

Technical consultation on indicators of adolescent health

WHO, Geneva, Switzerland
30 September – 1 October 2014



GLOBAL REFERENCE LIST OF HEALTH INDICATORS FOR ADOLESCENTS (AGED 10–19 YEARS)



World Health
Organization



WHO/MCA/15.3

© World Health Organization 2015

All rights reserved. Publications of the World Health Organization are available on the WHO web site (www.who.int) or can be purchased from WHO Press, World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland (tel.: +41 22 791 3264; fax: +41 22 791 4857; e-mail: bookorders@who.int).

Requests for permission to reproduce or translate WHO publications – whether for sale or for non-commercial distribution – should be addressed to WHO Press through the WHO website (www.who.int/about/licensing/copyright_form/en/index.html).

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use.

Cover photographs: Hanalie Shermaine Albiso, Caio Gabriel Barreto Rodrigues, Jacob Jungwoo Han, Edith Kachingwe, Ammad Khan, Palash Khatri, Shreya Natu, Hauranitai Shulika, Camila Eugenia Vargas

Global reference list of health indicators for adolescents (aged 10–19 years)

Date revised:¹ 9 July 2015

	core indicators
	additional indicators
	indicators that require further development

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Health status	Impact	Adolescent mortality rate	Number of adolescent deaths per 100 000 adolescent population	Number of deaths among adolescents aged 10–14 and 15–19 in a specified year	Mid-year adolescent population (10–14 and 15–19 years) in a specified year	By sex, age	WHO Global Mortality Database United Nations Population Division	CORE. Useful for countries to have overall mortality in comparison with other ages.
Health status	Impact	Adolescent mortality rate from road traffic injuries (RTI) ^a	Number of adolescent deaths due to RTI per 100 000 adolescent population	Number of deaths due to RTI among adolescents aged 10–14 and 15–19 years	Mid-year adolescent population (10–14 and 15–19 years) in a specified year	By sex, age	WHO Global Mortality Database United Nations Population Division (denominator)	CORE. Major cause of death globally
Health status	Impact	Adolescent mortality rate from HIV/AIDS ^a	Number of adolescent deaths due to HIV/AIDS per 100 000 adolescent population	Number of deaths due to HIV/AIDS among adolescents aged 10–14 and 15–19 years	Mid-year adolescent population (10–14 and 15–19 years) in a specified year	By sex, age	UNAIDS WHO Global Mortality Database United Nations Population Division (denominator)	CORE. Major cause of death in some parts of the world
Health status	Impact	Adolescent mortality rate from suicide ^a	Number of adolescent deaths due to suicide per 100 000 adolescent population	Number of suicide deaths among adolescents aged 10–14 and 15–19 years	Mid-year adolescent population (10–14 and 15–19 years) in a specified year	By sex, age	WHO Global Mortality Database United Nations Population Division (denominator)	CORE. Major cause of death globally

¹ The revised list of proposed adolescent health indicators consists of 20 core, 7 additional and another 3 indicators requiring more development.

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Health status	Impact	Adolescent mortality rate from homicide	Number of adolescent deaths due to homicide per 100 000 adolescent population	Number of deaths due to homicide ² among adolescents aged 10–14 and 15–19 years	Mid-year adolescent population (10–14 and 15–19 years) in a specified year	By sex, age	WHO Global Mortality Database United Nations Population Division (denominator)	CORE. Important cause of death especially among boys. ICD coded data available for approximately 90 countries; estimates modelled for others
Health status	Impact	Adolescent maternal mortality ratio ^a	Number of maternal deaths among adolescents per 100 000 live births to adolescents	Number of maternal deaths from any cause related to or aggravated by pregnancy or its management (excluding accidental or incidental causes) during pregnancy and childbirth or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, among adolescents aged 15–19 years in a specified period	Number of live births to adolescents in the specified period	Disaggregate 15–19 years	Civil registration and vital statistics system DHS United Nations Maternal Mortality Estimation Inter-agency Group	CORE. Data availability is a problem.
Health status	Impact	Prevalence of depression among adolescents	Proportion of adolescents who report experiencing symptoms of depression in a specified period	1. Number of adolescents (> 15 years) who screen positive on the six depression questions in the WMH-CIDI screening tool 2. Number of adolescents aged 13–17 years in the GSHS who report having felt lonely and/or having felt so worried about something that they could not sleep (two separate items) during the past 12 months	1. Total number of respondents aged 15–19 years in the survey 2. Total number of respondents aged 13–17 years in the survey	By sex	World Mental Health Survey (data on adolescents currently available only for subsamples in six countries and were collected for research purposes) GSHS HBSC	CORE. To be further developed Depression is an important area to complement suicide mortality. Indicator requires development, particularly as a surveillance instrument. PHQ-2 is presently being examined, which is a two-item screening tool for depression used in primary care and validated for adolescents. More information is available in a separate document.

