Sampling design and methodology of the Violence Against Children and Youth Surveys

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ABSTRACT

Introduction Globally 1 billion children are exposed to violence every year. The Violence Against Children Surveys (VACS) are nationally representative surveys of males and females ages 13–24 that are intended to measure the burden of sexual, physical and emotional violence experienced in childhood, adolescence and young adulthood. It is important to document the methodological approach and design of the VACS to better understand the national estimates that are produced in each country, which are used to drive violence prevention efforts.

Methods This study describes the surveys' target population, sampling design, statistical considerations, data collection process, priority violence indicators and data dissemination.

Results Twenty-four national household surveys have been completed or are being planned in countries across Africa, Asia, the Caribbean, Central and South America, and Eastern Europe. The sample sizes range from 891 to 7912 among females (72%–98% response rate) and 803–2717 among males (66%–98% response rate). Two face-to-face interviews are conducted: a Household and an Individual Questionnaire. A standard set of core priority indicators are generated for each country that range from prevalence of different types of violence, contexts, risk and protective factors, and health consequences. Results are disseminated through various platforms to expand the reach and impact of the survey results.

Conclusion Data obtained through VACS can inform development and implementation of effective prevention strategies and improve health service provision for all who experience violence. VACS serves as a standardised tool to inform and drive prevention through high-quality, comprehensive data.

INTRODUCTION

Violence against children and youth is pervasive, destructive and costly. A recent study estimated that globally 1 billion children are exposed to violence every year[1] and interpersonal violence is one of the top five leading causes of death for children.[2] Violence against children and youth has devastating consequences, from the impact on the individual to the cumulative societal impact. Research has shown that early childhood exposure to violence can affect brain development and increase susceptibility to mental and physical health problems that can continue into adulthood including anxiety or depressive disorders, cardiovascular health problems, and diabetes.[3]

All violence against children and youth is preventable, and reliable information is needed to develop and implement effective prevention strategies. Violence Against Children Surveys (VACS) are nationally representative surveys of males and females ages 13–24 years that are intended to measure the burden of sexual, physical and emotional violence experienced in childhood, adolescence and young adulthood. These data can inform development and implementation of effective prevention strategies and improve health service provision for all who experience violence. VACS generate high-quality data on childhood prevalence and past-year incidence of physical, emotional and sexual violence among males and females. VACS also measure contextual information about violent occurrences as well as risk and protective factors for victimisation and perpetration, health and social consequences of violence against children and youth, knowledge and use of health services available for those who have experienced violence and barriers to assessing such services.

Twenty-four surveys have been completed or are being planned in countries across Africa, Asia, the Caribbean, Central and South America, and Eastern Europe. The Centers for Disease Control and Prevention (CDC) partnered with the The United Nations International Children's Emergency Fund (UNICEF) in planning the initial VACS for Swaziland in 2007. In 2010, these surveys were the impetus for the development of Together for Girls (Together for Girls partners with organisations including: CDC, UNICEF, Joint United Nations Programme on HIV and AIDS (UNAIDS), UN Women, World Health Organization (WHO)/Pan American Health Organization (PAHO), United Nations Population Fund, the Office of the Special Representative of the Secretary-General on Violence Against Children, U.S. President's Emergency Plan for AIDS Relief (PEPFAR), the U.S. Agency for International Development (USAID), Global Affairs Canada, Becton, Dickinson and Company, Cummins & Partners, the CDC Foundation, and the Global Partnership to End Violence Against Children), a robust public–private partnership that partners with host country governments to implement the survey and respond to the findings. Across all surveys, VACS use consistent protocols, methodology and questionnaires so that prevalence of violence can be compared. However, each country may make locally appropriate adaptations. As the VACS expand in scope and reach, it is important to document key sampling design and methodological issues, as well as to better understand the national estimates that are produced in each country, which are used to drive violence prevention efforts.

