

Global adolescent and child health

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Objectives

- Understand the adolescent and child health issues globally and the burden of diseases in this age group
- Discuss major global interventions that are to address mortality and morbidity in adolescent and children

1. What do we mean by the term
'adolescents' ?

Lost population?

- No one wants to care for them?
- Healthy?
- Difficult to deal with?
- Developmentally challenging?
- Physiology of puberty



The second decade: No longer children, not *yet* adults !



CDC immunization schedule: 7th till 19th birthday

Society of adolescent medicine : 10 – 25

Saudi Arabia, Middle East?

Adolescents are a diverse population group

Different needs

Changing needs



What is special about adolescence ?

(What makes it different from childhood & adulthood ?)

- A time of rapid physical and psychological (cognitive and emotional) growth and development.
- A time in which new capacities are developed.
- A time of changing social relationships, expectations, roles and responsibilities.

2. What are the main health problems of adolescents ?

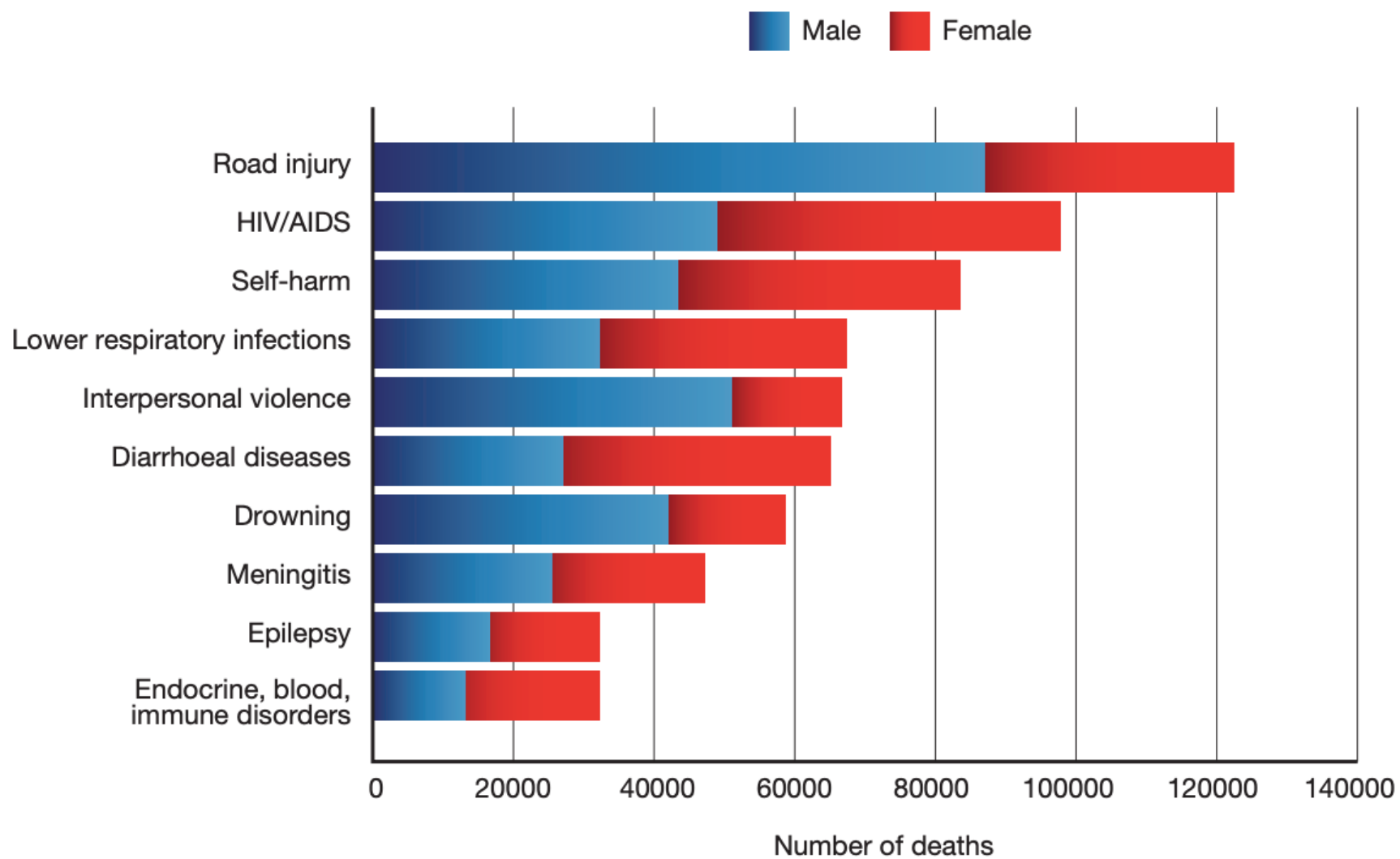


Figure. 1. Top 10 causes of death among adolescents by sex

Top causes of illness and disability

1. Depression
2. Road traffic injuries
3. Anaemia
4. HIV/AIDS
5. Self-harm
6. Back and neck pain
7. Diarrhoea
8. Anxiety disorders
9. Asthma
10. Lower respiratory infections

Ref: WHO calls for stronger focus on adolescent health.

