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BRIEF REPORT

The potential contribution of small-scale intervention projects in the field to the national health information system for HIV and sexually transmitted infections: a case study of a multilevel intervention in Guatemala

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Abstract
Objective Guatemala's efforts to fight sexually transmitted infections and HIV/AIDS are compromised by the lack of timely and accurate data. The strengthening of the national Monitoring and Evaluation system is key for a better understanding of the epidemics and the formulation of effective public health responses. This study assessed how health service providers in resource-poor countries can contribute indicators to national health authorities.
Methods Review of data sources produced by projects of a NGO harmonizing the identified indicators with national and international standards. During a field visit, they were validated with key stakeholders.
Results Study results are 19 original and 13 harmonized indicators.
Conclusions Findings suggest that small-scale projects can contribute to the strengthening of national health information systems.

Keywords Monitoring and evaluation · Indicators · Resources poor settings · HIV

Introduction

Sexually transmitted infections (STIs), HIV/AIDS and sexual violence are among the most serious health problems faced in Central America and Guatemala in particular. Guatemala has a *concentrated HIV epidemic* which is defined by a prevalence of less than 1% in the general population and over 5% in at least one sub-group. Guatemala has an estimated prevalence of 0.8% among the adult population, the highest in Central America (MSPAS 2006, 2007a; UNAIDS 2008a; PAHO 2007). Vulnerable populations such as sex workers and men having sex with men are affected most with HIV prevalence rates between 3–9 and 11.5% and a syphilis prevalence of 9.2 and 13.3%, respectively (MSPAS 2003, 2006).

In 2007, Guatemala's total population was 12.7 millions, 50% of which was under 18 years of age. About 80% of the population lives in poverty. According to the National AIDS Program's estimations, 51% of all cases affects the 20–34 year olds, infects two men for every women, and is concentrated in urban areas (UNAIDS 2008b; USAID 2008).

Notwithstanding, corresponding timely and accurate data are not available at the national level, and the underreporting of HIV/AIDS cases is estimated to be as high as 50–70% (MSPAS 2007a).

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Guatemala is a classic example of a low-income country where multiple actors are combating various health challenges. These efforts often go uncoordinated, and data are not shared transparently (MSPAS 2007a). The myriad data produced in parallel efforts is not always appropriately managed, let alone used for decision-making. The resulting information gap with regard to the magnitude of the health problem hinders the formulation of an effective response (MSPAS 2006, 2007a, b).

To address this dilemma with respect to HIV/AIDS, UNAIDS has been advocating for 'one' national Monitoring and Evaluation (M&E) system (GFATM 2009) that collects, analyses and transforms data into strategic information for evidence-based decision-making. Such a system should capture data from all efforts undertaken nationally (UNAIDS 2009a). Its building blocks are indicators that measure selected activities and disease trends toward a set objective. To streamline efforts, UNAIDS (2009a) is recommending the use of UNGASS indicators (Declaration of Commitment on HIV/AIDS adopted by the United Nations General Assembly in 2001) whenever possible.

The objective of the present study was to assess to what extent NGOs providing health services in resource-poor countries can contribute data on pertinent indicators to national health authorities. The study focused on three projects implemented by the Catalan NGO Fundació Sida i Societat (*Fundació*) in the department of Escuintla in Guatemala: (1) biomedical and behavioral interventions aimed at preventing STIs and HIV/AIDS in sex workers and their clients, men having sex with men and the general population—operational since 2005 (Sabidó et al. 2009); (2) providing comprehensive care services to victims of sexual violence—piloted since 2007; and (3) supporting the National AIDS Program by means of an information system to monitor HIV infected patients—initiated in 2008.

Methods

Baseline data and process followed

The process of indicator construction and definition was divided into six steps and is summarized in Fig. 1.

First, the national indicator list contained in the national disease strategy and corresponding M&E Plan were analyzed (MSPAS 2006, 2007b) in regard to respective data collection methodologies and possible gaps.

Second, selected technical guidelines were consulted to ensure harmonization with international standards (GFATM 2009; UNAIDS 2009a; MSPAS 2007b; UNAIDS 2009b; MEASURE Evaluation 2008).

Third, the *Fundació*'s possible contribution via the projects' protocols and data sources were analyzed.

