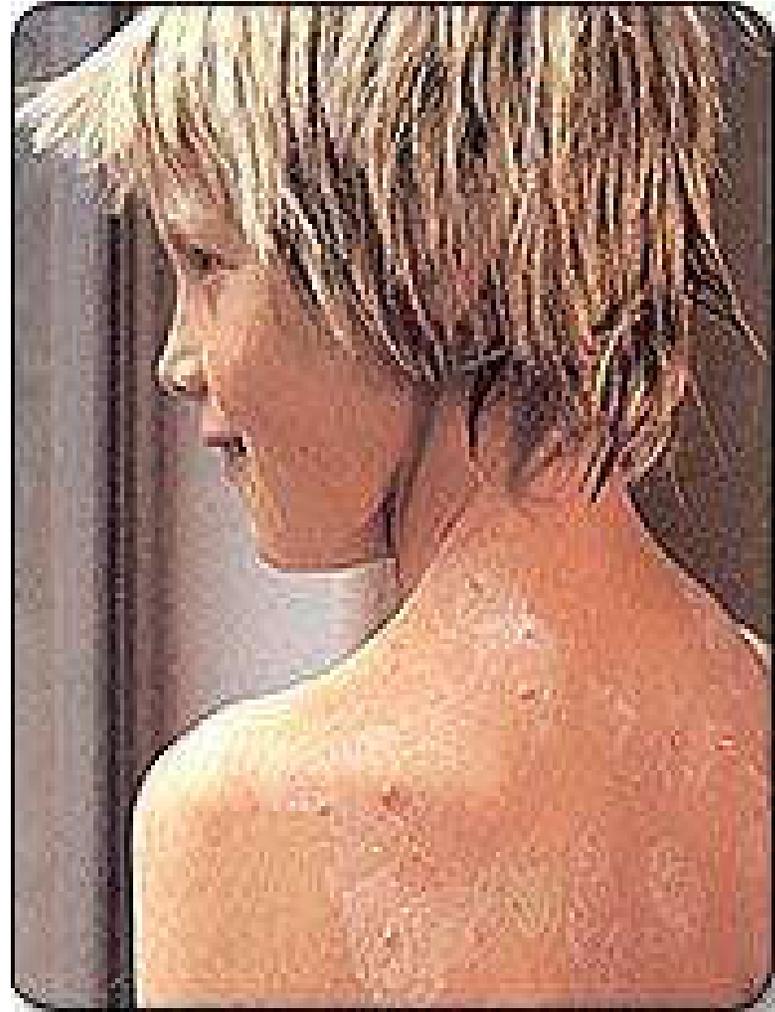
- 1- Reporting
- 2- Observing of the coming foreigners and tourist who are going to stay in the country for more than one month and testing them for certain disease e.g AIDS, Malaria etc..
- 3-Sending teams in cases of outbreaks and epidemics.
- 4-Coordination with other ministries (Ministry of agriculture and Brucellosis)
- 5-Vaccination

How Some Childhood Infectious Diseases Are Spread

- **Direct Contact with infected person's skin or body fluid**
- **Respiratory Transmission (passing from the lungs, throat, or nose of one person to another person through the air)**
- **Fecal-Oral Transmission (touching feces or objects contaminated with feces then touching your mouth)**

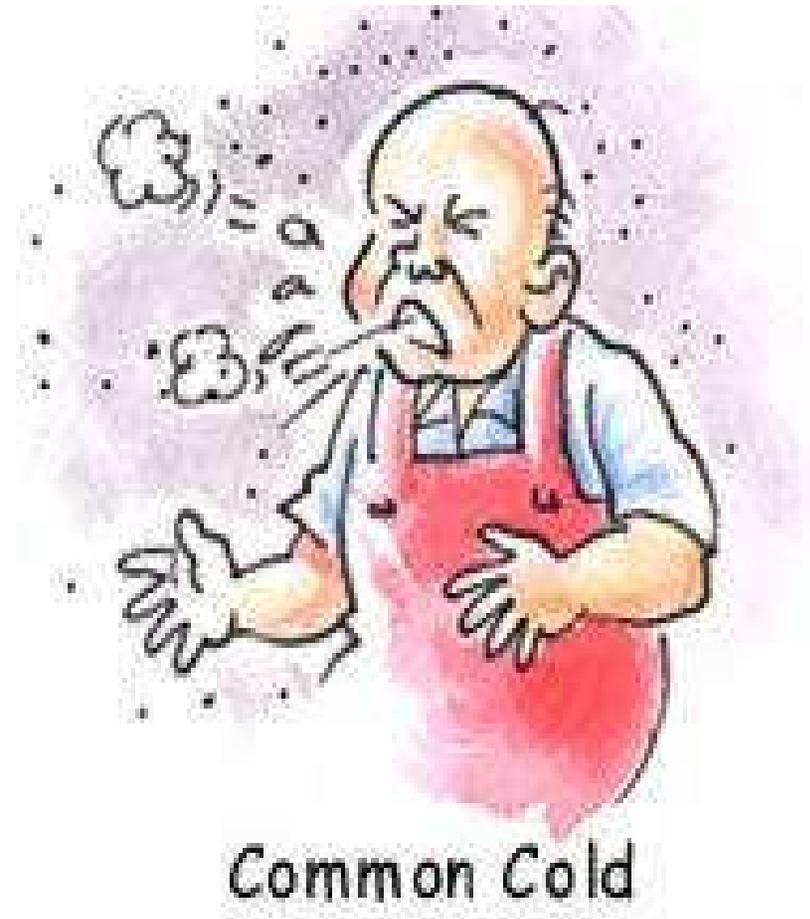
Direct Contact with infected Person's skin or body fluid