² Defined as injuries inflicted by another person with intent to injure or kill, by any means, ICD-10.

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Health status	Impact	Prevalence of HIV infection among adolescents ^a	Percentage of adolescents living with HIV in the general population	Number of adolescents aged 10–14 and 15–19 years living with HIV	Number of adolescents aged 10–14 and 15–19 years in the population	By sex, age	HIV surveillance systems HIV prevalence surveys	ADDITIONAL
Health status	Impact	Adolescent fertility rate ^a	Annual number of births to adolescents aged 15–19 years per 1000 girls in that age group	Number of live births to adolescents aged 15–19 years	Total number of girls aged 15–19 years	When possible, include girls < 15 years	Civil registration and vital statistics system DHS MICS United Nations Population Division (denominator)	CORE
Risk factors	Outcome	Prevalence of underweight among adolescents	Proportion of adolescents who are underweight	Number of adolescents whose BMI was 2 SDs below the median BMI according to WHO growth reference standards for the respective age and sex in the survey	Total number of adolescent respondents in the survey	By age, sex	DHS (15–19 years) GSHS HBSC	CORE. Identified as important in some countries. Specific ages may vary by survey population, and levels not comparable across surveys
Risk factors	Outcome	Prevalence of anaemia among adolescents ^b	Proportion of adolescents aged 15–19 years screened for haemoglobin levels who have a level < 12 g/dL (pregnant adolescents < 11 g/dL)	Number of adolescents aged 15–19 years with inadequate haemoglobin levels	Total number of adolescents aged 15–19 years screened for haemoglobin levels during a specified period	By sex	Population-based health surveys DHS	CORE. Identified as important in some countries
Risk factors	Outcome	Prevalence of overweight and obesity among adolescents ³	Proportion of adolescents who are overweight or obese	Number of adolescents aged 10–19 years whose BMI was ≥ 1 SD (overweight) and ≥ 2 SDs from BMI (obese) according to WHO growth reference standards for respective age and sex in the survey	Total number of adolescent respondents in the survey	By sex, age	GSHS DHS (15–19 years) NB. BMI ≥ 30.0 kg/m ² defined as obese in DHS HBSC (15–19 years)	CORE. This is an increasing problem throughout the world. Specific ages may vary by survey population, and levels not comparable across surveys. Measured height and weight rather than self-reporting

³ Indicator 13 of the Global Monitoring Framework on NCDs.

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Risk factors	Outcome	Early initiation of sexual activity	Proportion of adolescents who had sexual intercourse before age 15 years	Number of adolescents who report having had sexual intercourse before the age of 15 years in the survey	Total number of adolescent respondents in the survey	By sex, age	DHS MICS HBSC GSHS	CORE. Early initiation of sexual activity can have health and social consequences. Should be sensitive to heterosexual and homosexual experiences.
Risk factors	Outcome	Condom use at most recent sex among adolescents with multiple sexual partnerships in past 12 months ^a	Proportion of adolescent males and females aged 15–19 years who have had more than one sexual partner in the past 12 months who report use of a condom during their most recent sexual intercourse	Number of adolescents aged 15–19 years who have had more than one sexual partner in the past 12 months who report the use of a condom during their most recent sexual intercourse	Total number of adolescent respondents aged 15–19 years who have had more than one sexual partner in the past 12 months	By sex, age Also adolescents aged 10–14 years, when included in a survey	DHS Health facilities and especially specialized clinics, e.g. for adolescents, HIV, STI, male health, could collect this information routinely.	CORE. Measures the extent to which condoms are used by people who are likely to have higher-risk sex. Trends should be interpreted with changes in percentages of adolescents who have had more than one sexual partner within the past 12 months.
Risk factors	Outcome	Prevalence of intimate partner violence among adolescents ^a	Percentage of girls aged 15–19 years who have ever had an intimate partner, who reported experiencing physical and/or sexual violence by an intimate partner in the past 12 months	Number of girls aged 15–19 years who have ever had an intimate partner, who report experiencing physical and/or sexual violence by an intimate partner in the past 12 months	Total number of girls aged 15–19 years surveyed who have ever had an intimate partner		DHS Household surveys with a module on violence	CORE. Identified as a gap in the consultation and a concern in many countries
Service coverage	Outcome	Demand for family planning satisfied with modern methods ^a	Percentage of girls aged 15–19 years who are sexually active, whose need for family planning is satisfied with modern methods	Number of girls aged 15–19 years whose family planning demand is satisfied by modern methods	Total number of girls aged 15–19 years who demand family planning		DHS MICS Population-based surveys	CORE. Identified as a gap during the consultation
Service coverage	Outcome	HIV testing among adolescents	Proportion of adolescents who had an HIV test in the past 12 months and received the results of the latest test	Number of adolescents who had an HIV test in the past 12 months and received the results of the latest test	Total number of adolescent respondents in the survey	By sex, age (10–14, 15–19 years)		ADDITIONAL. As relevant to country context. Age 10–14 years also recommended

