Desk review for developing a monitoring and evaluation framework for a comprehensive HIV and AIDS response in the Caribbean education sector

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Table of Contents

1. Introduction to monitoring and evaluation of HIV and AIDS response in the Caribbean education sector

1.1. HIV and AIDS response in the Caribbean education sector

The *2008-2012 Caribbean Regional Strategic Framework* (CRSF)[1] established a set of core objectives and guidelines for HIV and AIDS response efforts that are country-specific but require a coordinated regional approach. These objectives were developed following an evaluation of gaps and needs for strengthening the regional HIV and AIDS response, as first outlined in the 2002-2006 strategic framework. Led by Health Research for Action, the evaluation emphasized the lack of systematic monitoring and evaluation (M&E), making it difficult to assess program and ensure accountability. Instead, the evaluation found that "the operationalisation and functioning of regular monitoring, evaluation and surveillance systems is still a pending task in many countries" and leads instead to the development of programs that do not rely on research and evidence for guidance.[2] In the education sector, developing such an M&E infrastructure requires at the outset an understanding of the unique Caribbean HIV and AIDS experience and how the education sector fits into a comprehensive and coordinated response.

1.1.1. The impact of HIV and AIDS in the Caribbean

The HIV and AIDS epidemic is particularly acute in the Caribbean, which suffers the second highest prevalence in the world after sub-Saharan Africa.[3] Rates vary considerably, however, due to significant geographic, demographic, and socioeconomic differences among the countries in the region. In many countries, rates have stabilized or even declined. Haiti, one of the hemisphere's poorest countries, has an estimated 170,000 individuals living with HIV and AIDS, reflecting a dramatic reduction over the last 15 years.[4] Data suggest, however, that certain sub-groups, including marginalized persons (prisoners, sex-workers, injecting drug users, etc.) and children with mothers who have HIV and AIDS, remain at high risk and bear much of the burden of the epidemic. Careful studies by some of the leading international HIV and AIDS organizations estimate that rates among these groups in the Caribbean are often several times higher.

The stigma, social exclusion, and discrimination experienced by a marginalized person (knowingly or unknowingly) living with HIV and AIDS make estimates difficult. Stigma and discrimination are two of the most powerful barriers to preventing transmission and protecting those living with HIV and AIDS from the health consequences of their status. They severely limit access to prevention, treatment, care, and support services, as individuals at high-risk for HIV infection often stay away from testing and treatment centres fearing stigmatization and mistreatment.[5] The CRSF notes that "the strong religious traditions of the region work to maintain social and legal bans on widespread but

'hidden' behaviours. Those associated may be ostracized or even attacked; in extreme instances killings have occurred." The CRSF process, including the evaluation conducted by HERA, found several important related issues that limit the HIV and AIDS response in the Caribbean:[1, 2]

- People often fear stigma and discrimination more than HIV and AIDS itself and will avoid testing and care.
- Public and private sector policy and practice have not been responsive and investment is low.
- Human rights are ignored or abused; equal treatment under the law is often unobtainable.
- Knowledge of transmission processes (social) and health status (individual) is limited by non-disclosure driven by stigma and discrimination, reducing the possibility of evidence-based management of the epidemic.
- Social, cultural, and religious barriers inhibit open organization and HIV and AIDS-related work within communities of high risk individuals and with migrants, people living with HIV and AIDS, and youth (in-school, out-of-school, and marginalized).

While HIV is spread in the Caribbean primarily through unprotected heterosexual intercourse, ethical considerations and social justice require that the Caribbean response to HIV and AIDS specifically address the marginalized populations and others who are disproportionately affected. With approximately 20,000 new infections each year and an estimated 14,000 deaths due to AIDS among persons 15-44 years old,[6] developing a strong and sustained response to HIV and AIDS in the Caribbean has far-reaching implications for the health and welfare of individuals and communities. Importantly, M&E systems must consider the broad range of interacting factors contributing to HIV and AIDS prevalence, as well as the outcomes and consequences of the epidemic.

1.1.2. The critical role of the education sector in the response

HIV and AIDS costs globally the education system an estimated $1 billion per year due to deaths and absenteeism among teachers.[7] Increasingly, evidence suggests that quality education is one of the most cost-effective preventive measures against HIV infection and offers a unique and powerful opportunity to reduce the impact of HIV and AIDS. As children mature, they benefit from their early learning, which encourages the development of healthy and protective behaviours. Moreover, "educational institutions branch out further into communities and reach more young people than any other government-supported institutions."[8] This is particularly important for reaching out-of-school youth and children, as well as their parents and wider communities, and can help to address a range of other issues affecting and influenced by the epidemic."[9] While the dangers of mother-to-child transmission are real, almost all children entering their school-age years are not infected,[10] offering "a window of hope, a chance of a life free from HIV and AIDS, if they can acquire the knowledge, skills, and values to help them protect themselves as they grow up."[11] The UNAIDS Inter-Agency Task Team (IATT) summarizes the range of protective effects that the education sector can provide: [12]

- Access to quality education protects against HIV and AIDS
- Education can reach large numbers of children and young people
- Education reduces the vulnerability of girls in very important ways
- The higher the level of education, the greater the benefits

- Education can reach those who are not in school
- HIV and AIDS education impacts on HIV-related knowledge, skills and behaviour
- Education can reduce stigma and discrimination
- Education provides a very cost-effective means of HIV and AIDS prevention

Unfortunately, "current evidence suggests that in the Caribbean region the education sector response by both countries and agencies is not being fully realized… Up until 2005, most countries continued to place the highest priority on health sector strengthening and interventions, and the establishment of systems to support treatment access, while not many countries had moved beyond awareness-raising for the general public."[10] There have been some notable exceptions, however, where the strategic plans for the ministries of health (MOHs) have expanded their scope to involve other sectors in the planning and implementation of M&E systems. Guyana's *2007-2011 National HIV/AIDS Strategic Plan*, for instance, includes education sector-specific indicators and addresses specifically the results of an assessment of the country's earlier plans and activities, which found a "lack of involvement of other sectors."[13] The Ministry of Education (MOE), moreover, produced a policy document in 2008 that outlines the management structure for monitoring and evaluation activities very clearly; the School Health, Nutrition and HIV Prevention (SHN/HIV) Coordination and Monitoring Unit is responsible for monitoring all education sector HIV and AIDS response activities and reporting data to the MOE's Permanent Secretary; these activities are to be coordinated with the Adolescent Health Unit of the Ministry of Health (MOH); at the school and district levels, administrators and managers of educational institutions will "integrate strategies and mechanisms for monitoring and evaluating the quality of programmes, the responses to interventions and the efficiency of resource utilization. Administrators shall provide data to regional and national SHN/HIV coordinators as necessary."[14] Jamaica's MOH clearly delineates the role of the education sector in the HIV and AIDS, indicating its role in reducing stigma and promoting the Health and Family Life Education (HFLE) curriculum.[15] The MOE of Trinidad and Tobago also has a specific policy to address HIV and AIDS in the education sector.[16]

Still, the development of a multi-sectoral HIV and AIDS response has been uneven across the region. The year 2006, however, marked an important shift towards the integration of education within the traditional HIV and AIDS and health responses. Ministers of Education and representatives of National AIDS Authorities and other sectors in society and government met in Port-of-Spain, Trinidad and Tobago, to sign a declaration affirming "that Education is a critical sector in the multi-sectoral response to HIV" and to emphasize a "commitment to achieving the targets set for Education for All and the relevant targets in the Millennium Development Goals."[17]