- Chickenpox*
- Cold Sores
- Conjunctivitis
- Head Lice
- Impetigo
- Ringworm
- Scabies



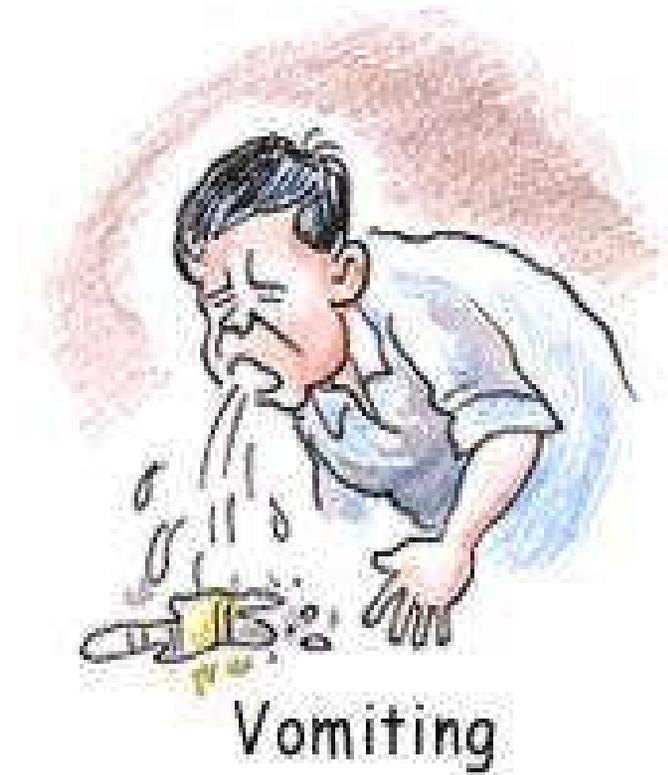
Respiratory Transmission

- *Chickenpox*
- *Common Cold*
- *Diphtheria*
- *Fifth Disease*
- *Bacterial meningitis*
- *Hand-Foot-Mouth Disease*
- *Impetigo*
- *Influenza*
- *Measles*
- *Mumps*
- *Pertussis*
- *Pneumonia*
- *Rubella**



Fecal-Oral Transmission

- *Campylobacter*
- *E. Coli*
- *Enterovirus*
- *Giardia*
- *Hand- Foot- Mouth Disease*
- *Hepatitis A*
- *Infectious Diarrhea*
- *Pinworms*
- *Polio*
- *Salmonella*
- *Shigella*



Vaccination

- Vaccination against childhood communicable diseases through the Expanded Program on Immunization (EPI) is one of the most cost-effective public health interventions available ([UNICEF 2002](#); [World Bank 1993](#)). By reducing mortality and morbidity, vaccination can contribute substantially to achieving the Millennium Development Goal of reducing the mortality rate among children under five by two-thirds between 1990 and 2015.

Vaccination

- *Protecting Your Newborn From Disease*
- *How do vaccines work?*
- *Are vaccines safe?*
- *Keeping an immunization record*

Immunity

- It is the defense mechanism of the body against the invasion of pathological microorganisms.
- **General immunity**

General defensive mechanisms available from birth . eg skin, mucosal barriers, tears, blood substances that inhibit motility or multiplication of organisms ...etc

Immunity (contd)

- **Specific Immunity**

This type develops against specific microorganisms. It can be acquired in 2 ways:

- ***Active immunity***: acquired by coming in contact with the pathogen either by contracting the disease itself or by vaccination.