<https://www.who.int/mediacentre/news/releases/2014/focus-adolescent-health/en/>

Key health problems in adolescence:

Sexual & reproductive health

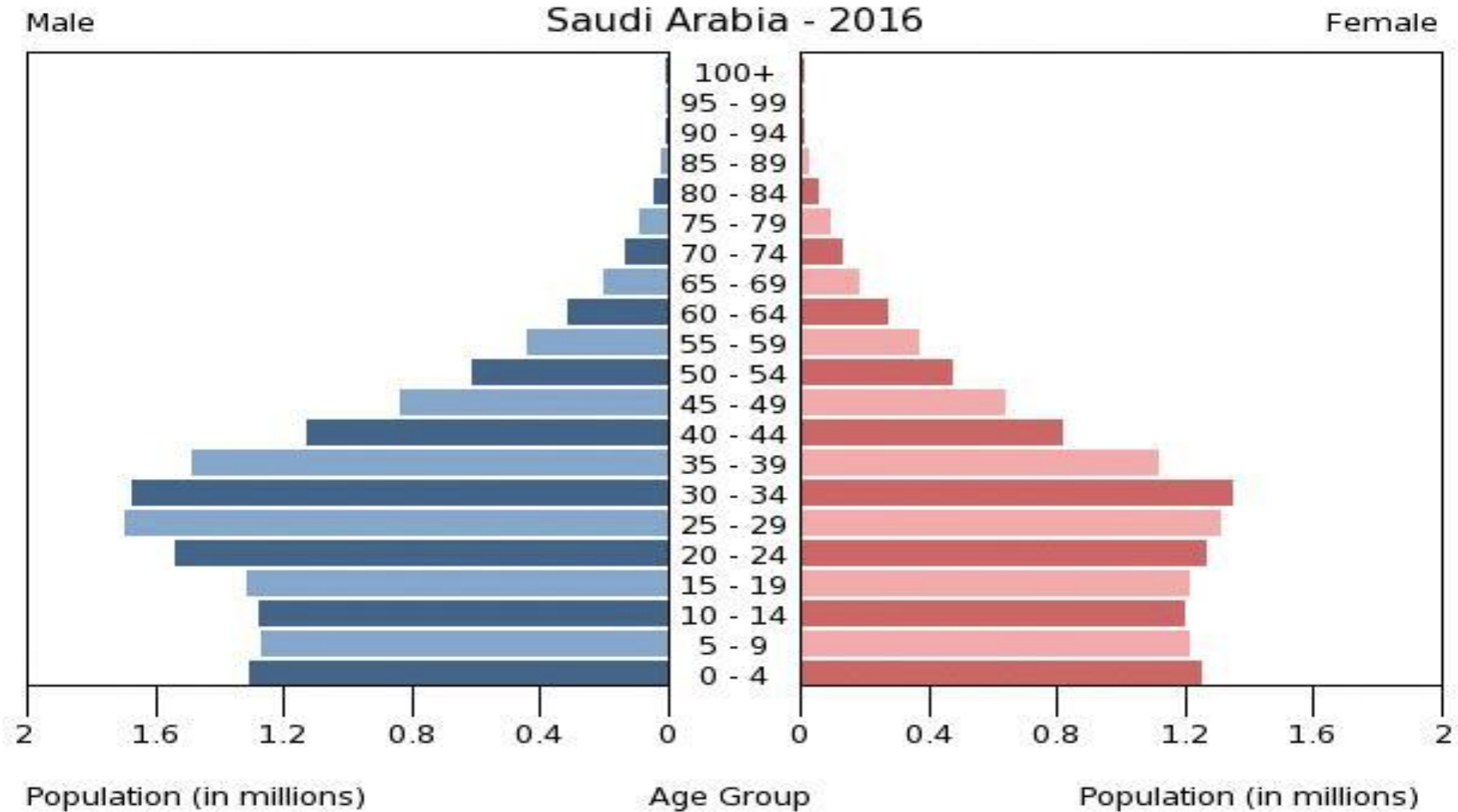
- Too early pregnancy
 - risks to mother
 - risks to baby
- Health problems during pregnancy & child birth (including unsafe abortion)
- Sexually Transmitted Infections including HIV
- Harmful traditional practices e.g. female genital mutilation
- Sexual coercion

Other issues

- Injuries from accidents & intentional violence
- Mental health problems
- Substance use problems
- Endemic diseases: malaria, schistosomiasis, tuberculosis
- Under/over-nutrition

Source: United Nations. World Youth Report 2005. Young people today, and in 2015. United Nations. 2005. ISBN 92-1-130244-7.

Youth bulge in Saudi Arabia



Health problems of adolescents in Saudi Arabia

Sexual practices of young educated men: implications for further research and health education in Kingdom of Saudi Arabia (KSA)

Hafsa Raheel ✉, Muhammad Afzal Mahmood, Abdulaziz BinSaeed

Journal of Public Health, Volume 35, Issue 1, March 2013, Pages 21–26,

<https://doi.org/10.1093/pubmed/fds055>

Published: 01 August 2012

Knowledge, attitudes, and resources of sex education among female adolescents in public and private schools in Central Saudi Arabia.

Aljoharah M. AlQuaiz, Maha A. Almuneef, Hafsa R Minhas • Published in Saudi medical journal 2012



Canadian Center of
Science and Education

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Glob J Health Sci. 2014 Mar; 6(2): 42–46.