1.2. Overview of a comprehensive approach to HIV and AIDS response in the education sector

The High-Level Group on Education for All, consisting of ministers and other government officials, as well as leaders of civil society and international agencies, convened in Cairo 2006 and committed to "fostering comprehensive education responses through cross-sectoral partnerships." [12] Charging the education sector with the task of pursuing a comprehensive approach to HIV and AIDS in collaboration with the health sector, the private sector, and the faith-based and NGO community "requires the education sector to use all means at its disposal... to promote and protect the health and well-being of all staff and students. By addressing all facets in a comprehensive way, the education sector is fulfilling its mission of educating the citizens of tomorrow and supporting academic

success."[18] Following the Port-of-Spain Declaration mentioned above, the Ministers of Education of the Organization of Eastern Caribbean States (OECS) convened a special meeting in 2007 in Dominica, entitled *Leading the Way in the Education Sector: a comprehensive approach to HIV & AIDS*. There, leaders issued a declaration that underscores the crucial role of the education sector in the HIV and AIDS response in the region, including the agreement to establish "harmonized comprehensive policies defining our Ministries' response to the HIV and AIDS epidemic."[19] In 2008, ministers of Health and Education met in Mexico and issued a Ministerial Declaration to Stop HIV and STIs in Latin America and the Caribbean, which confirmed their support for "multi-sectoral strategies of comprehensive sexuality and promotion of sexual health education and promotion of sexual health, including HIV/STI prevention."[20] At the local and district levels, too, schools can be "safe places for children and adolescents" with policies in place "to ensure that students who are living with HIV can exercise their right to education in an enabling and supportive environment."[21]

The World Health Organization's (WHO's) 1986 *Ottawa Charter of Health Promotion* stated that "health is created and lived by people within the settings of their everyday life: where they learn, work, play and love. Health is created by caring for oneself and others, by being able to make decisions and have control over one's life and circumstances, and by ensuring that the society one lives in creates conditions that allow the attainment of health by all its members."[22] This concept has evolved over the past several decades and has been used to address a range of health issues, recognizing unfailingly their intimate connection to education. Developing a comprehensive HIV and AIDS response in the Caribbean has steadily gained commitment from the region's political, social, and professional leaders. The *Port-of-Spain Declaration* set the stage for a range of regional initiatives. While many models for developing a comprehensive approach to HIV and AIDS in the education sector have been proposed, they reflect the need for a balanced response to the epidemic that considers not only knowledge-based education, but also the psychosocial environment (to protect students, staff, and others from stigmatization, for example), policies, and treatment and care.

1.2.1. Health-Promoting Schools, Child-Friendly Schools and FRESH

In the 1990s, international institutions built on the momentum at Ottawa to elaborate a model of Health-Promoting Schools (HPS) within the Global School Health Initiative.[23] WHO defined an HPS as one that:[24]

- fosters health and learning with all the measures at its disposal
- engages health and education officials, teachers, teachers' unions, students, parents, health providers, and community leaders in efforts to make the school a healthy place
- strives to provide (1) a healthy environment, (2) school health education, and (3) school health services, along with (4) school/community projects and outreach, (5) health promotion programs for staff, (6) nutrition and food safety programs, (7) opportunities for physical education and recreation, and (8) programs for counselling, social support, and mental health promotion
- implements policies and practices that respect an individual's well-being and dignity, provides multiple opportunities for success, and acknowledges good efforts and intentions as well as personal achievements

- strives to improve the health of school personnel, families, and community members as well as pupils; and works with community leaders to help them understand how the community contributes to, or undermines, health and education

Around the same time, UNICEF developed a framework for rights-based Child-Friendly Schools (CFS) that would expand quality and access to education. This framework includes:[25]

- The school is a significant personal and social environment in the lives of its students. A child-friendly shool ensures every child an environment that is physically safe, emotionally secure and psychologically enabling.
- Teachers are the single most important factor in creating an effective and inclusive classroom.
- Children are natural learners, but this capacity to learn can be undermined and sometimes destroyed. A child-friendly school recognizes, encourages and supports children's growing capacities as learners by providing a school culture, teaching behaviours and curriculum content that are focused on learning and the learner.
- The ability of a school to be and to call itself child-friendly is directly linked to the support, participation and collaboration it receives from families.
- Child-friendly schools aim to develop a learning environment in which children are motivated and able to learn. Staff members are friendly and welcoming to children and attend to all their health and safety needs.

The HPS and CFS and similar movements led the United Nations Educational, Scientific and Cultural Organization (UNESCO), UNICEF, WHO and the World Bank to work together to develop "FRESH" (Focusing Resources on Effective School Health) to address the Education for All 2000 *Framework for Action* that called for "safe, healthy, inclusive and equitably resourced educational environments conducive to excellence in learning."[26] The FRESH concept recommends four cost-effective components as a starting point for schools for "improving students' health and nutritional status" and improving the common conditions that give rise to "absenteeism, poor classroom performance and early school dropout" including: [27]

- health-related school policies
- provision of safe water and sanitation
- skills-based health education
- school-based health and nutrition
- and three supporting strategies: effective partnerships between the education and health sector, effective community partnerships, and pupil awareness and participation

1.2.2. UNESCO-EDC model

In 2005, UNESCO and Education Development Center (EDC) developed a model that identifies four primary components of a comprehensive approach to HIV and AIDS in the education sector, along with ongoing and significant involvement by school community members and those living with HIV and AIDS. Such an approach "goes beyond implementing an HIV and AIDS prevention curriculum in the classroom. To have a real impact on HIV and AIDS, the education sector must address its other challenges as well, including the need for workplace policies and training programmes for teachers and

staff, a safe and secure learning environment for working and learning, and links to services for those living with HIV."[18] The four primary components are:[28]

- *Workplace policy on HIV and AIDS* that includes HIV prevention training, coordination between health and education authorities, and protection of privacy and employment
- *Healthy psychosocial and physical educational environment* that prohibits stigma and discrimination, is safe no matter one's gender or sexual orientation, and dispels myths, fears, and prejudices
- *Skills-based HIV and AIDS curriculum* that focuses not only on knowledge-building but also on the behaviour-change by developing communication, decision-making, and coping skills through participatory, interactive learning
- *HIV and AIDS services, care, and support*, including voluntary counselling and testing, mental health and nutrition services, and access to ARVs and other support

1.2.3. EDUCAIDS model

Launched jointly in 2004 by UNESCO and the Joint United Nations Programme on HIV/AIDS (UNAIDS), EDUCAIDS is a global effort to address HIV and AIDS through a comprehensive approach in the education sector. In 2007 the initiative announced a model or framework that works to move the education sector response "away from programming HIV and AIDS on a project-by-project basis, and toward a holistic, sector-wide view of the impacts and challenges of HIV, and the deployment of all components, modalities, and capacities of the education sector system to address and mitigate those impacts."[29] The EDUCAIDS model emphasizes a rights-based approach that encourages, at all levels and in all areas, the involvement of individuals living with HIV and AIDS. Such an approach involves five "essential" components:

- *Quality education* that provides high-quality learning opportunities in safe learning environments that are "rights-based, learner-centred, gender-responsive, inclusive, culturally sensitive, age-specific and scientifically accurate"
- *Content, curriculum, and learning materials*, which effectively transmit knowledge and help students to turn that knowledge into positive behaviour change through interactive teaching and learning practices
- *Educator training and support*, which build technical knowledge, while addressing "educators' own vulnerabilities to HIV and the impact of HIV and AIDS"
- *Policy, management, and systems* that prohibit violence, abuse, and discrimination through strategic planning processes that rely on the evidence and are measureable
- *Approaches and illustrative entry points*, defined as those opportunities "to address underlying vulnerabilities that reduce individuals' abilities to avoid HIV infection and behaviours that create and perpetuate risks."[30]

The EDUCAIDS model takes a more sector-wide approach than that developed by UNESCO and EDC, which looks more closely at the school-level and the role that school community members play in the comprehensive response to HIV and AIDS. Both models, however, see HIV and AIDS and quality education as inextricably linked, particularly in the Caribbean, requiring a balanced approach that is inclusive, prevention and treatment oriented, and sustainable.