Passive immunity

- Acquired by receiving antibodies from an actively immunized person or animal.
- It is quickly acquired
- Short lived in comparison to actively acquired immunity.
- Can be acquired in two ways:

Passive Immunity

- **Natural** : Antibodies passing from mother to newborn via placenta start falling during the first weeks and disappear within the first 6 months.
- **Artificial**: acquired by injection of specific or standard (non-specific gamma globulins).e.g. Specific immunoglobulins are available for hepatitis B, tetanus, mumps..etc.

Importance of vaccination

- Diseases that are common, can kill or cause disability,
- Can be prevented.

The main diseases are:

- TB,
- Pertusis ,
- Diphtheria ,
- Poliomyelitis,
- Tetnus.
- Measles

Vaccination

Two types of vaccines:

- Live/ attenuated
- Killed/ Inactivated

Types of vaccines

- Live attenuated viruses (measles, mumps, rubella, varicella, oral polio)
- Inactivated viruses (injectable polio (Sabin), hepatitis B, influenza)
- Inactivated bacteria (pertussis, diphtheria, tetanus, H. influenzae type b, pneumococcus)

Live/attenuated Vaccines

- Highly effective
- They induce slight infection → long lasting protection even with a small dose.
- BCG, measles, MMR, and polio (trivalent oral polio vaccine – TOPV) are live vaccines.

Inactivated Vaccines

- Produce a lower immune response to a single dose in comparison to live vaccines
- Multiple doses are usually required to give long –term protection
- Pertussis , polio (injectable, inactivated polio vaccines IPV), typhoid, tetanus, are inactivated vaccines
- The vaccines for diphteria and tetnus are prepared from the bacterial exotoxin rather than the bacteria organism itself. These are referred to as toxoid vaccines.

How serious is the situation?



Rationale for Immunization

Every year, **out of 100 children in the world:**

- **3 die from measles**
- **2 from pertusis**
- **1 from tetanus**

For every 200 children who are infected with polio virus, one will be crippled for life.

Expanded Program on Immunization

- WHO set Target: 90% of all children below one year be fully immunized by the year 2000.
- Immunization is an essential part of PHC
- It is a program that was started worldwide by WHO / UNICEF, called (EPI).

Immunization

- EPI (Expanded Program on Immunization) was launched in Jordan in 1979
- Jordan achieved universal child immunization in 1988.

Vaccination schedule preschool -Jordan

| Age | Vaccine |
|-------------------------------|---|
| 1st contact | BCG |
| 2 months | DaPT1 IPV1+Hib+1HepB1 |
| 3 months | DaPT2 IPV2+Hib2+HepB2+OPV |
| 4 months | DaPT3 IPV3+Hib3+HepB3+OPV |
| 9 months | Measles + OPV |
| 12 months | MMR1 |
| 18 months | DPT_{booster1} +OPV_{booster1} +MMR2 |