Published online 2013 Nov 27. doi: [10.5539/gjhs.v6n2p42](https://doi.org/10.5539/gjhs.v6n2p42)

PMCID: PMC4825248

PMID: [24576364](https://pubmed.ncbi.nlm.nih.gov/24576364/)

Knowledge, Attitudes and Practices toward Energy Drinks among Adolescents in Saudi Arabia

[Abdulrahman O. Musaiger](#)¹ and [Nisreen Zagzoog](#)²

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[10.14456/apjcp.2016.179/APJCP.2016.17.8.3839](https://doi.org/10.14456/apjcp.2016.179/APJCP.2016.17.8.3839)

Prevalence of Cigarette Smoking Usage among Adolescent Students in Northern Saudi Arabia

RESEARCH ARTICLE

Prevalence of Cigarette Smoking Usage among Adolescent Students in Northern Saudi Arabia

Rakan Mosa Algorinees, Ibrahim Chaazy, Kiran Alreshidi, Mohammed Fahad



Nutrition Research

Volume 30, Issue 8, August 2010, Pages 527-534



Poor diet quality and food habits are related to impaired nutritional status in 13- to 18-year-old adolescents in Jeddah

Sidiga A. Washi ✉, Maha B. Ageib

Time for an Adolescent Health Surveillance System in Saudi Arabia: Findings From “Jeeluna”



Table 1
Health risk behaviors among adolescents in Saudi Arabia and gender differences

Health risk behaviors	Prevalence			Prevalence by gender					
	n = 12,575 (%)	95% CI		Male n = 6,444 (%)	95% CI		Female n = 6,131 (%)	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
Dietary behaviors (daily)									
Breakfast intake (sometimes/daily) ^a	54.8	50.8	58.7	62.3	60.7	64.0	46.3	44.6	48.0
Fruit intake (≥1 servings)	38.1	34.0	42.1	43.6	41.5	45.7	31.8	29.7	33.9
Vegetable intake (≥1 servings)	54.3	50.7	58.0	55.7	53.8	57.7	52.8	50.8	54.8
Carbonated beverage consumption (≥2 drinks)	37.5	34.0	41.1	43.9	41.9	45.9	30.4	28.3	32.5
Energy drinks consumption (≥1 drinks)	21.8	19.7	23.9	25.5	23.8	27.2	17.7	16.1	19.3
Activity									
Physical exercise (daily)	13.7	10.4	16.9	19.0	17.4	20.6	7.7	6.9	8.5
Television viewing (≥2 hours/day)	42.4	41.0	43.9	40.4	38.8	42.1	44.7	42.8	46.6
Video game playing (yes)	55.6	47.7	63.4	68.0	66.4	69.6	41.6	39.3	43.9
Internet use (≥2 hours/day)	30.1	26.8	33.4	26.0	24.3	27.8	34.6	32.5	36.8
Cellular phone (>1 hour/day)	14.8	13.2	16.3	13.2	12.0	14.4	16.6	14.8	18.3
Traffic safety									
Seat belt using (sometimes/always)	13.8	11.4	16.3	17.0	15.3	18.7	10.2	9.0	11.4
Car taking without permission (yes)	17.9	11.7	24.2	28.6	26.8	30.4	5.9	5.1	6.7
Bullying and violence									
Exposure to bullying ^a	25.0	23.0	27.0	27.1	25.1	29.0	22.7	21.3	24.2
Exposure to violence at school ^b	20.8	15.8	25.7	28.9	26.3	31.5	11.7	10.4	12.9
Exposure to violence in community ^b	19.7	17.6	21.8	22.9	21.3	24.5	16.1	14.6	17.6
Tobacco and substance (ever use)									
Cigarette smoking	16.2	12.5	19.9	22.1	20.0	24.2	9.6	8.2	10.9
Sheesha smoking	10.5	8.4	12.5	13.5	11.8	15.3	7.1	5.7	8.4
Solvents sniffing	16.2	12.7	19.6	11.5	10.3	12.6	21.4	19.7	23.0
Prescription medication use for nonmedical purpose	7.2	5.7	8.7	6.0	5.3	6.8	8.5	7.4	9.6
Alcohol consumption	1.4	1.1	1.8	2.1	1.7	2.5	.7	.5	1.0
Stimulants use	1.5	1.1	1.9	1.6	1.3	1.9	1.4	1.0	1.8
Marijuana use	1.0	.6	1.5	1.6	1.2	2.0	.4	.2	.6

Table 2

Health status among adolescents in Saudi Arabia and gender differences

	Prevalence			Prevalence by gender					
	n = 12,575 (%)	95% CI		Male n = 6,444 (%)	95% CI		Female n = 6,131 (%)	95% CI	
		Lower	Upper		Lower	Upper		Lower	Upper
Self-reported health status									
Chronic illness									
Bronchial asthma	8.4	7.1	9.8	10.8	9.6	11.9	5.8	5.1	6.5
Allergies (not asthma)	4.9	3.5	6.2	4.2	3.5	4.9	5.6	4.7	6.5
Hematological disorder	3.7	2.9	4.6	3.1	2.5	3.7	4.5	3.7	5.2
Skin disorders	3.6	2.6	4.6	3.1	2.6	3.6	4.2	3.4	5.0
Musculoskeletal	1.5	1.0	1.9	1.5	1.0	2.0	1.4	1.0	1.8
Genitourinary	1.2	.7	1.6	.9	.6	1.2	1.4	.9	1.8
Diabetes	.7	.5	1.0	.9	.7	1.2	.6	.3	.8
Others	4.6	3.8	5.4	5.0	4.0	6.0	4.2	3.3	5.0
Mental health									
Sadness/depression	14.3	11.0	17.6	10.1	9.3	11.0	19.0	17.6	20.4
Anxiety	6.7	5.2	8.3	4.6	3.9	5.3	9.1	8.0	10.2
Measured indicators of health status									
BMI ^a									
Underweight	15.2	13.7	16.7	17.2	15.3	19.0	13.0	11.8	14.2
Healthy weight	54.8	51.2	58.4	48.8	47.2	50.3	61.5	60.0	63.1
Overweight	14.1	13.4	14.9	13.9	12.8	15.0	14.5	13.4	15.5
Obese	15.9	12.6	19.1	20.2	18.7	21.7	11.0	9.8	12.3