1.2.4. IATT comprehensive approach and why it is used in this review

In 2009, the IATT conducted a review of standardized international indicators for use in the education sector response to HIV entitled, *Indicators for Education Sector HIV Response Programmes: A review of existing resources* (herein "IATT Review").[31] The authors of the review considered the complementary models introduced above, and others, finding that the "key components or processes of education sector responses to HIV&AIDS" they shared were:[31]

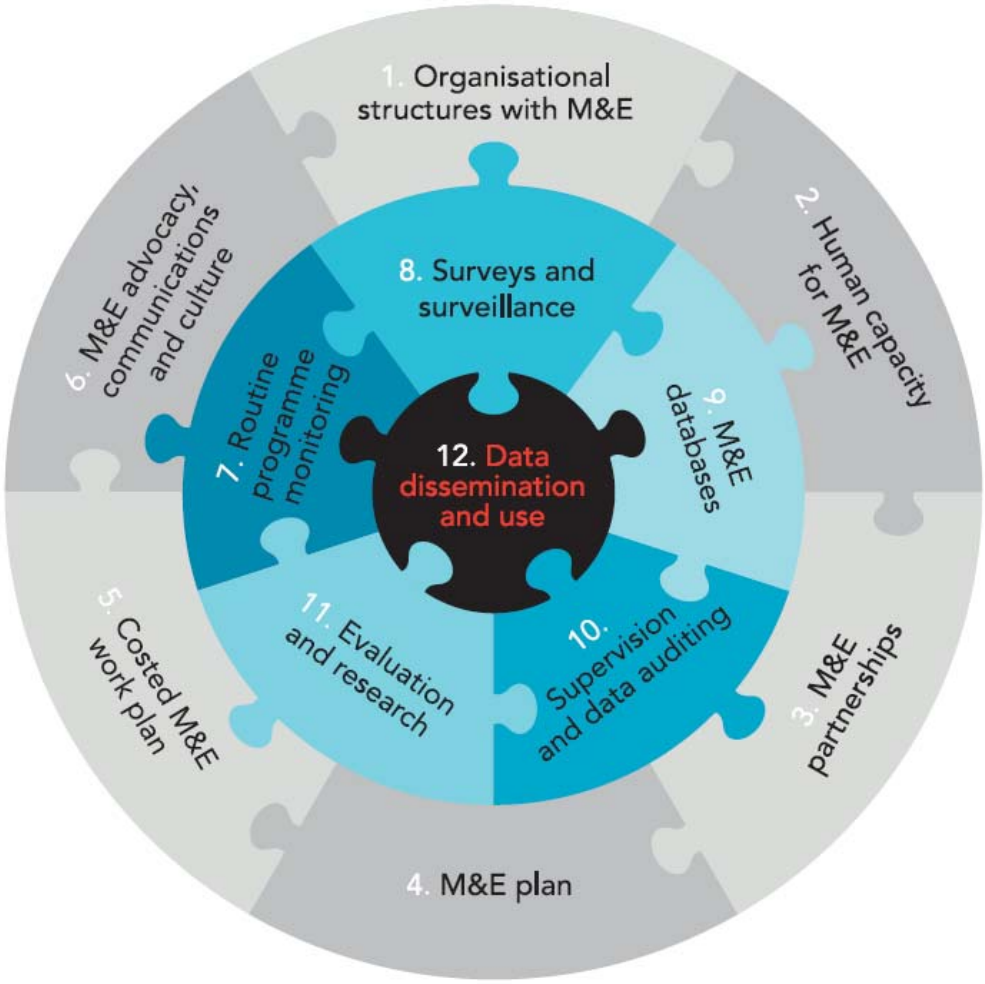
- "Education sector policies, plans, and management
- Curricular and non-curricular modes of HIV prevention education to school-age children and youth (during non-formal, early childhood, primary, secondary and tertiary education)
- HIV prevention education and training for educators (during pre- and in- service training)
- Testing, care and support services (e.g. Voluntary Counselling and testing (VCT), psychosocial support, educational support services) to school-age children and youth, especially high-risk groups and orphans and vulnerable children
- Testing, care and support services to educators"

This desk review endorses these five elements for the purposes of maintaining consistency and building on the work already done. Importantly, throughout all these areas, school community members, including teachers, family, students, and others, should be actively involved in the decision-making and implementation of all HIV and AIDS-related programming. Additionally, steps must be taken to include individuals living with HIV and AIDS at all levels, not just as speakers who relay their own experiences. The principles of GIPA ("Greater Involvement of People Living with HIV and AIDS"), articulated formally at the 1994 *Paris AIDS Summit* and elaborated in the 2001 *UN Declaration of Commitment on HIV/AIDS*, emphasize that involving people living with HIV and AIDS fully "in design, planning, implementation and evaluation of programmes is crucial to the development of effective responses to the HIV/AIDS epidemic." These principles further recognize "that all people, rich and poor, without distinction of age, gender or race are affected by the HIV/AIDS epidemic" and that not only those infected with HIV but also those affected, such as family and community members, must be engaged in the response.[32]

1.3. Developing an M&E framework for HIV and AIDS response in the Caribbean education sector

The elements that constitute the development of an M&E system and what to conclude based on those observations is linked integrally with the goals and objectives and related activities defined in the project or program work plan. Thus, developing an M&E system that ensures a comprehensive approach to HIV and AIDS depends on the balance and purpose of selected activities. M&E offers, thus, the tools that can help to facilitate the integration of efforts across the different elements of a comprehensive approach and across the different sectors in the region, while ensuring that goals and objectives are consistent and achievable. Based on an earlier World Bank model, UNAIDS proposes 12 components of a functional national M&E HIV system:[33]

Figure 1. Organizing Framework for a Functional National HIV M&E System – 12 Components[33]



1.3.1. Definition

The IATT Review defines an M&E framework as "documentation which outlines the key (process) outputs and outcomes of a programme, with indicators for their measurement, along with baseline value and performance targets (if any), source, tools and frequency of data collection and reporting."[31] M&E is a system of assessing the degree to which program or project goals and objectives are being met and for identifying those elements that are performing particularly well and should be scaled up as well as those that may need more attention. The CRSF identifies M&E as critical for "evidence-based decision making" for the purposes of "enabling strategies and activities to be adjusted in response to knowledge about success and failure."[1]

1.3.2. The relationship between monitoring and evaluation

Although the language may differ among manuals developed to help program leaders set up M&E systems for HIV and AIDS response, the distinction between monitoring and evaluation, and how

they conceptually and practically align with the different elements of a particular logic model, are relatively consistent.