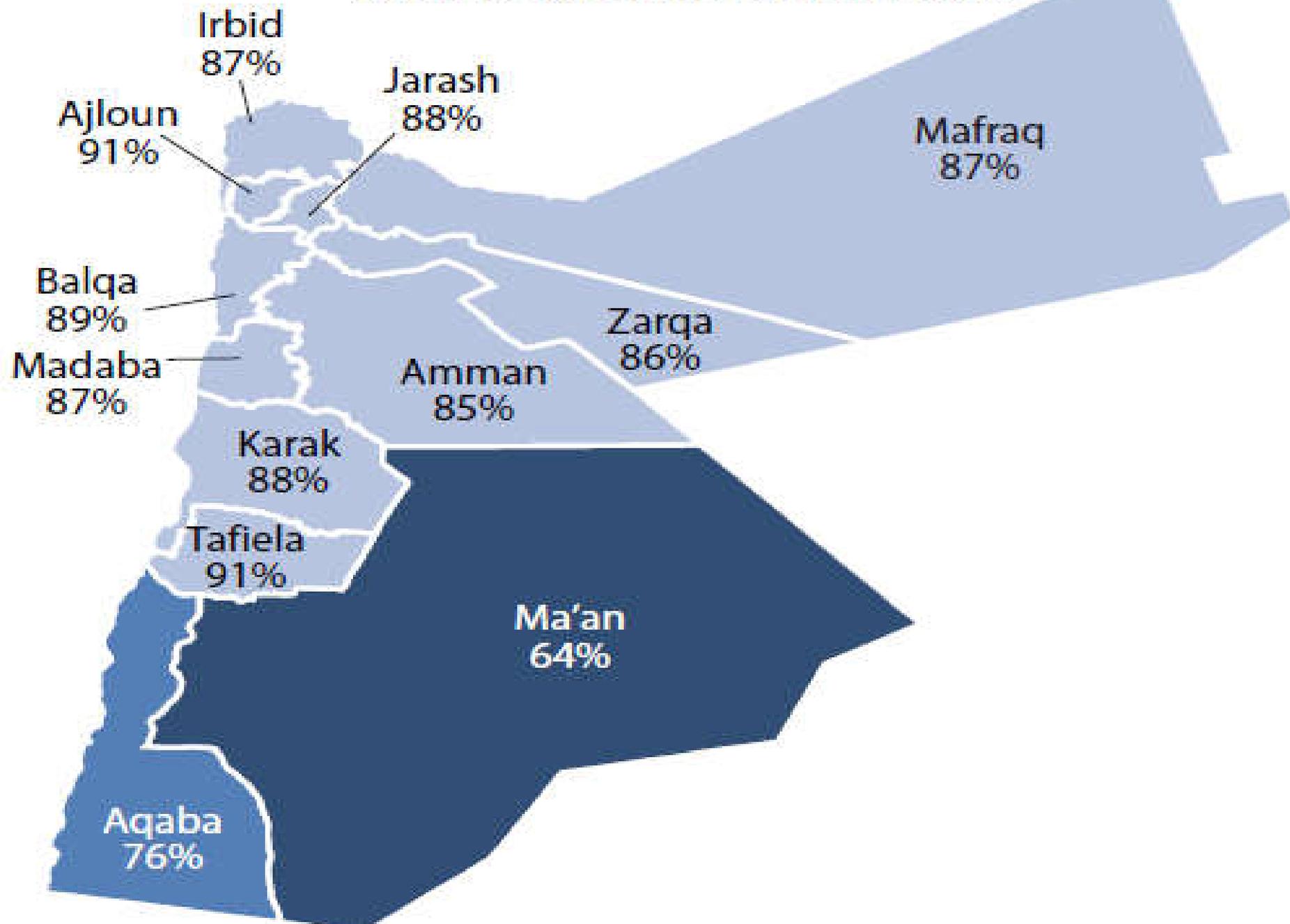
Basic Vaccination Coverage

JPFHS 2017

- **Eighty-six percent** of children age 12-23 months have received basic vaccinations—one dose each of BCG and measles, three doses each of DPT-HepB-Hib and oral polio (excluding polio given at birth). **Seven percent of children have received no vaccination**
- **Basic vaccination coverage is 85% or higher** in all governorates other than Aqaba (76%) and Ma'an (64%). Jordanian children age 12-23 months are more
- likely than Syrian children to have received all basic vaccinations (88% versus 76%).
- **According to the 2017-18 JPFHS, 81% of children age 12-23 months and 71% of children age 24-35 months have received all of the vaccinations appropriate for their age group.**