BMI = body mass index; CI = confidence interval

3. Why should we invest in the health and development of adolescents ?

HEALTHY BEHAVIOURS THAT START IN ADOLESCENCE MAKE HEALTHY ADULTS



HEALTHY DIET

NO TOBACCO AND ALCOHOL USE

PHYSICAL ACTIVITY

Invest in adolescent health to prevent noncommunicable diseases.

PREGNANCY AND CHILDBIRTH COMPLICATIONS ARE THE LEADING CAUSE OF DEATH AMONG 15 TO 19 YEARS OLD GIRLS

Take action now!

Ensure universal access to sexual and reproductive health services and rights

-  Stop child, early and forced marriage
-  Provide comprehensive sexuality education
-  Information, counselling and services for the full range of safe, effective, accessible and affordable contraceptive methods
-  Pre-pregnancy, pregnancy, birth, post-pregnancy, safe abortion (where legal), and post-abortion care

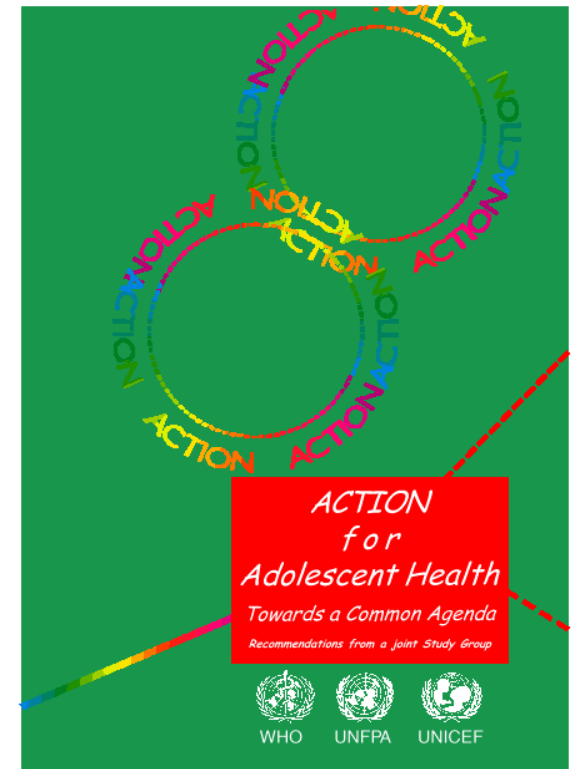


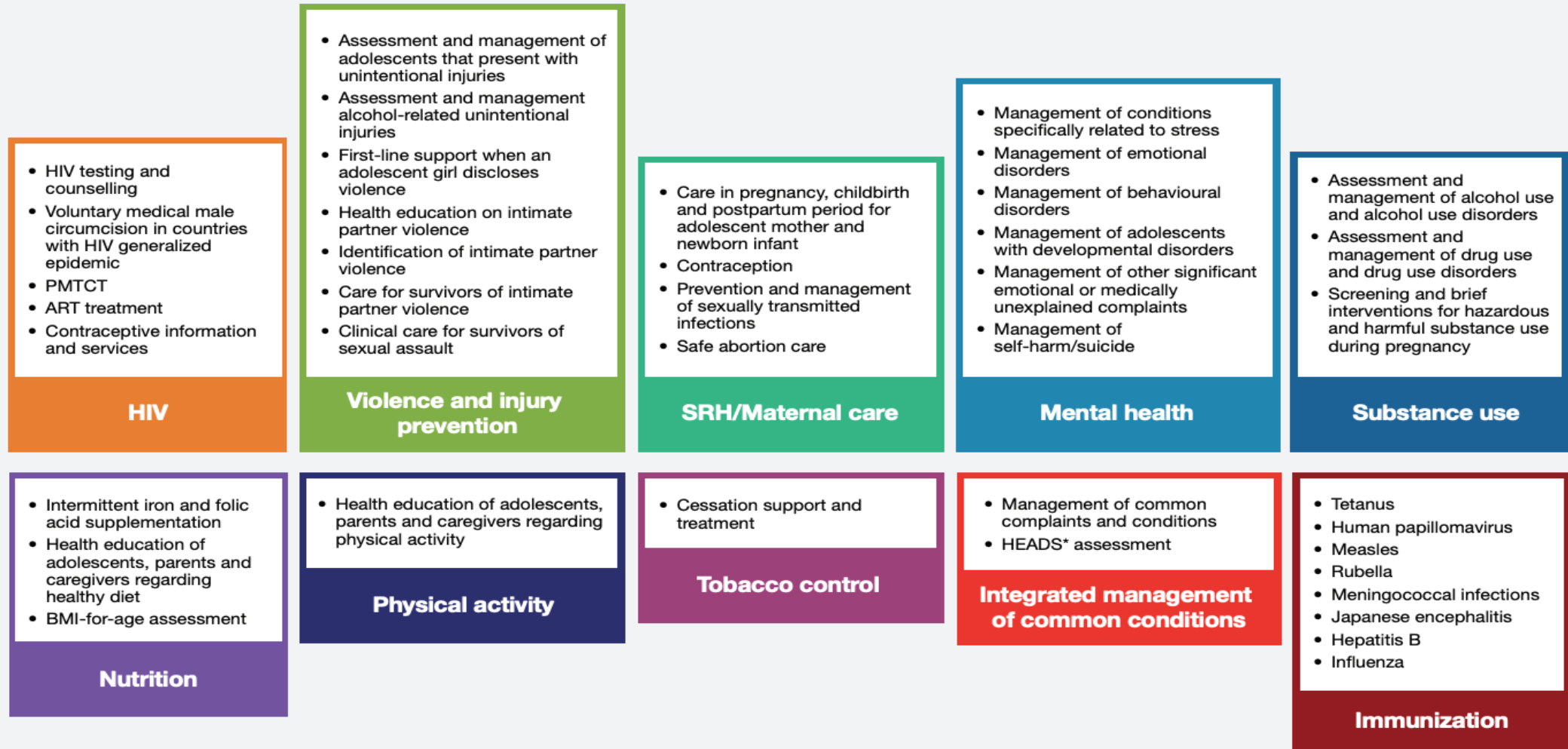
4. What do adolescents need to
grow & develop in good health ?