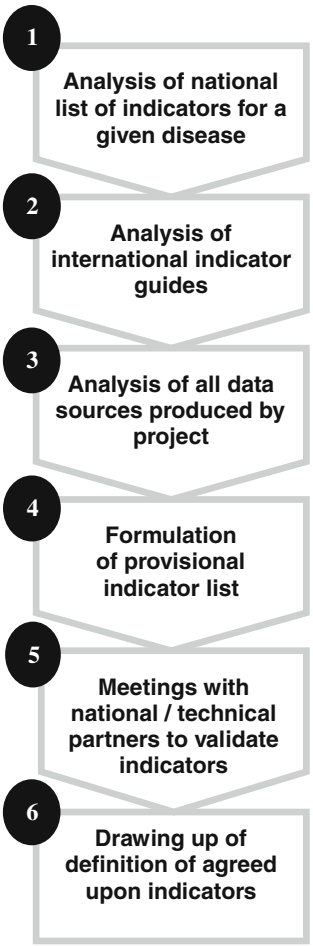

Fig. 1 The six-step process used by the *Fundació* to construct indicators for HIV, sexually transmitted infections and sexual violence interventions, to be contributed to the national health authorities in Guatemala, 2009

Fourth, based on the preceding steps, a list of indicators, harmonized with both the national indicator list and the international standard definitions, was drafted. This process is depicted in Fig. 2. Starting from the project objectives, the strategies that contributed to their attainment were identified. Then corresponding project activities were identified, and the most relevant ones translated into indicators. It was verified whether a corresponding national indicator existed and whether the *Fundació* was using the same data collection methodology. If not, either international indicator guides were consulted for a suitable indicator or an original indicator was proposed.

Fifth, key national stakeholders were met, including the National AIDS Program, the National Centre of Epidemiology, the National M&E committee, UNAIDS, WHO and several NGOs to validate the proposed list of indicators. The intention of these meetings was twofold: (1) to raise awareness about the ongoing initiative and discuss stakeholders' interest in receiving data from the projects and (2)