OVERVIEW OF THE VACS

VACS are cross-sectional household surveys of females and males aged 13–24 years designed to yield nationally representative data on indicators

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of emotional, physical and sexual violence. The main goal is to describe the magnitude and nature of violence against children and youth, examine health consequences, identify potential risk and protective factors, assess utilisation of services, as well as help guide prevention programmes and policies. To date, 24 surveys in 22 countries around the world have been implemented, with new countries being added annually. Sixteen surveys have been completed in the following 15 countries: Botswana, Cambodia, El Salvador, Haiti, Honduras, Kenya, Laos, Malawi, Nigeria, Rwanda, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe (one survey completed in 2011, and a repeat survey completed in 2017). Eight surveys are currently planned or in progress: Colombia, Cote d'Ivoire, Guatemala, Lesotho, Moldova, Mozambique and Namibia, and a repeat survey is planned in Kenya.

Health professionals, including government officials, researchers and public health advocates, as well as the general public, are currently using VACS datasets to understand the burden of violence against children and the contexts in which it occurs in order to develop prevention strategies, policies and programmes. This is the first comprehensive summary of the VACS methodology. This paper describes the target population, three-stage sample design, weighting procedures, response rate calculations, data collection process, priority violence indicators and data dissemination strategies.

STUDY POPULATION

Eligible individuals are non-institutionalised females and males 13–24 years in a sampled household. Individuals are excluded if they are (1) non-citizens who are visiting the country for a few weeks; (2) residents of refugee camps; (3) citizens in the military who indicate that their usual place of residence is either on or off of a military base; (4) citizens who are institutionalised, including people residing in hospitals, prisons, nursing homes and other such institutions; or (5) persons who have mental or physical disabilities that impair communication. Although children living in institutions may have a high risk of abuse, they are excluded from the VACS because (1) they comprise a very small percentage of the population and would not significantly affect the national estimates, (2) they may have mental or physical disabilities that may limit their ability to provide consent or understand questions asked in the VACS and (3) institutions were not on the sampling frames used to draw households.

SAMPLE DESIGN

The sample is selected using a multistage, geographically clustered design to ensure adequate coverage of the entire target population while simultaneously minimising data collection costs. The three-stage sample design consist of the following steps: (1) geographic areas within each country are randomly selected, (2) a complete list of all households within each selected area are constructed and a sample of households are randomly selected from each list, and (3) one individual is randomly selected from each selected household for interview. This type of design assumes that each selected survey-eligible individual can be linked to one, and only one, household in the country.

In the first stage, primary sampling units are selected, which are the basis of the sampling frame and are formed from the most recent population census data, such as official country-defined enumeration areas (EAs) taken usually from the country master sample for surveys. EAs are the smallest geographical units for the collection of census data. At least 100 EAs each are selected for females and males to ensure adequate geographic coverage of a country. A split sample approach, in which the survey for females is conducted in different EAs than the survey for males, serves to protect the confidentiality of respondents and eliminate the chance that a perpetrator and victim of sexual violence would both be interviewed.

After the geographic areas are selected, a mapping and listing team visits all of the randomly selected EAs to map and list all structures within each EA. This method produces a household sample frame that is current and beneficial for areas that are experiencing significant growth. Once a household sample frame is created, clusters of households are selected in each EA using systematic sampling with a random start.[4] For each household selected, interviewers identify the head of household or an individual in the household who is 18 years or older in order to introduce the study and to determine eligibility of household members to participate in the study. Then, the interviewer completes a list of all members of the household (by sex and age) and all eligible members of the household (females or males 13–24 years of age) to determine eligibility for the Individual Questionnaire.

In the last stage of selection, one eligible resident (female or male depending on the selected EA) is randomly selected from the list of all eligible respondents 13–24 years of age in each household. If the eligible individual randomly selected to complete an Individual Questionnaire is temporarily away from the household at the time of selection, then a new time is set and up to three return visits are made. These individuals are not replaced by another eligible member of the household.