What adolescents need & why and are we providing them?

- **Information & skills**
(they are still developing)
- **Safe & supportive environment**
(they live in an adult world)
- **Health & counselling services**
(they need a safety net)





*HEADS is an acronym for Home, Education/Employment, Eating, Activity, Drugs, Sexuality, Safety, Suicide/Depression

Figure 4. Health services and interventions addressed in WHO guidelines

Child health



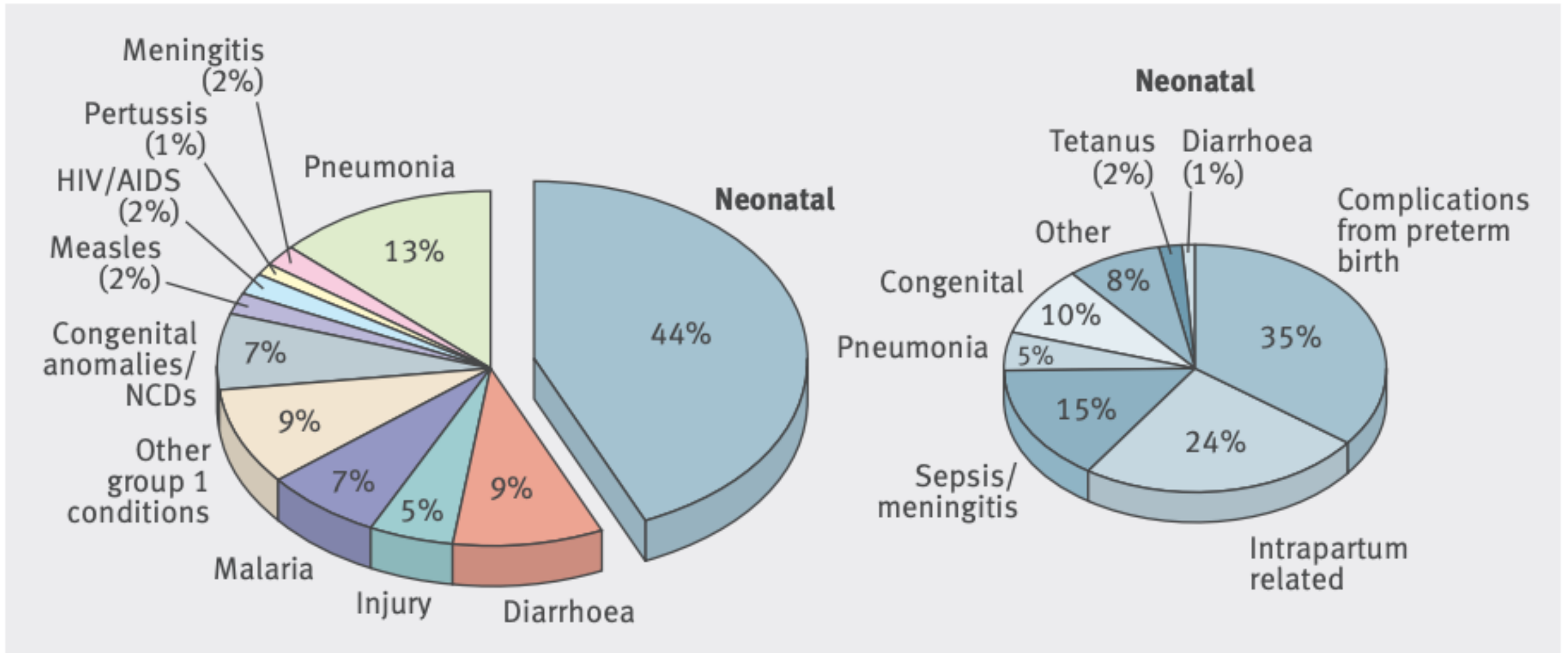
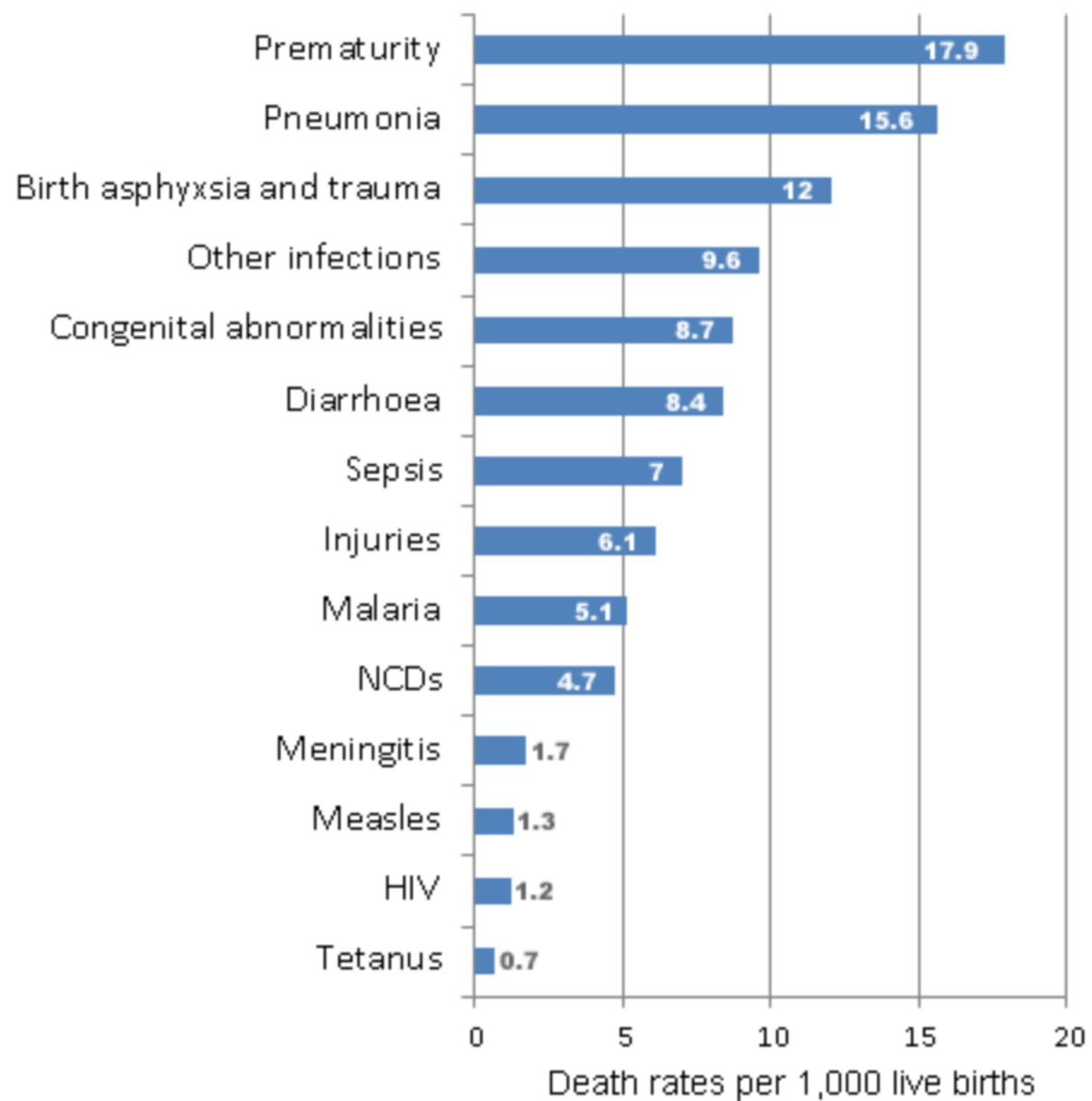


Fig 1 | Global causes newborn and under 5 mortality.^{5 10} NCD=non-communicable disease

Causes of death among children under 5 years, globally, 2016



Emerging Issues in child health

- Congenital anomalies
- Injuries
- Non-communicable diseases (chronic respiratory diseases, acquired heart diseases, childhood cancers, diabetes, and obesity)