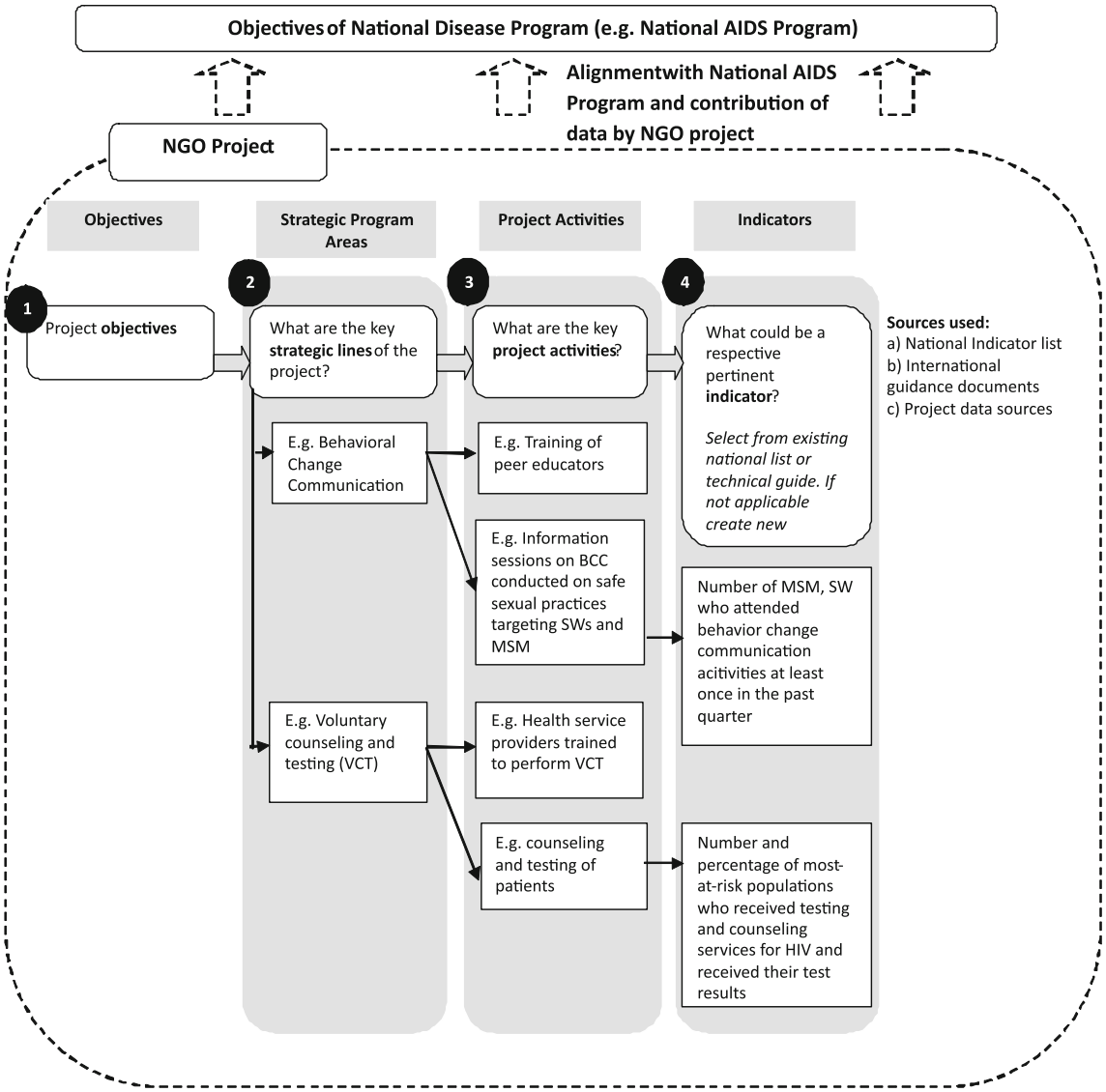

Fig. 2 Identification process of suitable indicators for interventions implemented by the *Fundació* in alignment with objectives of the national disease strategy in Guatemala, 2009

to get input into the feasibility and technical soundness of the proposed indicators. As a result, a final indicator list was obtained.

Sixth, detailed indicator definitions, including the corresponding data collection methodologies, were developed.

Results

In total, 14 meetings were held with the ten stakeholders contacted who were readily available to discuss the study. The final product is a list of 32 indicators generated by the three projects.

Of the 25 national indicators, 15 are UNGASS indicators showing a strong national commitment to harmonization with international standards. 12 of the 25 national indicators are collected through nationally representative surveys at intervals of roughly 4 years. The last population-based survey was conducted in 2002 (MSPAS 2007a). By early 2009, the survey planned for 2008 was still at the data collection stage (MSPAS 2007a, b), which illustrates the information gap.

At present the *Fundació* can contribute to 13 of the national indicators, of which 9 are UNGASS indicators. To five of these nine indicators, collected through program monitoring or sentinel surveillance, the *Fundació* can provide numerators that may be aggregated at national level with contributions from other actors and compared with national denominators in order to calculate proportions. The remaining four UNGASS indicators are per

Table 1 List of HIV, sexually transmitted infections and sexual violence indicators for which the *Fundació* is able to contribute data to the national health authorities in Guatemala, 2009

FSIS indicator	Contributing to national objective	Contributing to national indicator	Comments
Project: UALE			
Percentage of most-at-risk populations who are HIV-infected	Promote prevention practices for STI, HIV/AIDS transmission, prioritizing most vulnerable populations	Percentage of most-at-risk populations who are HIV-infected (UNGASS 23)	Different methodology used, *Fundació* data could be used for modeling
STI prevalence among most-at-risk groups		STI prevalence among SW attending sexual prophylaxis clinics	Different methodology used, *Fundació* data could be used for modeling
Percentage of SW reporting the use of a condom with their most recent occasional client in the past 6 months		n/a	
Percentage of SW reporting the use of a condom last time they had sex with their regular partners in the past 6 months		n/a	
Percentage of men reporting the use of a condom the last time they had anal sex with a male partner in the last 6 months		Percentage of men reporting the use of a condom the last time they had anal sex with a male partner (UNGASS 19)	Different methodology used, *Fundació* data could be used for modeling
Percentage of women and men aged 15–49 who had more than one partner in the past 12 months who used a condom during their last sexual intercourse		Percentage of adults aged 15–49 who had more than one sexual partner in the past 12 months who report the use of a condom during their last intercourse (UNGASS 17)	Different methodology used, *Fundació* data could be used for modeling
Number of condoms distributed to most-at-risk groups		n/a	
Number of MSM, SW who attended behavior change communication activities at least once in the past quarter		n/a	
Number and percentage of most-at-risk populations (MSM, SW) who received testing and counseling services for HIV and received their test results		Percentage of most-at-risk populations that have received an HIV test in the last 12 months and who know the results (UNGASS 8)	Different methodology used, *Fundació* data could be used for modeling
Number and percentage of STIs treated		Percentage of people infected with a STI and who received treatment at health facilities in the past 6 months	Different methodology used, *Fundació* data could be used for modeling
Number of service deliverers trained	Could apply to all objectives	n/a	
Number of service deliverers trained in the provision of non-discriminatory health services to most-at-risk populations	Generate a favorable environment for the response to HIV/AIDS	n/a	
Domestic and international AIDS spending by categories and financing sources	Institutional strengthening	Domestic and international AIDS spending by categories and financing sources (UNGASS 1)	Can contribute information on spending relative to *Fundació* categories
Project: Victims of Sexual Violence			
Number of sexual violence cases per year	n/a	n/a	National data inexistent

