Annex 5A. Characteristics of Important International Data Sources Used in Adolescent Health Indicators

Supplemental material for: Patton, G.C., P. Azzopardi, E. Kennedy, C. Coffey, and A. Mokdad. 2017. "Global Measures of Health Risks and Disease Burden Adolescents." In *Disease Control Priorities* (third edition), Volume 8, *Child and Adolescent Health and Development*, edited by D.A.P Bundy, N. de Silva, S. Horton, D.T. Jamison, and G.C Patton. Washington DC: World Bank.

Data set	Coverage	Availability	Target	Methodology	Methodological considerations
Global mortality					
WHO (World Health Organization) mortality database	Data from 1950; for 2005: 72 countries; for 2006: 51 countries; some subnational coverage (Hong Kong SAR, China)	80 countries with at least some recent years and with more than 70 percent ascertainment of deaths	Data disaggregated into ages 10–14, 15–19, and 20–25, by sex	Underlying cause of death in accordance with International Classification of Diseases from national death registers	Accuracy of cause of death classification may vary between countries; both ICD9 and ICD10 systems are still in use, which limits the scope for combining data; African countries are seriously underrepresented; ascertainment is poorer in rural regions, and misspecification arises from unspecified causes of death
Youth focused					
Health Behaviour in School-Aged Children (HBSC)	Commenced in 1982; survey was conducted in 35 European countries in 2001–05 and 38 in 2010 (available in	Data restricted to member country use for three years, but available for external use after that, subject to	School attendees ages 11, 13, and 15	Nationally representative samples; sample size approximately 1,500 for each age group (4,500 per survey); mainly two-stage sampling by school and classroom	Standardized questionnaire with a core set of questions covering background factors, individual and social resources, health risk behaviors (physical activity, cigarette, alcohol, cannabis use, sexual behavior,

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	2012); 39 countries surveyed since 2000	agreement of the investigator team		unless single-stage sampling of classes is possible	violence and bullying, injuries) and health risk states, life satisfaction, self-reported health, body mass index; optional thematic modules are available in addition to the core questionnaire
Global School Health Survey (GSHS)	Initiated in 2003 and currently has data on 97 mostly LMICs	Unrestricted public access to core modules after two years; extended modules are available, subject to country's permission	Ages 13–15 years	Representative two-stage sampling by school and classroom; usually national but sometimes restricted to urban centers or specific districts; classroom data collection supervised by trained personnel and, as far as possible, unknown to the participants; generally passive consent; minimum acceptable sample of 1,500; surveys are rejected if coverage is less than 60%	Good ascertainment and quality control; modules are designed to measure risks for adolescent causes of death and disability as well as noncommunicable diseases; school-based survey, but absenteeism and nonenrollment rates may be high in some countries; between-country variation in choice of modules (alcohol use, sexual behavior); limited surveys in European countries due to coverage by HBSC
Global Youth Tobacco Survey (GYTS)	120 countries	Data are available only as weighted % by sex of binary recodes	Ages 13–15	Same sampling procedure as GSHS, often conducted in tandem but different schools sampled	Same comments apply here as to GSHS concerning the methodology and out-of-school population
Youth-inclusive general data					

Data set	Coverage	Availability	Target	Methodology	Methodological considerations
Demographic and Health Surveys (DHS), including the Key Indicators Survey (KIS)	Since 1984, 240 DHSs in 87 LMICs and countries with HIV/AIDS seroprevalence greater than 30	Data available at http://www.measuredhs.com/	Households with women ages 15–49; some countries survey men ages 15–59	Standard DHSs have large sample sizes (usually 5,000–30,000 households) and typically are conducted every five years to allow comparisons over time. Interim DHSs collect information on key performance indicators and may not include data for all impact evaluation measures (mortality); they are conducted between rounds of standard DHSs and have shorter questionnaires. Although nationally representative, samples are smaller (2,000–3,000 households)	DHSs provide data on a wide range of indicators on population, sexual and reproductive health, and nutrition. KISs collect data for programs involved in population and health activities in LMICs, especially data for small areas—regions, districts, catchment areas—that may be targeted by an individual project; can be included in nationally representative surveys
Multiple Indicator Cluster Survey (MICS)	Since 1995, MICSs have been conducted in more than 100 LMICs; 40+ countries to conduct surveys in the current round of MICS (round 4, 2009–11)	Data from previous rounds available from Child Info (www.childifno.org); data from round 4 will be available in 2012	Households with women of reproductive age and children under five; several modules target young people (ages 10–24) and collect detailed information on	MICS methodology was developed in the mid-1990s to be compatible with DHS, AIS, and Reproductive Health Surveys (RHSs). MICS rounds used to be at five-year intervals, but now are three yearly; questionnaires are	MICS questionnaires can be adapted to each country's particular needs; more than 100 indicators covered (nutrition, child health, mortality, child protection, education, HIV/AIDS); new modules cover alcohol and tobacco use, life satisfaction, access to media, postnatal care