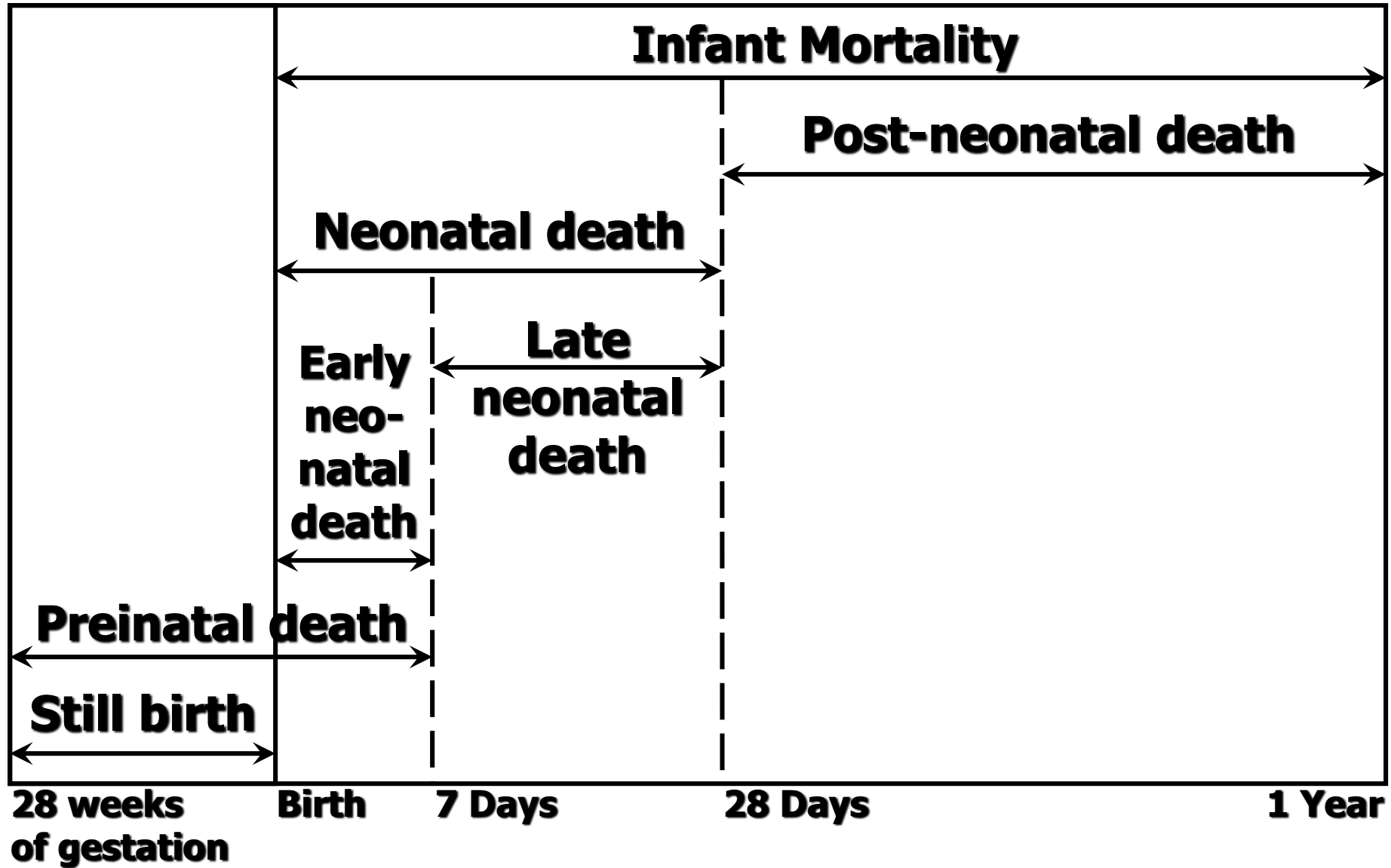
Global response

- **Sustainable Development Goal 3**
- **3.2**
- By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under-5 mortality to at least as low as 25 per 1000 live births

Indicators of Child Health

- Mortality in infancy and childhood
 - Prenatal mortality rate
 - Neonatal mortality rate
 - Infant mortality rate
 - Under 5 mortality rate

Mortality in and around infancy



BOX 1: SUMMARY OF ESSENTIAL NEWBORN AND CHILDHOOD HEALTH INTERVENTIONS

Adolescence and pre-pregnancy

- Family planning
- Preconception care*

Pregnancy

- Appropriate care for normal and high risk pregnancies

Childbirth

- Promotion and provision of thermal care for all newborns
- Promotion and provision of hygienic cord and skin care
- Promotion and support for early initiation and exclusive breast feeding within the first hour
- Newborn resuscitation

Postnatal period

- Antibiotics for newborns at risk and for treatment of bacterial infections
- Appropriate postnatal visits
- Extra care for small and sick babies (kangaroo mother care, treatment of infection, support for feeding, and management of respiratory complications)

Infancy and childhood

- Exclusive breast feeding for six months and continued breast feeding up to at least two years with appropriate complementary feeding from six months
- Monitoring and care for child growth and development
- Routine immunisation for common childhood diseases, including introduction of new vaccines against *Haemophilus influenzae*, *Pneumococcus*, and rotavirus
- Micronutrient supplementation, including vitamin A from 6 months
- Prevention and management of childhood malaria
- Prevention and management of childhood pneumonia
- Prevention and management of diarrhoea
- Case management of severe acute malnutrition
- Comprehensive care of children exposed to or infected with HIV

Health and multisector actions

- Ensuring food security for the family (or mother and child)
- Maternal education
- Safe drinking water and sanitation
- Hand washing with soap
- Reduced household air pollution
- Health education in schools

Global interventions:

- Breast feeding promotion
- Growth monitoring
- Immunization

Breast feeding recommendations (WHO)

- Early initiation of breastfeeding within 1 hour of birth.....skin to skin contact
- Exclusive breastfeeding for the first 6 months of life
- Introduction of nutritionally-adequate and safe complementary (solid) foods at 6 months together with continued breastfeeding up to 2 years of age or beyond



For newborns, every minute counts



Breastfeeding <1 hour after birth saves lives and provides benefits that last a lifetime.