Vaccination Coverage by Governorate

Percent of children age 12-23 months who have received all basic vaccinations





CHILDHOOD DISEASES



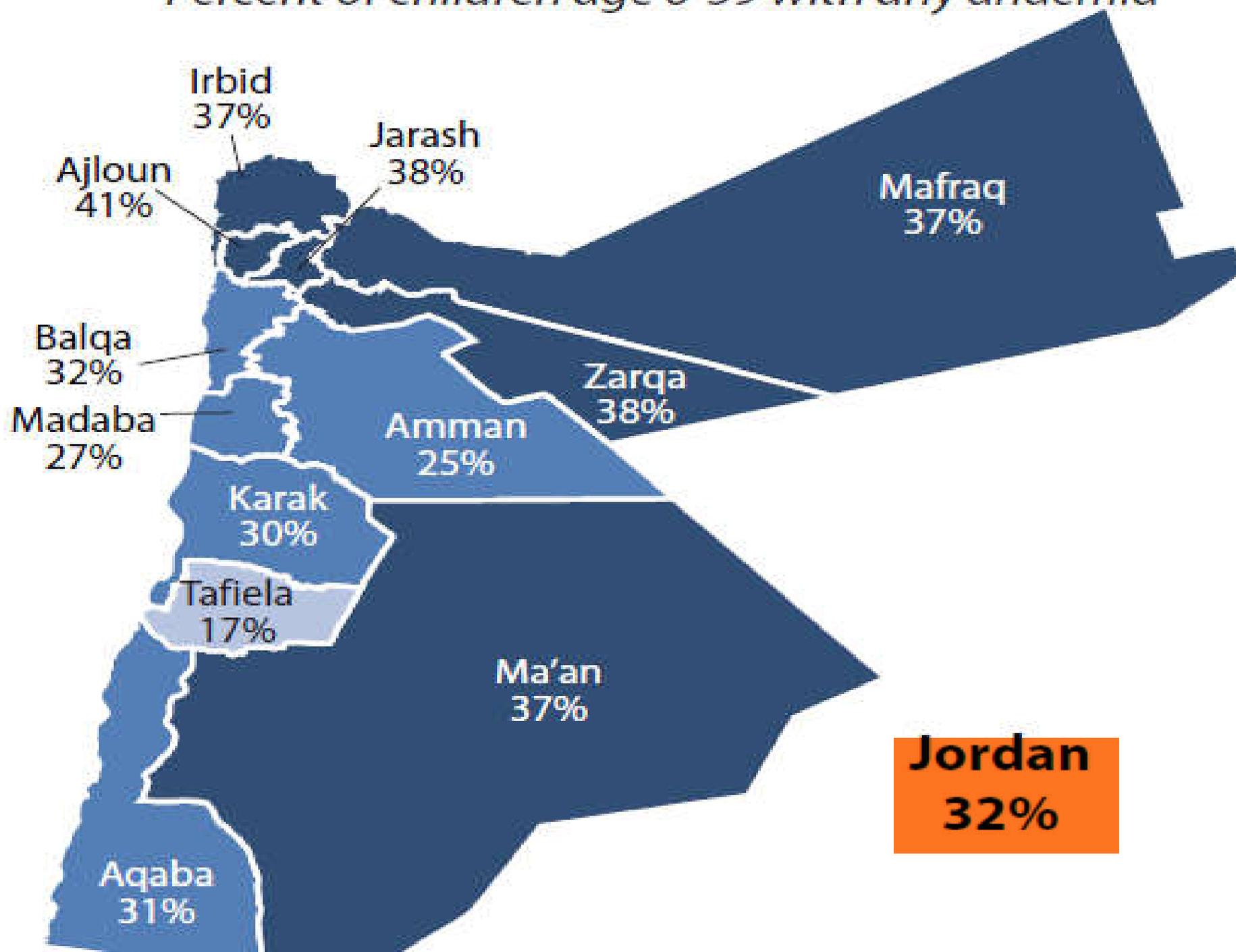
Child Anaemia

JPFHS 2017

- One-third of children in Jordan are anaemic—21%
- have mild anemia and 11% have moderate anemia.
- Anemia in children is most common in the poorest households (38%) and least common in among those in the richest households (18%).
- Anemia in children varies by region, from a low of 17% in Tafiela to 41% in Ajloun.

Anaemia in Children by Governorate

Percent of children age 6-59 with any anaemia



Acute respiratory infection

- Acute respiratory infections cause four and a half million deaths among children every year, the overwhelming majority occurring in developing countries .
- Pneumonia unassociated with measles causes 70% of these deaths; post-measles pneumonia, 15%; pertussis, 10%; and bronchiolitis and croup syndromes, 5%. Both bacterial and viral pathogens are responsible for these deaths.

Bacterial causes

- The most important bacterial agents are:-
- A- streptococcus pneumonia
- B- haemophilus influenza
- C- staphylococcus aureus.

Viral causes

- A- respiratory syncytial virus, 15%-20%
- B- Parainfluenza viruses, 7%-10%
- C- influenza A and B viruses and adenovirus, 2%-4%
- Mixed viral and bacterial infections occur frequently

Risk factors

- Risk factors that increase the incidence and severity of lower respiratory infection in developing countries include:
 - A- large family size
 - B- lateness in the birth order,
 - C- crowding
 - D- low birth weight
 - E- malnutrition
 - F-vitamin A deficiency
 - G-young age -

H- lack of breast feeding

- I- Pollution

- Effective interventions for prevention and medical case management are urgently needed to save the lives of many children predisposed to severe disease.

Diarrhea

- Diarrheal diseases are one of the leading causes of childhood morbidity and mortality in developing countries. An estimated 1,000 million episodes occur each year in children under 5 years of age. Diarrhea causes an estimated 5 million deaths in children under 5 years of age per year .

cause 7% mortality

- About 80% of these deaths occur in children in the first 2 years of life .
- Approximately one third of deaths among children under five are caused by diarrhea

- Most diarrheal illnesses are acute, usually lasting no more than 3-5 days and are secondary to infectious causes
- (bacterial, viral, and parasitic).
- Infectious agents that cause diarrheal disease are usually spread by the fecal-oral route, specifically by a ingestion of contaminated food or water or contact with contaminated hands

Causes

- The following are the commonest etiologic agents of diarrhea for all ages in decreasing order of prevalence obtained from pooled data world wide.
- Rotavirus,
- Enterotoxigenic
- Escherichia coli (ETEC) bacteria,
- Shigella, Campylobacter, Vibrio Cholera, and non-Typhoidal Salmonella,

- Noninfectious causes of diarrhea include drugs,
- surgical conditions,
- systemic infections
- and food intolerance.