Table 1 Sample sizes and response rates for the Violence against Children Surveys

		Females		Males	
Country	Year of implementation	Respondents (n)	Overall response rate (%)	Respondents	Overall response rate (%)
Swaziland	2007	1244	96.3	*	*
Tanzania	2009	1968	93.3	1771	92.5
Kenya	2010	1277	84.8	1456	80.4
Zimbabwe	2011	1062	80.4	1348	82.0
Haiti	2012	1457	85.6	1459	82.0
Cambodia	2013	1121	91.0	1255	89.9
Laos	2014	988	92.9	923	90.2
Malawi	2014	1029	84.4	1133	83.4
Nigeria	2014	1766	93.7	2437	93.7
Zambia	2014	891	80.9	928	80.8
Uganda	2015	3159	76.1	2645	74.4
Rwanda	2015	1032	97.9	1180	98.1
Botswana	2016	5329	90.3	2717	90.6
Zimbabwe II	2017	7912	72.0	803	65.7
Honduras	2017	2537	83.8	2659	74.6
El Salvador	2017	1056	78.0	1380	75.0
Cote d'Ivoire	2018	1200	92.4	1208	87.7
Columbia	2018	†	†	†	†
Guatemala	2018	†	†	†	†
Lesotho	2018	†	†	†	†
Moldova	2018	†	†	†	†
Mozambique	2018	†	†	†	†
Namibia	2018	†	†	†	†
Kenya II	2019	†	†	†	†

*Data not collected for males in Swaziland.
†Data collection planned or in process.

Statistical adjustments are made to correct for eligibility of selection and non-response.

STATISTICAL METHODS

The sample size for each country VACS is calculated based on an estimated prevalence of childhood sexual violence from existing data in each country (ie, the Demographic and Health Survey or other surveys), relative standard error and margin of error. Childhood sexual violence is used as the basis of power estimations because it is typically the least prevalent type of violence. This yields sample sizes that are more likely to be powered to detect and report results for the least prevalent violence type. The effective sample size is bolstered for the cluster design of the survey and adjusted for non-response, including household and individual response rates. The sample size for the VACS is robust, with a range of 891-7912 females and 803-2717 males in each country (table 1).

Weighting is used to obtain representative parameter estimates from survey data. It accounts for the probability that each respondent came into the sample, the differential effects of non-response and imperfect sampling frames that affect the composition of the sample.[5] Final sample weights are calculated by (1) determining base weights to account for all steps of random selection that led to the sample of population members, (2) adjusting for non-response and (3) adjusting the final set of adjusted weights to the distribution of the population.

Finally, response rates are calculated using formulas from the American Association of Public Opinion Research.[6] These rates are computed for the entire sample (both household and individual). Estimated individual-level eligibility rates are calculated separately for females and males of responding households. The final response rate is the multiplication of household and individual-level response rates. The response rates for the VACS range from 72.0% to 97.9% among females and 65.7% to 98.1% among males (table 1).

DATA COLLECTION

The VACS consist of two face-to-face interviews: the Household Questionnaire and the Individual Questionnaire. The Household Questionnaire is completed by the head of household and collects information on the social status of the household, such as house characteristics, house construction materials and family member belongings. The Individual Questionnaire is completed by the selected respondent and includes questions about background characteristics, physical, emotional and sexual violence, potential health outcomes of violence, and risk and protective factors for violence.

Field staff are divided into teams of four to six, with one team leader and three to five interviewers. Prior to data collection, field staff receive extensive training on survey protocol procedures, ethical aspects of research and electronic data collection.[7] The roles of team lead include supervising the field team and coordinating survey logistics, identifying sampled houses and assigning houses to interviewers, and submitting the survey data to the data centre. The data centre is a secured location in each country where the data are stored. The roles of the interviewers are to obtain informed consent, conduct the Head of Household and respondent interviews, provide a list of services to all respondents and initiate the response plan according to protocol.