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			ages 15–24; a male questionnaire is also available	developed through consultations with relevant experts from United Nations organizations, interagency monitoring groups, and DHS	
STEPS survey, WHO	STEPwise approach to chronic disease risk factor surveillance	Data not publicly available, but cover 100 countries with data available for ages 15–24 in around half of these	Ages 25–65, but half of countries include ages 15–65	Household survey using census methods; STEPS covers chronic disease risk factors, including cigarette smoking, alcohol use, physical activity; physical measures and blood pressure; as well as biochemical markers, including blood glucose and cholesterol	Countries choose the modules, so coverage may not be comprehensive; assessment may not be completely confidential, with a possibility of reporting biases for sensitive areas such as alcohol and tobacco use
Global Mental Health (GMH) Survey	30 participating countries	Data available to certified users	Ages 18–44	Aims for accurate cross-national prevalence and correlates of mental, substance, and behavioral disorders; most GMH surveys based on stratified multistage clustered area probability household samples; usually samples selected from census area data	Reliability and validity of assessments extensively tested in HICs; studies of cross-national comparability of the validity of the GMH-CIDI (composite international diagnostic interview) are under way; some small sample sizes and wide age range could result in subgroup instability particularly with age; disaggregation measures: WMH-CIDI used to assess

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					and treat anxiety, mood, other impulse control disorders
HIV/AIDS seroprevalence surveillance, WHO	Reports available for 168 countries for 2003 and 2005	Summary data available	Estimates of number of (1) HIV/AIDS infections in each of the major high-risk groups and (2) HIV/AIDS infections in population ages 15–49; estimates for children under 15	Methodology varies according to the type of epidemic: generalized, concentrated, or low-level; data from routine testing (tuberculosis patients), sentinel serosurveillance (pregnant women as a proxy for the general population) and periodic surveys (from transmission initiatives or high-risk groups); Delphi method used where no data available	Ethical challenges related to anonymous and unlinked surveillance; data from voluntary counseling and testing services and from blood banks subject to bias; sex ratio of samples varies in different regions
AIDS Indicator Survey (AIS)	Prevalence estimates available for 27 countries, most recently in 2009	Data available to registered researchers	Ages 15–49 in selected households; data aggregated by sex for ages 15–24 and 25+ and by urban-rural residence	Two-stage cluster sample survey, nationally representative and for urban-rural areas; minimum of 60 sample points in both urban and rural domains, for a total of 120 clusters; second-stage selection of average of 25	Provides timely, reasonable cost information required for meeting HIV/AIDS program reporting requirements, while ensuring comparability of findings across countries and over time; main topics are demographic and socioeconomic measures, HIV/AIDS knowledge,

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				households per cluster, total of approximately 3,000 households; designed to provide comparable data with DHS, MICS, and RHS	attitudes, and behavior; focus on youth ages 15–24 and on prevalence of orphanhood and vulnerability of children, care, and support
Other data sources					
International Labour Organization (ILO)	Broad international coverage	Data available through the KILM software	Employment statistics generally derived from labor workforce surveys and censuses; some data from official government statistics	The methods of labor workforce surveys are generally standardized and provide the highest-quality data on employment; census data are generally less detailed	Estimates of employment based on labor workforce surveys are comparable; some limits to comparability with census data; official estimate not based on these methods are less reliable
UNESCO, Institute for Statistics (UIS)	Data collected from 1999 onward for more than 200 countries from member states and international organizations	Data available	Schools and their enrollment rates; a standardized assessment protocol has been developed by UNESCO	The UIS collects education statistics annually through the Department of Education at the national level; information collected on educational programs, access, participation, progression, completion, internal efficiency, and human and financial resources	The questionnaires are standardized; classifications and measures are regularly reviewed and modified by the UIS to address emerging statistical issues and improve the quality of data

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World Bank	228 countries with populations greater than 100,000 in 2000	Data available	Not known	Data from censuses, surveys, and civil registration; fertility indicators for major areas and subregions are weighted averages based on the number of countries with data; total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship, except for refugees	Population, geographic, and economic indicators, fertility rate, immunization rates, school enrollment, literacy rates, childhood malnutrition
National surveys	Countries or indicators not included in international data collection efforts	Variable and sometimes restricted to membership of organization	Corresponding to indicator target age	Only nationally representative surveys	Examples include Australia: 2007/08 National Health Survey, 2007 National Drugs Strategy Household Survey; New Zealand: Youth '07 Survey; Brazil: National Survey on the Patterns of Alcohol Consumption in the Brazilian Population 2007. No process for international coordination or compilation of data across these surveys

Note: LMIC = low- and middle-income country; HIV = human immunodeficiency virus; AIDS = acquired immunodeficiency syndrome