Childhood Illnesses

JPFHS 2017

- **Six percent** of children under five had symptoms of acute respiratory infection (ARI) in the two weeks before the survey. Advice or treatment was sought for 72% of those with ARI symptoms. **Thirteen percent** of children under age five had a fever in the two weeks before the survey. Treatment or advice was sought for 68% of the children with fever; 40% took antibiotics.
- .

- **Ten percent** of children under five had diarrhoea in
- the two weeks before the survey. **Diarrhoea is most**
- **common among children age 6-11 months (20%).**
- Children with diarrhoea should drink more fluids,
- particularly through oral rehydration therapy (ORT).
- Two-thirds of children under age five with diarrhoea
- received ORT, but 21% received no treatment

Causes of Infant and Child Mortality in Jordan

The 3 leading causes of infant death were

- 1- Conditions originating in the perinatal period.
- 2- Congenital malformations.
- 3- Diseases of the respiratory system.

- The leading cause of death in the neonatal period was conditions originating in the perinatal period, while in the post-neonatal period, it was congenital malformations.
- Prematurity was the leading contributory cause of infant death.

CONCLUSION:

- This study showed that **causes of infant mortality in Jordan tend to be similar to those prevailing in developed countries.**
- [Khoury SA, Mas'ad DF.](#)
- Department of Family and Community Medicine, University of Jordan, Amman, Jordan. [Saudi Med J.](#) 2002 Apr;23(4):432-5.

Rates and Trends

infant and child mortality JPFHS 2017

- The infant mortality rate (deaths to children before their first birthday) in Jordan is 17 deaths per 1,000 live births for the 5-year period before the survey
- Most infant deaths occur during the first month of live: the neonatal mortality rate is 11 deaths per 1,000 live births. The under-5 mortality rate is 19 deaths per 1,000 live births. This means that about 1 in every 50 children dies before his or her 5th birthday.
- Under-5 mortality has declined in recent years, from 28 deaths for every 1,000 live births in 2009 to 19 in 2017-18.
- Under-5 mortality decreases as household wealth and mother's education increase.