The standard VACS protocol involves obtaining informed consent or assent from all participants using guidelines from WHO.[8] The graduated informed consent process used by VACS is described in detail in Chiang *et al* 2017. Briefly, for participants who are minors, permission to interview the child is obtained from a parent or guardian and assent is obtained from minor participants. In accordance with accepted practices for conducting research with children,[9] parents and guardians are informed their child will be asked sensitive question, but not the full nature of the survey. This is done to protect survey participants from retaliation with regards to participation in a violence survey. If permission is given by a parent or guardian, the minor participant is asked to give assent to participate in a study on health and life experiences and is informed that the interview has to be conducted in a private place. A private place can be inside or outside the home where the respondent cannot be heard by anyone else. After a private space is identified, the interviewer reads a full consent to the respondent that informs him or her that there are questions about violence and other sensitive topics. If consent or assent is not provided at any time, the survey team leaves the household.

A critical part of adapting the core VACS protocol for each country involves developing a response plan to identify and address the needs of respondents and link them to services. Although it may vary slightly from country to country based on each country's ethical considerations and priorities, the following provides an overview of the main components of the response plan. The response plan is tiered based on what violence the respondents may or may not have disclosed. In the first tier, based on WHO ethical and safety recommendations for researching domestic violence against women, all respondents ages 13 to 24 years are offered a list of local services regardless of whether they disclosed any violence.[8] The list of services provides a comprehensive summary of free local resources and services, including youth-friendly services that are specific to the geographic area where the individuals are interviewed. The second tier of the response plan is to offer respondents a direct referral to a counsellor or social worker if they meet specific criteria such as (1) becoming upset during the interview, (2) reporting feeling unsafe in their current living situation, (3) experiencing violence in the last 12 months, (4) being under the age of 18 and trading sex for money or goods, (5) requesting services for violence, regardless of violence disclosure, and/or (6) reporting being in immediate danger. The third tier of the response plan is for respondents in acute need. For any case where a respondent is in immediate danger, the response is tailored to his or her specific needs and linked to help as quickly as possible, and within 24 hours. In general, direct service referrals are only initiated if the respondent agrees. The referral process is adapted and implemented depending on the existing country administrative structure and legal framework. The VACS response plan addresses the challenges and ethical considerations in implementing referral protocols in resource poor countries that have been described by other studies.[10]

INTERVIEW AND QUESTIONNAIRE PROCEDURES

The VACS are administered through face-to-face interviews with the head of household (Head of Household Questionnaire) and the respondent (Individual Questionnaire). After obtaining assent and meeting in a private place, the interviewer administers the Individual Questionnaire, which generally takes 45–60 minutes. The questionnaire is administered using a tablet through a password-protected application that collects and stores respondent data. The Individual questionnaire contains nearly 500 questions in order to capture the nuances of violence against children. However, no respondent is ever asked all 500 due to skip patterns in the survey. For comparability across countries, core

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Table 2 Priority indicators for the Violence against Children Surveys