Monitoring, as defined by the Results-Based Management System (RBM), involves the assessment of the "progress being made towards achieving [a program's] goals and objectives." The authors explain that this approach "involves tracking strategies and actions being taken by partners and non-partners, and figuring out what new strategies and actions need to be taken to ensure progress towards the most important results."[34] Similarly, the M&E toolkit provided by the Global Fund to Fight Tuberculosis, AIDS and Malaria (Global Fund) expands the role of monitoring as a practice that helps "to determine which areas need greater effort and whether they achieve the intended outcomes and impact."[35] By serving as a mechanism to track the availability and use of resources, the completion of planned activities, and how well programs appear to be contributing to their intended objectives, monitoring serves several important functions: "ensuring transparency in resource expenditure; assessing the coverage and quality of HIV and AIDS programs (from implementation of workplace policies to HIV and AIDS education); supporting educational planning in the context of HIV; and making timely adjustments to project planning and implementation."[30]

The data from a strong monitoring system can feed into the evaluation efforts at the conclusion of the program.[35] *Evaluation* differs from monitoring in that it is used to gain a more comprehensive picture of how well the planned activities have achieved, or are contributing to, the planned goals and objectives. Often, this work is undertaken at the program's conclusion, though it may help improvement efforts at critical stages of ongoing or longer-term projects. The more complex and broad the program (such as sector-wide or national HIV and AIDS responses) the more challenging it will likely be to connect elements across the chosen logic model from inputs to impacts. As Family Health International explains, "Determining whether observed changes in HIV incidence and prevalence are a reflection of the natural history of the epidemic or due to intervention effects is a critical evaluation issue."[36] Some authors argue that evaluation should be "done independently to provide managers and staff with an objective assessment of whether or not they are on track." An independent evaluator might be able to ensure a stronger scientific methodology and more detailed analysis,[34] but conducting any type of program evaluation carefully is important for determining if the program is achieving the intended objectives, which areas are strongest and weakest, and what else might be needed.[30] There are many international agencies and organizations that provide assistance and subsidized evaluation services for Caribbean countries struggling with the HIV and AIDS epidemic in the region (these groups are listed in the appendix).

1.3.3. Function

The results of M&E activities can be used for many different purposes, depending on who is interested in them and how they might reasonably be used. With clear goals, objectives, and timeframes, various stakeholders can rely on M&E data to know if they are achieving the intended results of the program. Consistent and reliable data help to facilitate closer collaboration among stakeholders and partners, as well as feed into other databases and broader efforts. Importantly, funding for HIV and AIDS-related activities is increasingly contingent on the ability of a particular program to demonstrate effectiveness with convincing evidence. Moreover, strong M&E can only be performed once goals, objectives, and activities have been defined, which helps to ensure that programs are clear and measureable.[30] The Centers for Disease Control and Prevention (CDC) summarize some of the varied uses of M&E data for school health programs as follows:[37]

- "Generate reports on funded partner activities and accomplishments

- Identify implications or recommendations for future programs
- Showcase significant and unique program achievements
- Inform decision makers and stakeholders on national program progress
- Compare the program description (expected program outputs) to actual accomplishments
- Identify gaps in activities, staff, and resources
- Generate recommendations to improve the program
- Facilitate future program planning
- Prepare reports and presentations to inform and update program staff, partners, participants, and community members of the progress achieved
- Incorporate the data into communication and marketing strategies for partners, collaborators, other community agencies, funders, and potential donors
- Seek financial support for additional resources or staffing to improve program efficiency or expand their program's scope"

1.4. Desk review methodology, and structure

EDC conducted this desk review to determine those elements that are essential for developing the capacity of the education sector to perform M&E activities that will strengthen country-level comprehensive responses to HIV and AIDS within a coordinated regional approach. As discussed earlier, the education sector plays an important role in the HIV and AIDS response throughout the Caribbean and M&E helps to ensure that policies, programs, and services are addressing the primary challenges and are achieving their intended results. The selection of indicators is only one step, as the IATT Review notes. This review seeks, also, to catalogue the availability and quality of information in guidance documents, the scientific literature, databases, and case studies and reports that inform the development of an M&E framework for the HIV response in the Caribbean education sector.

1.4.1. Methodology

This review targeted first those documents related to M&E of the HIV and AIDS response in the Caribbean education sector. However, extensive searches in PubMed, PsychInfo, and EBSCO produced few resources specifically relevant to the Caribbean context. Despite a range of search terms, the resulting documents were either too focused on programmatic elements, unrelated specifically to HIV and AIDS in the Caribbean, or did not address the education sector's response in particular. Instead, the websites of the major international health and education institutions were searched for "grey literature" publications. For these searches, three levels of priority for evaluating the relevance and usefulness of the available literature were outlined. Those documents specifically related to M&E of the HIV and AIDS response in the Caribbean education sector were prioritized highest. Those not specific to the Caribbean, but which covered M&E in the education sector were deemed slightly less relevant though careful consideration of the unique regional and country-level contexts would guide the review. Finally, those documents related to M&E organization and implementation more broadly would be included for general points and in areas universal to M&E experience in all settings. These three priority levels were

applied to all documents found through the literature search, though a list of principal documents (approximately 10), considered by those in the field to be of current and particular relevance, were given top priority.

The primary database searched was the UNESCO HIV and AIDS Education Clearinghouse, which produced 65 documents that fell within the sub-category "monitoring and evaluation." Almost all involved HIV, while very few related specifically to the education sector or the Caribbean. Closer consideration revealed that only 10 were deemed relevant and useful for the purposes of this desk review. Broad Google searching, using similar search terms also produced guidance documents of varying relevance and quality, including frameworks for developing and implementing education sector policies and programs in the education sector, and reviews of country and regional experiences implementing M&E systems to address HIV and AIDS. During the process of writing this review, however, it was determined that the priority scheme outlined above would not be very useful. Instead, some of the most important and relevant documents were broader M&E guidance documents related a range of international development issues, circumstances, and contexts.

Moreover, during the course of writing this review, two international meetings were held on monitoring and evaluation in the education sector response to HIV and AIDS. The first was the 2009 *Regional Monitoring and Evaluation Meeting and Training for the Caribbean*, which was held in Port-of-Spain, Trinidad and Tobago from October 20th to 23rd. The meeting brought together representatives from global, regional and country level organizations and expert institutions whose key mandates in the Caribbean involve Monitoring, Evaluation, Operations Research, Surveillance and Use of Strategic Information. The second meeting focused on developing a consensus around the indicators included in the IATT Review and was held in London from November 9th to 10th. This desk review, thus, also considered the discussions and conclusions that surfaced from both of these meetings. In all searching, only English language documents were consulted.

1.4.2. Structure

The elements essential to a robust M&E system may be separated practically into two categories: (1) the planning and organization of the M&E activities, including the conceptualization of a logic model and assigning indicators, responsibilities, and timeframes, and (2) developing the capacity to conduct those activities and complete the analysis of data and dissemination of findings. Within these two categories, research and institutions emphasize the importance of concentrating on a range of issues, technical skills, and strategies. This document explores the components and resources most often cited in the literature and by those responsible for developing and implementing M&E systems throughout the Caribbean and around the world, including:[34]

- Matrix for organizing M&E activities
- Resources and expected results (outcomes, outputs) organized into a logic model
- Indicators (with baselines and targets) and other key areas to monitor
- Background data issues in the Caribbean for context
- Existing datasets for baseline data and comparison
- Sample tools for developing customized valid surveys and other data collection instruments
- Additional resources

- Capacity development

2. Review of common elements of an M&E framework

2.1. Matrix for organizing M&E activities

To begin, a simple matrix that outlines the activities, indicators, responsibilities, timeframes, and sources or methods of data collection will help to organize the M&E system. While various countries, systems, and guidance documents use different structures, such a matrix should answer clearly and succinctly the following questions:[34]

- What is to be monitored and evaluated?
- Which activities need to be monitored and evaluated?
- Who is responsible for M&E activities?
- When are M&E activities planned and for how long?
- How are M&E going to be performed?
- What resources are required and where are they committed?

The answers to these questions should follow linearly back to the discrete goals and objectives defined during the design of the program or sector-wide response effort.