Trends in Childhood Mortality

Deaths per 1,000 live births for the 5 year period before the survey

■ Infant mortality ■ Under-5 mortality

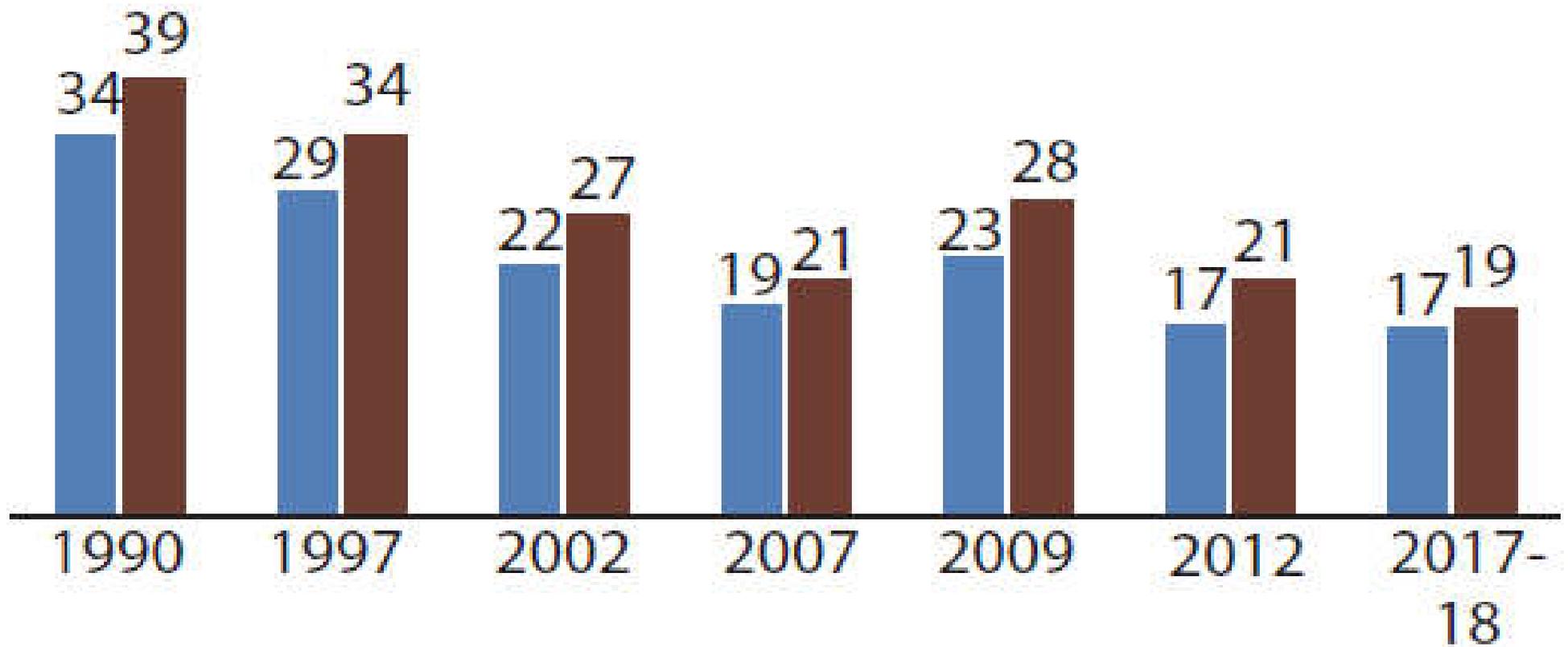
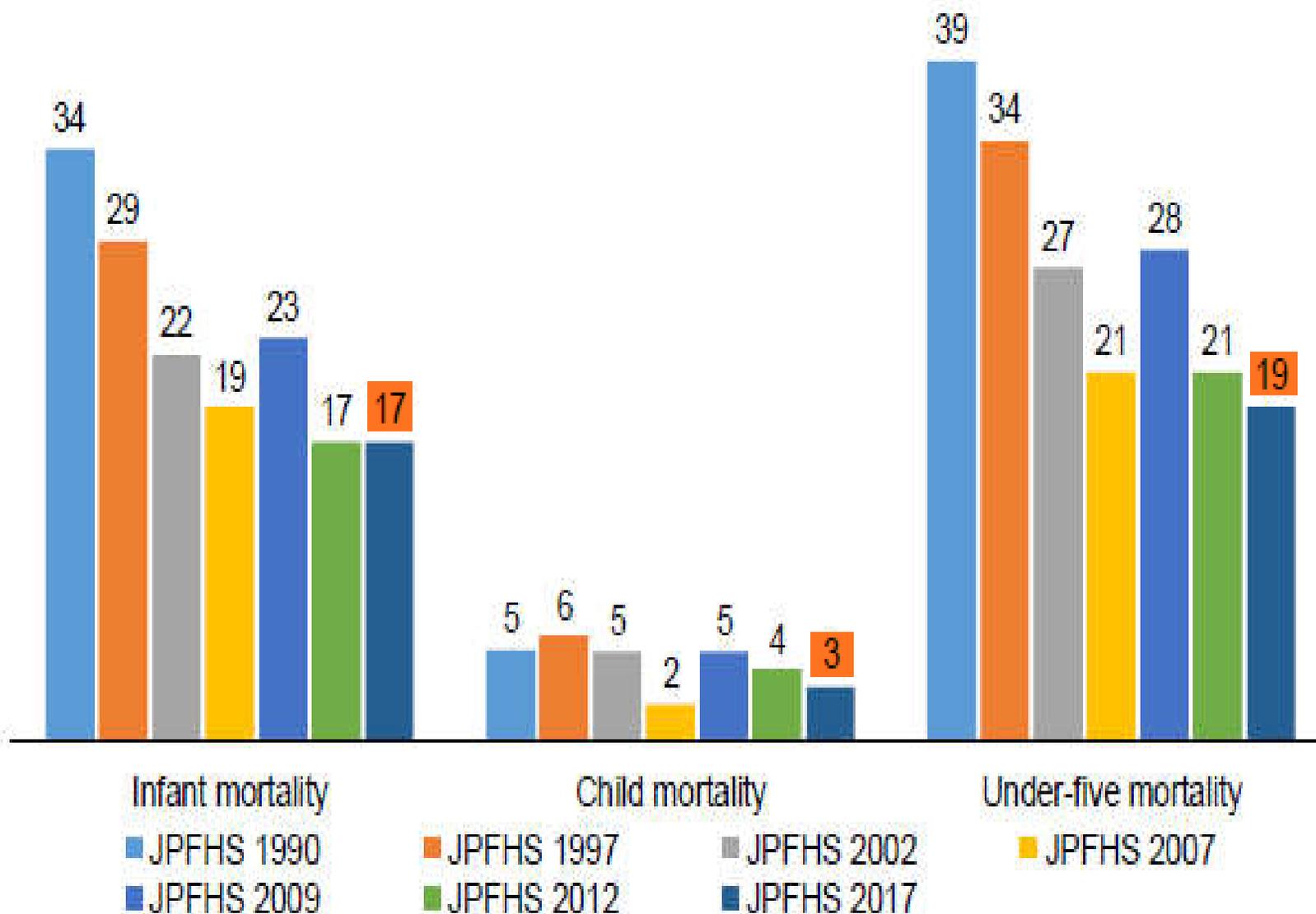