Indicator	Description
Physical violence	
Indicator P1: physical violence (last 12 months)	The percent of 13–17 year olds who experienced any physical violence in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physical violence in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator P2: physical violence (childhood prevalence)	The percent of 18–24 year olds who experienced any physical violence prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physical violence prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator P3: physical violence by intimate partner (last 12 months)	The percent of 13–17 year olds who experienced any physical violence by an intimate partner in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physical violence by an intimate partner in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old who have had an intimate partner*
Indicator P4: physical violence by peers (last 12 months)	The percent of 13–17 year olds who experienced any physical violence by peers in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physical violence by peers in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator P5: physical violence by parents, adult caregivers or other adult relatives (last 12 months)	The percent of 13–17 year olds who experienced any physical violence by parents, adult caregivers or other adult relatives in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physical violence by parents, adult caregivers or adult relatives in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator P6: physical violence by adults in the community (last 12 months)	The percent of 13–17 year olds who experienced any physical violence by adults in their community in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physical violence by adults in their community in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator P7: physical violence by Intimate partner (childhood prevalence)	The percent of 18–24 year olds who experienced any physical violence by an intimate partner prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physical violence by an intimate partner prior to age 18* **Denominator:** *The total number of respondents 18–24 years old who have had an intimate partner*
Indicator P8: physical violence by peers (childhood prevalence)	The percent of 18–24 year olds who experienced any physical violence by peers prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physical violence by peers prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator P9: physical violence by parents, adult caregivers and other adult relatives (childhood prevalence)	The percent of 18–24 year olds who experienced any physical violence by parents, adult caregivers or other adult relatives prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physical violence by parents, adult caregivers or other adult relatives prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator P10: physical violence by adults in the community (childhood prevalence)	The percent of 18–24 year olds who experienced any physical violence by adults in their community prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physical violence by adults in their community prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator P11: services for physical violence (last 12 months)	The percent of 13–17 year olds who received services for any incident of physical violence, among 13–17 year-olds who experienced at least one incident of physical violence in the last 12 months ***Numerator:*** *The number of respondents 13–17 years old who received services for any incident of physical violence in the last 12 months* ***Denominator:*** *The total number of respondents 13–17 years old who experienced at least one incident of physical violence in the last 12 months*
Indicator P12: services for physical violence (childhood prevalence)	The percent of 18–24 year olds who received services for any incident of physical violence, among 18–24 year-olds who experienced at least one incident of physical violence prior to age 18. ***Numerator:*** *The number of respondents 18–24 years old who received services for any incident of physical violence prior to age 18* ***Denominator:*** *The total number of respondents 18–24 years old who experienced at least one incident of physical violence prior to age 18*
Sexual violence	
Indicator S1: sexual violence (last 12 months)	The percent of 13–17 year olds who experienced any sexual violence in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any sexual violence in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator S2: sexual violence (childhood prevalence)	The percent of 18–24 year olds who experienced any sexual violence prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any sexual violence prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator S3: unwanted sexual touching (last 12 months)	The percent of 13–17 year olds who experienced any unwanted sexual touching in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any unwanted sexual touching in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator S4: unwanted attempted sex (last 12 months)	The percent of 13–17 year olds who experienced any unwanted attempted sex in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any unwanted attempted sex in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator S5: physically forced or pressured sex (last 12 months)	The percent of 13–17 year olds who experienced any physically forced or pressured sex in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced any physically forced or pressured sex in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator S6: unwanted sexual touching (childhood prevalence)	The percent of 18–24 year olds who experienced any unwanted sexual touching prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any unwanted sexual touching prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator S7: unwanted attempted sex (childhood prevalence)	The percent of 18–24 year olds who experienced any unwanted attempted sex prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any unwanted attempted sex prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator S8: physically forced or pressured sex (childhood prevalence)	The percent of 18–24 year olds who experienced any physically forced or pressured sex prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced any physically forced or pressured sex prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator S9: first sexual intercourse was unwanted	The percent of 13–17 year olds who have had sex and whose first experience of sexual intercourse was unwanted **Numerator:** *The number of respondents 13–17 years old whose first experience of sexual intercourse was unwanted* **Denominator:** *The total number of respondents 13–17 years old who ever had sexual intercourse*
Indicator S10: first sexual intercourse prior to age 18 was unwanted (childhood prevalence)	The percent of 18–24 year olds who have had sex and whose first experience of sexual intercourse was unwanted prior to age 18 **Numerator:** *The number of respondents 18–24 years old whose first experience of sexual intercourse prior to age 18 was unwanted* **Denominator:** *The total number of respondents 18–24 years old who ever had sexual intercourse prior to age 18*