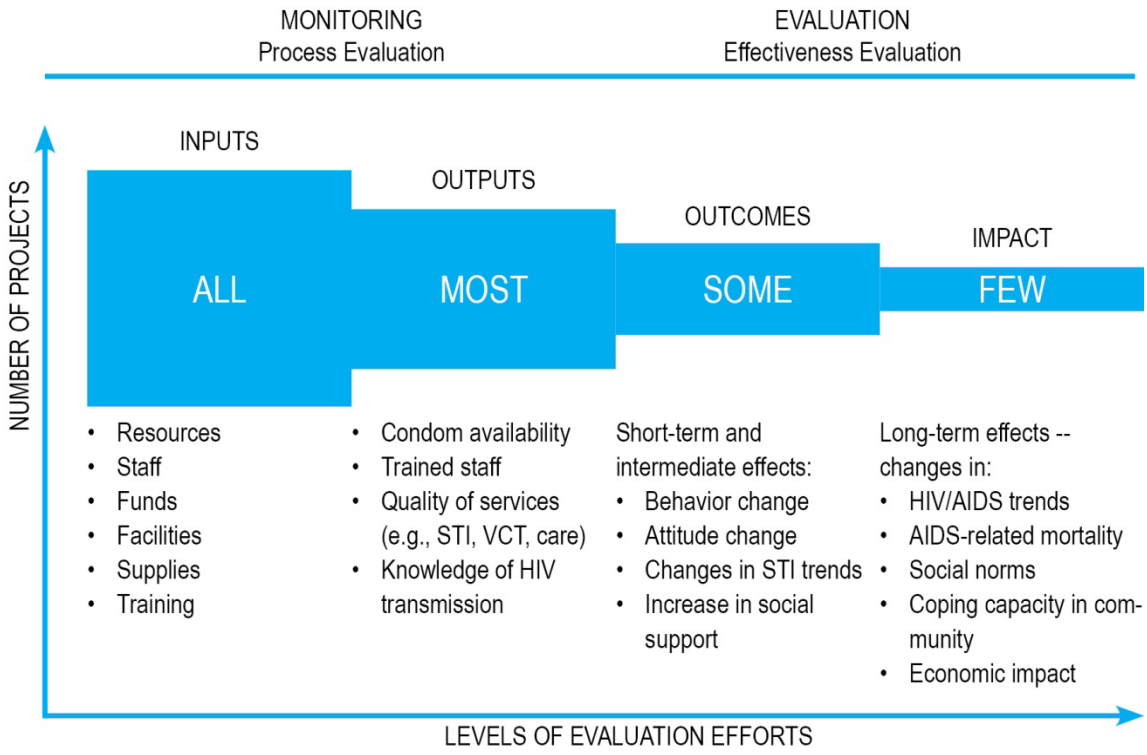
2.2. Resources and expected results (outcomes, outputs) organized into a logic model

When designing programs to respond to HIV and AIDS in the Caribbean education sector, planners define a series of goals and objectives that they intend to accomplish. These goals and objectives help to develop an M&E system that connects appropriate indicators to measure the expected outcomes based on these objectives. By creating a balanced, comprehensive approach to HIV and AIDS in the education sector, M&E activities can follow a similar approach. Developing a comprehensive approach to monitoring and evaluating an HIV and AIDS response, then, is intimately linked to how well the program that is being assessed takes a comprehensive approach. M&E systems more finely characterize objectives to describe and assess outcomes based on time and the population affected. To begin, logic models help to organize a program's work plan to be able to visualize the process from planning to impact. M&E activities can then be mapped onto the different stages of the work plan also using the logic model.[36]

In the logic model outlined below,[36] the work plan begins with *inputs*, which are "the set of resources (staff, financial resources, space, project beneficiaries) brought together to accomplish the project's objectives." Employing these resources to conduct activities leads to a series of products, or

outputs. The combination of these outputs produces *outcomes*, which are "the set of beneficiary and population-level results (practices, knowledge) expected to change from the intervention." The much longer-term *impacts* are those tangible, population level effects that result from these changes in practices and knowledge.[38]

***Figure 2. Monitoring and evaluation pipeline*[36]**



Some logic models may group outcomes and impacts, particularly in more local or smaller-scale programs, or, instead, may further subdivide particular segments, which would be more useful in larger, sector-wide approaches. The United Nations Development Programme (UNDP) endorses the use of the RBM system, which is based on a logic model that includes *activities*, as the mediators between the inputs and the outputs. RBM, "a broad management strategy aimed at achieving improved performance and demonstrable results," incorporates planning into the M&E system and "has been adopted by many multilateral development organizations, bilateral development agencies, and public administrations throughout the world."[34] Still, while models chosen by particular agencies, governments, and project leaders may differ slightly in language and detail, they all share a similar overall process: "Define goals and objectives, make sure that activities align with those and then use monitoring to assess the inputs and outputs and evaluation to assess the outcomes and impact."[36]

2.3. Indicators

In all M&E systems, indicators form the bridge between project objectives and the data collection and analysis used to assess the performance of that project. Simply, the IATT Review defines indicators as "quantitative and qualitative measures/variables that are used to assess current status, or progress towards programme goals, objectives, outputs and activities."[31] Because indicators are so intimately connected to program design and implementation, developing an M&E system to assess the HIV and AIDS response in the Caribbean education sector requires that the objectives chosen at the outset address all elements of a comprehensive approach. Following the typical logic model outlined above, after activities are selected that address the goals and objectives, specifically, planners select indicators that can be measured throughout and at the conclusion of the project to assess whether and how those goals and objectives are being, and have been, met.

2.3.1. What constitutes a good indicator?

Indicators selected for monitoring purposes are called *process indicators*, and are measured throughout the course of a project to assess if it is being implemented as intended and to identify limitations due to resource availability and other challenges. Evaluation or *outcome indicators* measure the longer term impacts and should correspond specifically to the goals and objectives defined in the project plan.

In order to be useful and instructive for subsequent data analysis, process and outcome indicators must be characterized by the following attributes:[30, 36]

- Simple, feasible, and affordable: unambiguous and practical to use
- Valid, specific, and reliable: measure what is intended only and produce the same results when used more than once (unless conditions change)
- Available and replicable: can be compared to existing datasets and used in multiple settings
- Meaningful: information gathered from measuring the indicator is informative and useful for adjusting the project or developing others

Indicators can be either simple counts (used most often for monitoring purposes) or more complex measures that assess a program's impact. M&E efforts may suffer from measurement errors or biases if the indicators selected are not characterized by the qualities described in the list above.

2.3.2. Summary of findings from the IATT Review of HIV and AIDS response indicators

Until recently, those responsible for setting up national or sector-specific M&E systems have not had easy access to information about the relative quality and strength of available international indicators related to HIV and AIDS. The 2009 review conducted by the IATT of the major international HIV and AIDS indicators specific to the education sector applied systematically a clear set of criteria for assessment of quality and usefulness. These criteria included:[31]

- Relevance and specificity to education sector HIV responses/outcomes
- National/international agreement on the indicator

- Use for national M&E and for international comparison of country responses
- Presence of existing data, and general ease of data collection
- Likelihood of errors during indicator data collection, due to measurement errors/biases

The authors reviewed indicators from numerous international sources, including the UNGASS (United Nations General Assembly Special Session on HIV/AIDS) indicators and the HIV/AIDS Survey Indicators Database. From these sources, they selected key *priority indicators* for each of the core elements involved in a comprehensive response to HIV and AIDS in the education sector. The complete set of indicators found to be directly related to a comprehensive approach to HIV and AIDS in the education sector is summarized below (those in bold are the priority indicators):