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
		Adolescents living with diagnosed HIV infection ^c	Percentage of adolescents living with HIV who have had a positive test for HIV	Number of adolescents living with diagnosed HIV infection who have received their results	Number of adolescents living with HIV	By sex, age 5–14, 15–19 years	<p>Estimates should be made from the best available data in the setting.</p> <ol style="list-style-type: none"> 1. Population-based survey numerator and denominator: Surveys with HIV testing and questions on awareness of HIV status DHS/AIDS: Proportion of people living with HIV who report having had a test in the past 12 months, as a conservative proxy 2. Programme data and estimated number living with HIV: Numerators: Number of newly identified HIV-positive cases minus estimated deaths; if not available, estimates based on triangulated data from programme records and death estimates, as well as population-based surveys with HIV testing Denominators: (1) modelling, e.g. Spectrum AIM; (2) estimated number of people living with HIV extrapolated from national surveys 	<p>ADDITIONAL. The proportion of people living with HIV who know their HIV status must be determined, as this is the entry point to the continuum of care.</p> <p>Disaggregated estimates can reveal gaps in the diagnosis of HIV infection.</p> <p>The proportion of adolescents living with HIV who know their HIV status should also be globally reported for target populations when these data are collected as national indicators, including: the percentage of key populations and of pregnant women who have been tested in the past 12 months and know their HIV status.</p>

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Service coverage	Outcome	Antiretroviral therapy (ART) coverage of adolescents ^c	Percentage of adolescents living with HIV who are receiving ART	Number of adolescents living with HIV who are currently receiving ART	Number of adolescents living with HIV	By sex, age 10–19 years	Programme records, e.g. ART register Model-based estimates, e.g. Spectrum AIM	ADDITIONAL. Recommended by WHO for use in countries with generalized HIV epidemics
Service coverage	Outcome	New patients on ART ^c	Number of adolescents living with HIV who initiated ART within the past 12 months	Number of adolescents living with HIV who initiated ART within the past 12 months	Not applicable	Sex, age (< 1, 1–4, 5–9, 10–14, 15–19 years)	Programme records, e.g. ART register Model-based estimates, e.g. Spectrum AIM	ADDITIONAL. Recommended by WHO for use in particular country contexts
Service coverage	Outcome	HIV load suppression in adolescents ^c	Proportion of adolescents living with HIV and on ART who have virological suppression 12 months after initiating treatment	Number of adolescents living with HIV who initiated ART up to 12 months before the start of the reporting period and who have a suppressed viral load (i.e. ≤ 100 copies/mL) at 12 months after initiating ART	Number of adolescents aged 10–14 and 15–19 years living with HIV who initiated ART ≤ 12 months before the start of the reporting year and have had a CD4 test	By sex, age (< 10, 10–14, 15–19 years)	Facility reporting system	ADDITIONAL. Still under discussion with WHO for use in particular country contexts
Risk factor	Outcome	Current tobacco use among adolescents	Proportion of adolescents who have used any tobacco product in the past 30 days	Number of adolescents who have used any tobacco product in the past 30 days	Total number of adolescent respondents in the survey	By sex, age	GSHS GYTS DHS	CORE. Specific ages may vary by survey population
Risk factor	Outcome	Current alcohol use among adolescents	Proportion of adolescents who had at least one alcoholic drink on one or more days during the past 30 days	Number of adolescents who had at least one alcoholic drink on one or more days during the past 30 days (in the survey)	Total number of adolescent respondents in the survey	By sex, age	HBSC GSHS	CORE. As appropriate in the national context; may not be appropriate in countries in which alcohol consumption is illegal. An alcoholic drink is a glass of wine, a bottle of beer, a small glass of liquor or a mixed drink. Important for setting age restrictions on alcohol purchase. Related to other indicators, such as RTI