The longer babies need to wait, the greater the risk.



Waiting 2-23 hours increases their risk of death* by **1.3 times**.



Waiting 1 day or more increases their risk of death* by **more than 2 times**.

*Risk of death is presented for the first 28 days of life and in comparison to those who initiated in <1 hour.

Figure 1. Visualization of the evidence about the importance of initiating breastfeeding within the first hour of life.

Source: Smith Emily R, et al. 'Delayed breastfeeding initiation and infant survival: A systematic review and meta-analysis.' PLoS ONE, vol, 12, no. 7, 25 July 2017.

Globally, only two out of five newborns are put to the breast within the first hour of life

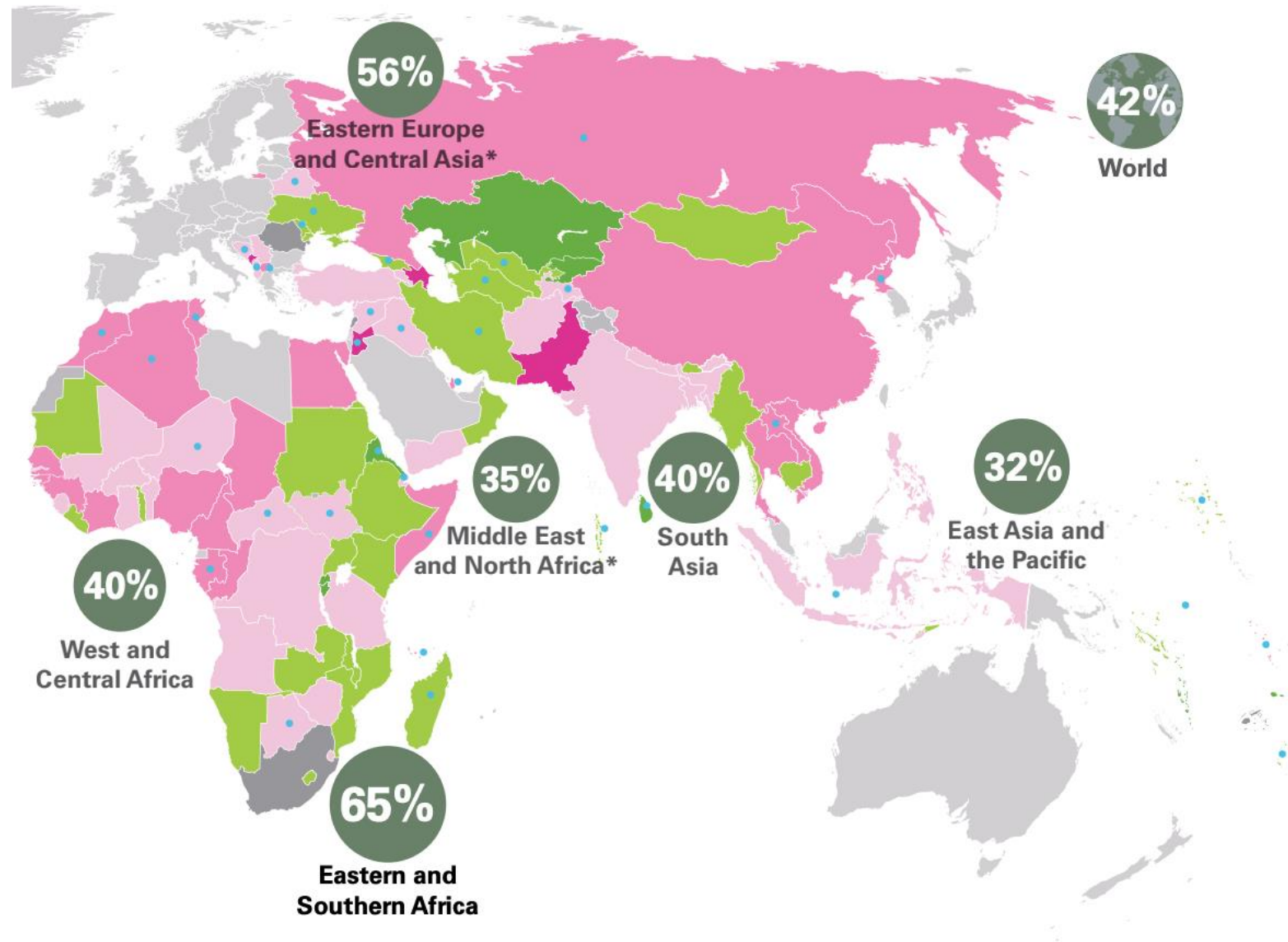


Figure 2. Per cent of newborns put to the breast within one hour of birth, by country and region, 2017.

Source: UNICEF global databases, 2018. For notes on the data, see Annex 3.

Breast feeding

Benefits to the infant	Benefits to the mother
<ul style="list-style-type: none">• bacteremia• diarrhea• respiratory tract infection• necrotizing enterocolitis• otitis media• urinary tract infection• late-onset sepsis in preterm infants• type 1 and type 2 diabetes• lymphoma, leukemia, and Hodgkins disease• childhood overweight and obesity	<ul style="list-style-type: none">• decreased postpartum bleeding and more rapid uterine involution• decreased menstrual blood loss and increased child spacing (lactational amenorrhea)• earlier return to pre-pregnancy weight• decreased risk of breast and ovarian cancers



thank
you