LEVEL	DESCRIPTION	INDICATORS
Process monitoring		
OUTPUTS	Education sector policies, plans, and management	• **Strategic plan and operational matrix for integrating HIV/AIDS education in MOE completed and disseminated to stakeholders** • Management and school governing bodies • National index on policy related to young people and HIV/AIDS • National funds spent by government on HIV/AIDS prevention programmes for young people • National Composite Policy Index • Domestic and international AIDS spending by categories and financing sources
	Curricular and non-curricular HIV prevention education to school-age children and youth	• **% schools that provided life skills-based HIV education in the last academic year** • No. (%) Young people aged 10–24 years reached by life skills–based HIV education in schools • No. (%) of countries that have "comprehensive and correct knowledge about HIV prevention" in national school leaving examinations at primary and secondary level of education • No. (%) peer educators/centres/schools/colleges organising activities related to HIV/AIDS/STD education and prevention • No. (%) of primary schools offering a Family Life Skills course as a proportion of all primary schools • No. (%) secondary schools offering a Family Life Skills course as a proportion of all secondary schools • Curriculum in primary/secondary education systems to develop young people's knowledge, attitudes and skills for health • % schools integrating life skills education into the wider curriculum • % schools in target area having active anti-AIDS clubs • % emergency schools and learning spaces that provide life skills-based HIV education • Timetabling of the education as prescribed or recommended

	HIV prevention education and training for educators	• **No. (%) of major teacher training institutions providing HIV prevention and skills building to protect teacher trainees out of total number of teacher training institutions** • **No. (%) of major teacher training institutions preparing teacher trainees to teach Family Life Skills** • No. (%) of teachers who have been trained in HIV&AIDS/life skills curriculum
	Testing, care and support services to school-age children and youth	• **Sexually active young women and men aged 15–24 years who received an HIV test in the last 12 months and know their results** • **% women and men aged 15–49 who received an HIV test in the last 12 months and who know their results** • % most-at-risk populations who received an HIV test in the last 12 months and who know their results • % orphaned and vulnerable children aged 0–17 whose households received free basic external support in caring for the child • Estimated no. of health facilities with arrangements in place to provide youth-friendly services • Use of specified health services by young people • No. young injecting drug users (IDUs) reached by HIV/AIDS prevention services • No. (%) youth counselled in reproductive health (in facilities) • No. (%) youth served by facility who report favourably on the key service • No. youth first clinic visits by type of reproductive services provided (e.g. STI screening/treatment, HIV testing, contraceptive counselling, nutritional counselling, pre/post natal services) • No. youth follow-up clinic visits by type of reproductive services provided (e.g. STI screening/treatment, HIV testing, contraceptive counselling, nutritional counselling, pre/post natal services).
	Testing, care and support services to educators	• None identified
• **Outcome evaluation**		
INTERMEDIATE OUTCOMES	Knowledge, attitudes and beliefs on protective and risk factors for HIV	• **% young women and men aged 15–24 who correctly identify ways of preventing sexual transmission of HIV and who reject major misconceptions about HIV transmission** • Knowledge of a formal source of condoms among young people • % youth who demonstrate knowledge of relevant adolescent reproductive health topic • No. (%) working teachers and teacher trainees in selected areas aware of professional policies on codes of conduct out of total number of working teachers and teacher trainees in selected

		areas • Adult support of education on condom use for prevention of HIV/AIDS among young people • Accepting attitudes - female teacher who is HIV+ but not sick should be allowed to continue teaching in school • Accepting attitudes – a) caring and b) approving teachers • % most-at-risk populations who both correctly identify ways of preventing the sexual transmission of HIV and who reject major misconceptions about HIV transmission
LONG TERM OUTCOMES	Behaviours that can influence HIV status	• **% students (13-15 years) who have ever had sexual intercourse** • **% students (13-15 yrs) who initiated sexual intercourse before age 13 years** • **% students (13-15 yrs) who had sexual intercourse with >= two people during their lifetime** • **Among students (13-15 yrs) who had sexual intercourse during the past 12 months, the percentage who used a condom the last time they had sexual intercourse** • **Condom use at last high risk sex among youth (age 15-24 years)** • **Median age at first sex among young men and women** • % young women and men aged 15–24 who have had sexual intercourse before the age of 15 and sex before the age of 18 • % never married young women and men aged 15–24 years who have never had sex • Sex before the age of 15 (proportion of orphans and vulnerable children to non-orphans and vulnerable children) • Safe practices among young injecting drug users (aged 15-24 years)

2.3.3. Gaps in the availability of relevant indicators noted by the IATT Review

The authors found, through their review, that reliable indicators do not exist for measuring a range of specific outcomes of a comprehensive response to HIV and AIDS in the Caribbean education sector:[31]

- Indicators were missing for measuring policy quality and workplace policies, as well as the "presence of an active management structure" and "strategic partnerships."
- For measuring impacts on teachers and other education staff, indicators were found to be lacking with regard to teacher training, peer-education, HIV and AIDS care and support services, and behaviour change.
- Similarly, care and support services for primary school-age children and their HIV and AIDS knowledge were not specifically addressed by the indicators found in the review.
- Gaps existed in relation to "the needs of children affected by conflict/violence, the implementation of community-school links, the impact of gender and power dynamics, the needs of children with disabilities and HIV positive youth."

- At the curriculum level, break-downs by grade or age are not available, nor are there useful indicators for use in programs intended to improve education for out-of-school youth and non-formal HIV and AIDS prevention education.

In fact, the indicators prioritized by the review focus almost entirely on primary and secondary education, in terms of school policies, life-skills education, and training of teachers. For testing, care, and support services to youth, however, the indicators focus primarily on secondary and tertiary education, or those who are out-of-school. The authors explain, "Other than the indicator on educational support to orphans and vulnerable children, indicators to measure services provided to primary school age children were not found. This gap may need to be considered for generalized epidemics in the proposed M&E framework."[31]

2.3.4. Limitations of the IATT Review as related to the Caribbean education sector

The authors acknowledge that the review focused on international documents and intentionally excluded country-specific texts, such as those that outline the M&E systems of Guyana and Jamaica. Still, even in these countries, the M&E systems need substantial restructuring and improvement, despite specific policies and indicators. In Jamaica, a report by UNESCO in 2005 found that M&E was "not working and needs a new strategic approach."[39] Since then, Jamaica has worked to improve its M&E capabilities for assessing a multi-sectoral approach to HIV and AIDS and has developed policies and structures for a national M&E system.[15] These systems, however, are just in their early stages and will need time before they can be assessed fully. While this review was comprehensive and unique to monitoring and evaluating the education sector's response to HIV and AIDS, there are some limitations relevant to developing an M&E framework for the Caribbean worth noting.

First, the selected indicators are almost exclusively only suitable for application at the macro level. The IATT Review tends to be focused primarily on national and international indicators, which do not specifically assess the policies, programs, and services at the school or district level. Many of the indicators begin "proportion of schools…" or "number of countries…" While some of these data may be useful to feed into broader M&E systems, they might not be as relevant at the local level where school administrators and municipal health and education officials are concerned with improving their own systems. Some indicators may be adapted, but then they might not be specific enough to provide useful information at the school or municipal level.