Figure 4 Trends in childhood mortality, 1990-2017

Deaths per 1,000



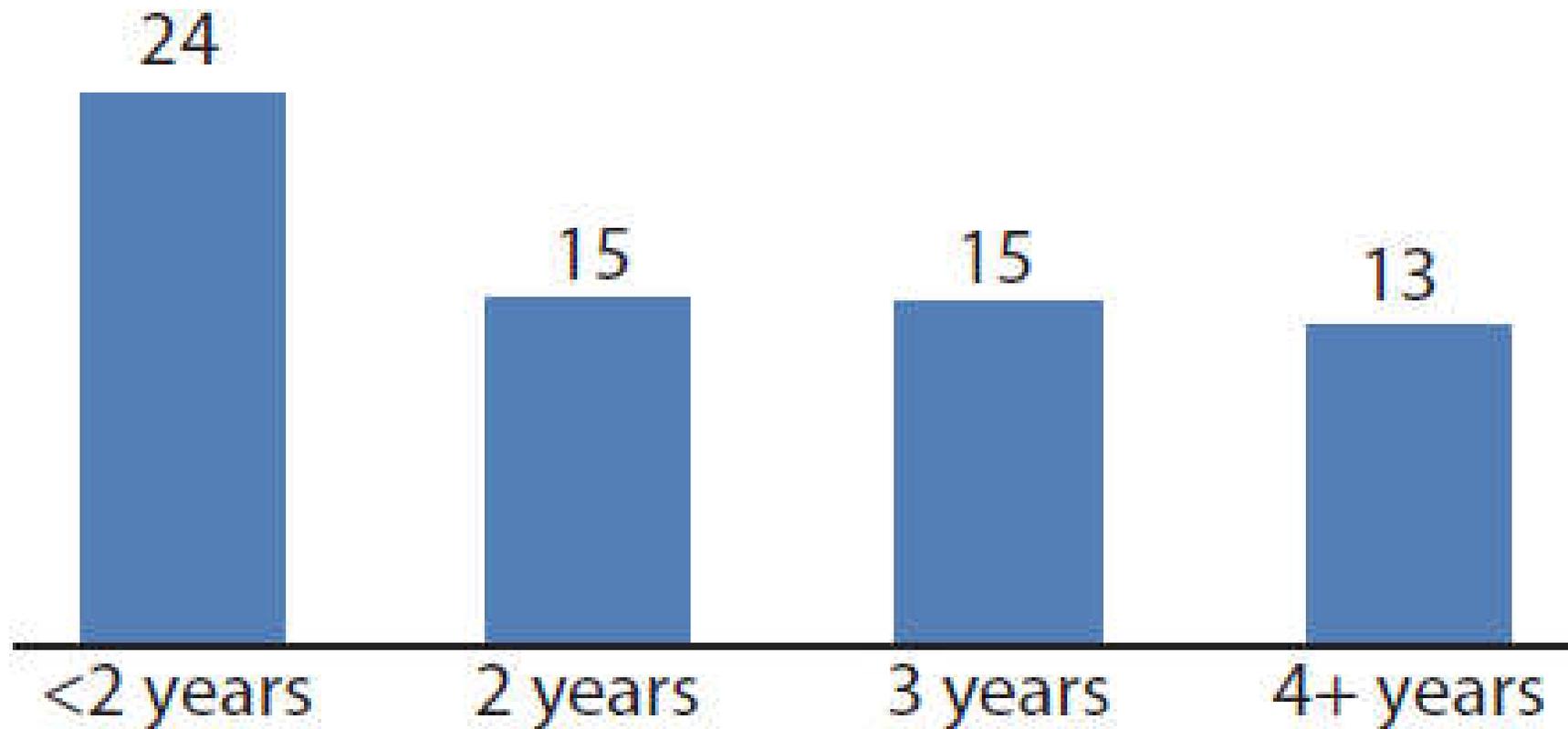
Birth Intervals

- Spacing children at least 36 months apart reduces
- the risk of infant death. The median birth interval in
- Jordan is 34 months. Infants born less than two years after a previous birth have high under-5 mortality rates. The infant mortality rate for children born less than two years after a sibling is 24 deaths per 1,000 live births, compared with only 15 for children born three years after a sibling. Three in ten children (29%) are born less than two years after their siblings.

the longer the intervals the less the mortality

Under-5 Mortality by Previous Birth Interval

Deaths per 1,000 live births for the 10-year period before the survey







Thank you!!!

نعم بحمد الله







Thank you!!!