Continued

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Table 2 Continued

Indicator	Description
Indicator S11: knowledge of where to get an HIV test (last 12 months)	The percent of 13–17 year olds who experienced any sexual violence in the last 12 months and who know where to get an HIV test ***Numerator:*** *The number of respondents 13–17 years old who know where to get an HIV test* ***Denominator:*** *The total number of respondents 13–17 years old who experienced any sexual violence in the last 12 months*
Indicator S12: knowledge of where to get an HIV test (childhood prevalence)	The percent of 18–24 year olds who experienced sexual violence prior to age 18 and who know where to get an HIV test ***Numerator:*** *The number of respondents 18–24 years old who know where to get an HIV test* ***Denominator:*** *The total number of respondents 18–24 years old who experienced any sexual violence prior to age 18*
Indicator S13: received an HIV test (last 12 months)	The percent of 13–17 year olds who experienced any sexual violence in the last 12 months and were tested for HIV ***Numerator:*** *The number of respondents 13–17 years old who were tested for HIV* ***Denominator:*** *The total number of respondents 13–17 years old who experienced any sexual violence in the last 12 months*
Indicator S14: received an HIV test (childhood prevalence)	The percent of 18–24 year olds who experienced sexual violence prior to age 18 and were tested for HIV ***Numerator:*** *The number of respondents 18–24 years old who were tested for HIV prior to age 18* ***Denominator:*** *The total number of respondents 18–24 years old who experienced any sexual violence prior to age 18*
Indicator S15: services for sexual violence (last 12 months)	The percent of 13–17 year olds who received services for any incident of sexual violence, among 13–17 year olds who experienced sexual violence in the last 12 months ***Numerator:*** *The number of respondents 13–17 years old who received services for any incident of sexual violence in the last 12 months* ***Denominator:*** *The total number of respondents 13–17 years old who experienced at least one incident of sexual violence in the last 12 months*
Indicator S16: services for sexual violence (childhood prevalence)	The percent of 18–24 year olds who received services for any incident of sexual violence, among 18–24 year olds who experienced sexual violence prior to age 18 ***Numerator:*** *The number of respondents 18–24 years old who received services for any incident of sexual violence prior to age 18* ***Denominator:*** *The total number of respondents 18–24 years old who experienced at least one incident of sexual violence prior to age 18*
Emotional violence*	
Indicator E1: emotional violence by a parent, adult caregiver or other adult relative (last 12 months)	The percent of 13–17 year olds who experienced any emotional violence by a parent, adult caregiver or other adult relative in the last 12 months **Numerator:** *The number of respondents 13–17 years old who experienced emotional violence by a parent, adult caregiver or other adult relative in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator E2: emotional violence by a parent, adult caregiver or other adult relative (childhood prevalence)	The percent of 18–24 year olds who experienced any emotional violence by a parent, adult caregiver or other adult relative prior to age 18 **Numerator:** *The number of respondents 18–24 years old who experienced emotional violence by a parent, adult caregiver or other adult relative prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Witnessing violence	
Indicator W1: witnessing violence at home (last 12 months)	The percent of 13–17 year olds who witnessed a parent, brother or sister being punched, kicked or beaten in the last 12 months **Numerator:** *The number of respondents 13–17 years old who witnessed (a) a parent being punched, kicked by another parent, boyfriend or girlfriend and/or (b) a brother or sister being punched, beaten, kicked by a parent in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator W2: witnessing violence outside the home (last 12 months)	The percent of 13–17 year olds who witnessed someone getting attacked outside of the home and family environment in the last 12 months **Numerator:** *The number of respondents 13–17 years old who witnessed someone getting attacked outside of the home and family environment in the last 12 months* **Denominator:** *The total number of respondents 13–17 years old*
Indicator W3: witnessing violence at home (childhood prevalence)	The percent of 18–24 year olds who witnessed a parent, brother, or sister being punched, kicked or beaten prior to age 18 **Numerator:** *The number of respondents 18–24 years old who witnessed (a) a parent being punched, kicked by another parent, boyfriend or girlfriend and/or (b) a brother or sister being punched, beaten, kicked by a parent prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*
Indicator W4: witnessing violence outside the home (childhood prevalence)	The percent of 18–24 year olds who witnessed someone getting attacked outside of the home and family environment prior to age 18 **Numerator:** *The number of respondents 18–24 years old who witnessed someone getting attacked outside of home and family environment prior to age 18* **Denominator:** *The total number of respondents 18–24 years old*