Second, depending on the grade-level, schools often see young women who may be living with HIV and AIDS and become pregnant. Assessing a school's capacity to provide ARVs as well as the needed psychosocial support to encourage pregnant women to seek treatment and care is critical for preventing mother-to-child transmission. M&E activities may also, then, include indicators that assess the number of pregnant women currently attending school, the rates of HIV-infection among these women and other high-risk groups, and the accessibility of ARVs and other treatment and care. Other indicators related to mainstreaming gender-sensitivity in the HIV and AIDS response should also be considered. A 2008 IATT document, *Toolkit for Mainstreaming HIV and AIDS in the Education Sector: Guidelines for Development Cooperation Agencies*, offers a checklist of "critical elements" for mainstreaming gender equality in the education sector.[40]

Third, stigma and discrimination are two of the most powerful barriers to implementing effective HIV and AIDS programs and connecting positive persons to much needed services and psychosocial support. The People Living With HIV Stigma Index offers indicators and guidance on the measurement and interpretation of those indicators to help "broaden our understanding of the extent and forms of stigma and discrimination faced by people living with HIV in different countries" for "local, national and global advocacy...to fight for improved rights for people living with HIV."[41] Other

indicators and compound measures or indexes can be found in documents such as the 2005 USAID working report *Measuring HIV Stigma: Results of a Field Test in Tanzania* or the 2007 UNAIDS document *Reducing HIV Stigma and Discrimination: A Critical Part of National AIDS Programmes*. Adapting such indicators for use in the Caribbean would require an understanding of, and emphasis on, those factors responsible for sustaining high rates of stigma and discrimination. Irrational fear of those living with HIV and AIDS due to a lack of understanding of basic transmission and treatment facts, stereotyping that links HIV and AIDS status to perceived immoral behaviour, and gender roles and gender-related violence may be challenging to measure but are pervasive factors that amplify the impact of stigma and discrimination. A recent UNAIDS document discusses possibilities for monitoring and evaluating the impact of programs on elements related to stigma:[42]

- Fear of HIV transmission through day-to-day contact can be assessed by asking whether individuals fear contracting HIV if they touch the saliva, sweat, excreta, etc.
- Stigma and discrimination based on shame, blame, and judgment can be determined by assessing agreement with statements, such as 'I would feel ashamed if I was infected with HIV.'
- The level of discrimination can be assessed by asking people whether they are aware of or have seen incidents which a person living with HIV or AIDS experienced (for example) exclusion from a social gathering or the denial of health care services.

Fourth, poor nutrition is recognized in the literature as an important factor leading to increased vulnerability to HIV infection and other poor health outcomes. UNICEF's *Guide to Monitoring and Evaluation of the National Response for Children Orphaned and Made Vulnerable by HIV/AIDS* cites "better nutritional status"[43] as one of the leading impacts to be measured when assessing the achievements of a coordinated HIV and AIDS response. Indicators for measuring malnutrition and food security are provided by the UNGASS/AIDS Declaration of Commitment and would be important for school-based, or education sector, M&E efforts to include.

Fifth, to assess national and regional capacities, indicators may need to be included that address the partnership and collaboration between various sectors, training and capacity building to assess the resources that are developed and integrated, research for programme planning, and the systems to harmonize M&E requirements among donors and partner agencies to minimize the need for multiple reporting. Hence, the very limited indicators suggested by the London meeting (reported below), may not necessarily allow for the information to coordinate a comprehensive sector response.

Lastly, due to the large number of relatively small countries constituting the Caribbean region, indicators may be more or less relevant depending on the unique local context in which an M&E system is situated. The dynamics in each country present different challenges to the HIV and AIDS response in the education sector. Coordinated HIV and AIDS programs in one country, for example, may target orphans and other vulnerable children to a greater or lesser extent than in others, if incidence and prevalence are particularly high. Thus, the selection of priority indicators may not align closely with those that the authors of the IATT report identified in their analysis. Countries and the regional HIV and AIDS response coordinating bodies, such as the Pan Caribbean Partnership against HIV/AIDS (PANCAP), should weigh the importance of measuring indicators encouraged by this report and other guidance with the need to address specifically their program goals and objectives, based on the epidemiologic profile and likely consequences.

2.3.5. Indicators discussion at London meeting

In November 2009, during an "M&E Framework for Education Sector Responses to HIV & AIDS: International meeting towards the development of framework consensus," building on the IATT Review, participants suggested the following key questions and priority indicators for the main components of a comprehensive response to HIV and AIDS:

Component	Main question	Priority indicator
Policy	Within the context of a national HIV response, is there an education sector response to HIV that is guided and enabled by policy, strategy and resources?	National Composite Policy Index (NCPI)
Curriculum	Is HIV, reproductive and sexual health education a timetabled subject delivered in schools? Is it mandatory and assessed? Are HIV related life skills delivered through co-curricular means?	Percentage of schools that provided life-skills based HIV education in the last academic year (UNGASS indicator)
Teacher training	Are educators receiving pre-service and in-service training about HIV (for themselves) and about teaching HIV to students?	Number/percentage of teachers who have ever received training to teach HIV prevention and life skills (new indicator)
Services	Is the education sector facilitating testing, treatment, care and support services for learners and educators? Are measures in place to make schools safe and protective environments?	Percentage of schools with plans communicated in schools that include components of physical safety & zero tolerance for discrimination, stigma & any form of sexual harassment/abuse

2.3.6. Designing new indicators

The international literature offers numerous indicators, which sector-wide HIV responses in the Caribbean can use for measuring their unique goals and objectives. While the IATT Review is comprehensive and assesses the standard indicators endorsed by some of the major international institutions providing guidance for M&E activities, there are still many others that may be useful for a particular setting. Many of these source documents are included in the table provided in Section 2.5. In other situations, developing new indicators may be necessary, though feasibility, usefulness, and cost should all be considered when doing so. Importantly, the standardized international indicators presented in the IATT Review should be included first and then supplemented with additional indicators either developed elsewhere or for a particular program or sector-wide approach. The UNAIDS M&E Reference Group (MERG) provides five criteria for assessing the quality of new indicators:[44]

1. "The indicator is needed and useful
2. The indicator has technical merit
3. The indicator is fully-defined
4. It is feasible to collect and analyse data for this indicator
5. The indicator has been field-tested or used operationally"

Once the developers decide that the new indicator really is new and meets these criteria above, MERG recommends that to be fully defined an indicator should also include:

- Title and definition
- Purpose and rationale
- Method of measurement
- Data collection method
- Measurement frequency
- Data disaggregation
- Guidelines for interpretation and use
- Strengths, weaknesses, and challenges
- Sources of further information

2.4. Background data issues in the Caribbean for context

2.4.1. Overburdened due to demand for data

Unfortunately, even in some of the most advanced monitoring and evaluation systems around the world, implemented by the education sector, significant problems remain. In 2007, the IATT conducted a series of case studies in four countries, including Jamaica, "where significant efforts have been undertaken in support of education sector responses to HIV and AIDS." The authors found that some of the "critical challenges" for M&E are that they:[45]

- "Continue to be project-focused rather than programme-wide.
- Are a separate rather than integrated process.
- Are an afterthought (without baselines).
- Remain under-funded.
- Are rarely based on agreed upon indicators for measuring outcomes and impact.
- Do not receive sufficient support/attention by DPs.
- Do not generate sufficient data or evidence which can be used to advocate for an expanded role for the education sector in the national response.

- Are not sufficiently linked to HIV and AIDS reporting and coordination and decision-making mechanisms."

Budgets are small and "special" responses to HIV may not be sustainable in the long-term, especially in smaller islands. Programs often do not have staff dedicated to M&E, with most working in a variety of areas. Until recently, there has been little appreciation and use of M&E.[46]

St. Lucia participants in a HIV/AIDS in the Caribbean brainstorming session in September and October 2005 recognized the importance of M&E tasks. However, they felt overwhelmed by the demands to complete the task, the ambitiousness of donor proposals for data collection (such as sophisticated information technology platforms) and the various demands of different donors for information. They expressed concern that managing such a system would be unfeasible, particularly given their relatively new relationships with international agencies.[47] In the past, both international agencies and national health system managers have "underestimated the effort (including technical assistance) needed to collect recurrent output or outcome M&E information."[47] Prioritizing the data reporting requirements from external funders is also a complicated decision.