Table 1 continued

FSIS indicator	Contributing to national objective	Contributing to national indicator	Comments
Number and percentage of health facilities with at least one person trained in the provision of health services to victims of sexual violence	n/a	n/a	National data inexistent
Number and percentage of sexual violence cases receiving comprehensive services according to national protocol	n/a	n/a	National data inexistent
Number and percentage of sexual violence cases treated within 72 h after sexual act	n/a	n/a	National data inexistent
Number and percentage of sexual violence cases who initiated ARV treatment	n/a	n/a	National data inexistent
Number and percentage of sexual violence cases receiving psychological care	n/a	n/a	National data inexistent
Number of people sensitized in workshops on a given topic related to sexual violence	n/a	n/a	National data inexistent
Number and percentage of sexual violence victims referred	n/a	n/a	National data inexistent
Project: MANGUA			
Number and percentage of STI cases treated	Promote prevention practices for STI, HIV/AIDS transmission, prioritizing most vulnerable populations	Percentage of people infected with a STI and who received treatment at health facilities in the past 6 months	Different methodology used, *Fundació* data could be used for modeling
Number of HIV-infected pregnant women who received antiretrovirals to reduce the risk of mother-to-child transmission		Percentage of HIV-positive pregnant women who receive antiretroviral medicines to reduce the risk of mother-to-child transmission (UNGASS 5)	*Fundació* can contribute to numerator
Number of adults with advanced HIV infection currently receiving antiretroviral therapy	Decentralization of health care services aiming at the improvement of the environment of PLWHA	Percentage of adults and children with advanced HIV infection receiving antiretroviral therapy (UNGASS 4)	*Fundació* can contribute to numerator providing data on adults only
Number of HIV-infected adults treated per treatment schema		n/a	
Percentage of adults with HIV known to be on treatment 12/24 months after initiation of antiretroviral therapy		Percentage of adults and children with HIV known to be on treatment 12 months after initiation of antiretroviral therapy (UNGASS 24)	*Fundació* can contribute to numerator providing data on adults only
Number and percentage of lost-to-follow-up patients according to cause		n/a	
Number of estimated HIV-positive incident TB cases that received treatment for TB and HIV		Percentage of estimated HIV-positive incident TB cases that received treatment for TB and HIV (UNGASS 6)	*Fundació* can contribute to numerator
Incidence of opportunistic infections	n/a	n/a	
Number and percentage of OI cases diagnosed and treated	n/a	n/a	
Case fatality rate due to AIDS in the last 6 months	Monitoring and Evaluation and epidemiologic surveillance	n/a	
Number of deaths due to AIDS		Number of deaths due to AIDS	*Fundació* can contribute to number

definition collected through population-based surveys. Although the *Fundació*'s projects are not population-based by design, clinical records and systematic data collection make it possible to use patients as a sentinel population. The data feeding into these five indicators may therefore be used for modeling purposes.

In addition, 19 indicators were identified providing original information. Table 1 summarizes the identified indicators and their respective contribution.

Discussion

The study illustrates how small-scale projects can make a contribution to national health authorities through relevant and harmonized indicators. By using the *Fundació's* projects as a case study, the process and indicators on STI, HIV/AIDS and sexual violence were defined. The latter may feed into the national information system and inform evidence-based decision-making. In theory, the process outlined in this study could be applied to any other health problem at stake for which national programs collect data within a multiple stakeholder environment. However, for this process to be successful, the commitment of key actors to harmonize data collection efforts is of utmost importance.

There are various potential benefits for this study. In Guatemala, the national health authorities lack data (MSPAS 2007a). Thanks to the definition of indicators, the *Fundació* will be able to provide pertinent data not yet available. This information may help the national health authorities to better manage their resources and plan for more effective responses. Moreover, by disseminating data transparently, the *Fundació* may serve as an example to other implementers to share data widely (MSPAS 2007a).

The *Fundació,* which did not dispose of well-defined indicators prior to this study, will also benefit. The systematic definition of indicators will improve the quality of the data collection and management processes. Importantly, it will permit the *Fundació* to better evaluate and demonstrate the impact of its interventions.

Finally, the limitations of this study must be acknowledged. First, data may not be comparable with other data sources due to the use of different collection methods. Second, data is not statistically representative: coverage of the risk population is incomplete as fear of stigma and discrimination are likely to deter patients from accessing health services. Finally, it should be highlighted that the contribution of data by such small-scale projects is by no means the ideal solution, but rather a second best option in areas where data are otherwise not readily available.

In practice, data stemming from various actors in the field are still underutilized, be it due to a project's unsystematic data collection or to a perceived lack of importance by national health authorities. The study suggests that small-scale field projects providing health services can make an important contribution to the strengthening of the national health information system through relevant indicators.

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