*While there is no consensus definition of emotional violence, this construct has been operationalised for VACS by consolidating answers to three stem questions that inquire about the individual being told at different times that they were not loved or did not deserve to be loved, times when the perpetrator told the respondent that they wished the respondent had never been born, or times when the respondent had been ridiculed or put down verbally by a perpetrator.

VACS questions must remain the same; however, some questions may be modified or added to adapt to the local context and priorities.

The Individual Questionnaire has seven major sections, including the (1) demographics, (2) attitudes towards violence against women, discipline and perceived safety, (3) witnessing physical violence, experiences of (4) physical violence, (5) emotional violence, and (6) sexual violence, and (7) health outcomes. At the end of the interview, respondents are also asked about how they felt answering the sensitive questions in the VACS, and whether they would like to be referred for services. Referral services typically have not surpassed 2% of those interviewed with a greater proportion of women requesting them. Regionally, requests have been greater among females in Central America with about 5% requesting referrals.

PRIORITY INDICATORS

For each country, a standard set of priority indicators are generated that range from prevalence of different types of violence, contexts, risk and protective factors, and health consequences. The core priority indicators were developed in close collaboration with the Together for Girls partners and VACS stakeholders through a deliberative process that reflects key partnership priorities. The priority indicators include 12 physical violence indicators, 16 sexual violence indicators, 2 emotional violence indicators and 4 witnessing violence indicators (table 2). Additional indicators may be created uniquely for each country, depending on the interests and needs of the country. The core priority indicators are used to compare prevalence of childhood violence across countries, identify risk factors and health outcomes of childhood violence, as well as identify gaps in prevention. They are also used to raise awareness and to drive programme planning and policy efforts to address the burden of violence.

DISSEMINATION

Results from each country VACS are disseminated through various platforms to expand the reach and impact of the survey results. First, results are shared among country ministries and partners, UNICEF, CDC and Together for Girls. A Data to Action Workshop takes place in each country, in which the local government and CDC present the results of the VACS to key

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stakeholders and partners. The workshop members discuss strategies and next steps for preventing violence against children, as well as recommendations on ways to address and respond to violence through linking the results to the INSPIRE framework.[11] The goal of the workshop is to develop a structure for a national plan of action to prevent and respond to violence. The structure is further developed by countries to provide an opportunity to use this resource to improve strategic actions to address violence.[12]

Countries that have completed VACS have used the data to inform programming and policy in ways that reflect the unique needs and priorities of each country. In Malawi, the government increased investment in (1) training caregivers/parents on building safe, stable and nurturing relationships with their children, (2) building life skills for children and youth, (3) increasing access to and awareness of child response services, and (4) developing policies and programmes to address harmful gender norms due to results from the VACS.[8] In Tanzania, the Child Protection System was developed to prevent and respond to violence against children and youth. The system includes (1) changes to the legal framework, regulations and guidelines national plans of action, (2) prevention and response services, (3) coordination among governmental agencies and non-governmental organisations and (4) measures to improve the child protection workforce.[13] The system also engages community leaders, parents and children to address social norms around violence.[13] Since VACS data have been released, programmatic and policy changes have targeted risk factors for violence and increased resilience of children and youth in numerous countries.