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Risk factor	Outcome	Current cannabis use among adolescents	Proportion of adolescents who report use of cannabis in the past 30 days	Number of adolescents who report use of cannabis one or more times in the past 30 days (in the survey)	Total number of adolescent respondents in the survey	By sex, age	HBSC GSHS	ADDITIONAL. Early use of cannabis is likely to lead to persistent use, possibly with cognitive and health consequences. Specific ages may vary by survey population.
Risk factor	Outcome	Prevalence of insufficient physical activity among adolescents ^{4 a}	Proportion of adolescents who report not meeting recommended levels of physical activity	Number of adolescents who report not having engaged in 60 min of moderate-to-vigorous physical activity per day in the past 7 days (in the survey)	Total number of adolescent respondents in the survey	By sex, age	HBSC GSHS DHS	CORE. Specific ages may vary by survey population
Risk factor	Outcome	Knowledge about HIV transmission among adolescents ^b	Proportion of adolescents who correctly identify the two major ways of preventing sexual transmission of HIV	Number of surveyed adolescents who, in response to prompting correctly identify using condoms and having sex with only one, faithful, uninfected partner as means of protection against HIV infection	Total number of adolescent respondents in the survey	By sex	DHS MICS AIS	CORE. Note that data on this indicator are often used as a proxy for coverage of sexuality education.
Risk factor	Outcome	Parental connection with adolescents	Proportion of adolescents who report that their parents or guardians understand their problems or worries most of the time	Number of adolescents who report that, in the past 30 days, their parents or guardians understood their problems or worries most of the time (in the survey)	Total number of adolescent respondents in the survey	By sex, age	HBSC GSHS	CORE. Specific ages may vary by survey population

⁴ As per NCD Global Monitoring Framework: Indicator Definitions and Specifications.

Domain	M&E Framework	Indicator	Definition	Numerator	Denominator	Disaggregation	Potential sources of data	Comments
Risk factor	Outcome	Parental regulation of adolescents	Proportion of adolescents who report that their parents or guardians really know what they are doing in their free time	Number of adolescents who report that, in the past 30 days, their parents or guardians really knew what they were doing in their free time (in the survey)	Total number of respondent adolescents aged 13–17 years in the survey	By sex, age	HBSC GSHS	CORE. Specific ages may vary by survey population
Health systems	Output?	Health service use by adolescents	Proportion of adolescents who used a specified package of health services in the past 12 months	Number of adolescents who used the specified package of health services in the past 12 months (in the survey)	Total number of adolescent respondents in the survey	By sex	Population-based surveys	To be developed further. Consider defining the package, e.g. marker conditions and interventions such as vaccination, HIV testing, contraceptive provision, management of mental health conditions
Health systems	Input?	Trained health service providers	Proportion of facilities (by country) with health service providers trained in the provision of adolescent health services in the past 2 years	Number of facilities in the country with at least one health service provider trained in the provision of adolescent health services in the past 2 years (in the survey)	Total number of facilities surveyed in the country	None	WHO SARA survey	To be further developed. Considered a poor proxy for good-quality health service provision, although it is measured and used for this purpose. Other attributes of good-quality services could be considered.

^a Indicator is in the *Global reference list of core indicators* (2014).

^b Indicator appears in the appendix to the *Global reference list of core indicators* (2014), referred to as ‘additional core indicators’; disaggregation by age is recommended.

^c As per the *Consolidated strategic information guidelines for HIV in the health sector* (2015).

For more information please contact:

Department of Maternal, Newborn, Child and Adolescent Health (MCA)

World Health Organization

20 Avenue Appia

1211 Geneva 27

Switzerland

Tel: + 41 22 791 32 81

Fax: + 41 22 791 48 53

E-mail: mncah@who.int

Website: www.who.int/maternal_child_adolescent