A final report is produced for each country and a report launch takes place to highlight the main results. Eight country reports have been completed so far, and four more reports are planned for 2018 (http://www.cdc.gov/violenceprevention/childabuseandneglect/VACS/reports.html). In addition to country reports, VACS data are used as a global research tool to understand the risk factors and contexts in which violence occurs. The first manuscript, published in the *Lancet*, examined sexual violence and health outcomes among girls in Swaziland, showed a high prevalence of sexual violence and negative health outcomes among girls.[14] Since then, there have been 20 published manuscripts using VACS data, and others are currently in progress. Countries that have completed VACS have also agreed to make the data available through public use datasets to serve as resources to the field and spur future research. Public use data are available by request on the Together for Girls website (https://www.togetherforgirls.org/violence-children-surveys/).

As the VACS expand in size and scope, further research can help strengthen it and increase understanding on violence against children. For example, additional research is needed understand the risks and benefits of different survey modes for asking sensitive questions. Studies have found that the percentage of females who reported sexual abuse before age 15 years almost doubled when researchers used an anonymous method of disclosure compared with face-to-face interviews.[15] Comparison of different country results (including those countries who have decided to add some questions to be answered through self-administered questionnaires/sealed envelopes) could be an important area for further research.

LIMITATIONS

As household surveys, VACS do not include data on children living outside of family care (such as homeless or institutionalised children) who may be most vulnerable to violence victimisation. Its cross-sectional design precludes identifying causal associations. Moreover, the survey relies on retrospective self-reports of violence, which may be affected by recall bias, social desirability bias, fear of disclosure or cultural factors. Due to these factors, self-reported experiences of violence may be underestimated, so the true prevalence and effect of violence may be greater than what is portrayed in this study.[16–19] Lastly, previous VACS have not included questions on neglect because there are very limited data on neglect in low-income and middle-income countries as well as a lack of consensus on how to capture it properly in these settings. However, a new module that assesses neglect has been developed for VACS, and if the results from the pilot study are robust, the questions will be made available to any country that wants to implement the VACS.

CONCLUSION

Violence against children is pervasive and costly, resulting in severe health consequences and economic burdens to individuals, communities and societies.[20] It is rooted in social tolerance of violence, as well as cultural norms that support it. Protecting children from all forms of violence is a fundamental right according to the UN Convention on the Rights of the Child (1990). The UN's Sustainable Development Goals outline a global commitment to ending violence, exploitation, trafficking and all forms of violence against children by 2030.[21] This goal marks the first time that violence against children has been prioritised as a development goal. CDC and Together for Girls partners are using the VACS as a tool to lead efforts to eradicate all forms of violence against children and youth across the globe.

What is already known on the subject

- The VACS is the largest nationally representative survey on childhood violence globally, and has been implemented in parts of Africa, Asia, the Caribbean, Central and South America, and Eastern Europe.
- Numerous studies have been published using VACS data, which contributed to the evidence base on violence against children and youth and its association with various health outcomes.
- Violence (physical, sexual, and emotional) have a big and lasting burden on the lives of children and there are several strategies for its prevention.

What this study adds

- The VACS have large sample sizes and response rates, ranging from 891 to 7,912 females (72 to 98% response rate) and 803 to 2,717 among males (75 to 98% response rate) in the countries where VACS have been implemented so far.
- VACS provides nationally representative estimates of childhood violence in 24 countries globally, and is expanding in size and scope.
- VACS core violence indicators serve as a standardized tool to inform and drive prevention through high-quality, comprehensive data.
- The VACS methodology includes a component aimed at using collected country data for the improvement or implementation of evidence-based programs to prevent violence using INSPIRE strategies.

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Data from VACS can inform development and implementation of effective prevention strategies and improve health service provision for all who experience violence. Although violence is pervasive, it is undoubtedly preventable, and through partnerships with government, ministries and civil society organisations, VACS serve as key tools to inform and drive prevention through high-quality, comprehensive data.

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