The authors of *EDUCAIDS Technical Brief* reiterated the point above that countries are already over-burdened with numerous data collection requirements.[30] Similarly, the authors of the *UNICEF Guide to Monitoring and Evaluation* made the recommendation to "keep the information requirements to a bare minimum."[43]

Challenges when designing an M&E framework include collecting too much data, ensuring that the data is high quality, analyzing the data and using it to inform decision-making, and deciding carefully how to spend limited resources. These questions should be answered as part of the first steps in designing an M&E system: who needs what information, for what purpose, how frequently, and in what form?

To help lighten the data demands, "the national information system should be looked to where possible to provide necessary monitoring information. Especially in countries with severe resource constraints, this may be one of the only regular sources of data."[43]

2.4.2. Weak M&E capacity

While M&E capacity is currently "weak throughout the Caribbean,"[47] although very recent evidence from a *UNAIDS 2009 Regional Monitoring and Evaluation Meeting and Training for the Caribbean* which was held on 20 to 23 October, 2009 at the Hilton Hotel, Port-of-Spain, Trinidad and Tobago suggests that M&E capacity in the Caribbean has improved over time.[48] Efforts made between 2005 and 2009 resulted in M&E changes for the better such as increased numbers of staff trained in M&E and improvements in reporting. Still, the lack of trained staff and resources (at the National AIDS Programmers level) puts comprehensive and reliable data collection and reporting at risk. Epidemiological surveillance in the Caribbean is stronger than M&E capacity. For example, Ministries of Health are required by law to report certain epidemiologic information, such as communicable diseases. However setting up and maintaining these surveillance systems typically utilizes a "substantial amount" of technical help and the surveillance systems themselves are usually brought in from outside the country.[47]

Regional and international organizations recently agreed on a common approach for providing M&E technical assistance. At the country level, such as in Guyana, donors are adopting a common set of

about 45-50 indicators. Almost all Ministries of Health collect basic service statistics from hospitals and health centres, but hardly any population-based survey information.[47]

2.4.3. Little coordination between diverse Caribbean countries and territories

There is considerable diversity in the Caribbean, where people speak many different languages, including English, French, Spanish, and Dutch. Most islands are independent states while others are dependent territories (British, Dutch, and French). Islands/territories have individual national strategic plans, HIV and AIDS programs and M&E systems. Funding in the region is from various sources (national funds, the Global Fund, European Union, World Bank loans/grants, DFID, etc.) and independent states typically receive more help than do the territories.[46] While "there is little consistency in the process, data quality, sources, methodologies and completeness of reporting,"[49] there is also growing regional coordination on some issues (e.g., ARV procurement, patient monitoring systems, laboratory support).[46]

2.5. Existing datasets for baseline data and comparison

There are some data collection systems and baseline data sources in place that are useful to those planning a monitoring and evaluation framework for the education sector in the Caribbean. National resources are likely to be extremely limited, particularly in smaller Caribbean countries. As mentioned earlier, countries are also already feeling overburdened by data reporting requirements to outside agencies. Therefore, the more that M&E data can be gleaned from existing data sources, the better. The existing resources can be seen in the following table.

Name	Indicator	Database	Worksheet	Short Description	Geographic Area Covered	Main Indicators
UNGASS	X			Related to the 2001 Declaration of Commitment on HIV/AIDS by the United Nations General Assembly Special Session	UN Member States, including those in the Caribbean.	25 UNGASS indicators currently collected in the Caribbean fall in 4 groups: National commitment and action; National Programs; Knowledge and behaviour, and; Impact.
PANCAP Core Caribbean Indicators	X			Includes some UNGASS indicators, plus some additional ones on M&E, capacity development, regional progress, and multi-sector response.	PANCAP Members	24 indicators included, falling into the categories of impact, outcome, and activity.

Desk review for developing a monitoring and evaluation framework for a comprehensive HIV and AIDS response in the Caribbean education sector

Name	Indicator	Database	Worksheet	Short Description	Geographic Area Covered	Main Indicators
HIV/AIDS Survey Indicators Database	X	X		UNGASS and other HIV/AIDS indicators gleaned from surveys can be accessed.	Global in scope.	Indicators identified to monitor the goals set at the UNGASS, the Millennium Development Goals. Main data sources: Demographic and Health Surveys (DHS), the Multiple Indicator Cluster Surveys (MICS), the Reproductive Health Surveys (RHS), the Sexual Behaviour Surveys (SBS), and Behavioural Surveillance Surveys (BSS).
Global Response Database (GRD)	X	X		Large, global database developed by UNAIDS, serves as main data repository for UNGASS country data.	UN Member States, including those in the Caribbean.	
Country Response Information System (CRIS)		X		A UNAIDS information system used in member countries.	UN Member States, including those in the Caribbean.	UNGASS
Caribbean Epidemiology Centre (CAREC)	X			"Second-generation" epidemiological surveillance, which includes information on incidence as well as behavioural indicators.	Anguilla, Antigua & Barbuda, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Kitts & Nevis, St Lucia, St Vincent, Suriname, Trinidad & Tobago, Turks & Caicos	Epidemiological surveillance, incidence and behavioural indicators.
UNAIDS / WHO HIV /AIDS prevalence estimates	X			Available from WHO.		Prevalence indicators.

Name	Indicator	Database	Worksheet	Short Description	Geographic Area Covered	Main Indicators
DevInfo	X	X		An indicator database system, specifically to support governments in monitoring progress on reaching Millennium Development Goal targets and assisting these efforts through monitoring and evaluation.	The DevInfo source code is the property of UNICEF. DevInfo can be used by anyone who has the software. UNICEF has absolutely no restrictions on the database and its use.	Human development data.
Organization of Eastern Caribbean States (OECS) Info statistical database	X	X		OECS Info is an adaptation of the DevInfo database system, endorsed by the United Nations system for dissemination of human development data, including social and economic statistics.	9 members: Anguilla, Antigua and Barbuda, British Virgin Islands, Dominica, Grenada, Montserrat, St. Lucia, St. Kitts & Nevis, St. Vincent	Economic and social development data.
Education Management Information Systems (EMIS)		X		EMIS has no standard definition and thus you have to look at each case to get each definition.		
EdSida	X		X	Combines epidemiological and education data. Project the impact of HIV&AIDS on education supply and demand.	Available for download.	

The **UNGASS** indicators resulting from the 2001 *Declaration of Commitment on HIV/AIDS* are the most standardized for extracting baseline data. Along with additional indicators related to M&E, capacity development, regional progress, and multi-sector response, these form PANCAP's **Core Caribbean Indicators**. The non-UNGASS Core Caribbean M&E indicator is "National HIV M&E plan linked to national strategic plan and addressing its objectives is developed." [1]

With the adoption of the *Declaration of Commitment on HIV/AIDS*, countries committed to providing progress reports to the General Assembly every two years.[50] UNGASS indicators monitor progress regarding achieving universal prevention, treatment and care services access in 2010, and reaching the Millennium Development Goal of stopping the spread of HIV by 2015.[51]

The UNGASS and other HIV/AIDS indicators gleaned from surveys can be accessed using the **HIV/AIDS Survey Indicators Database** (http://www.measuredhs.com/hivdata/start.cfm), which "provides an easily accessible comprehensive source of information on HIV/AIDS indicators derived from sample surveys. The database allows the user to produce tables for specific countries by select background characteristics, as well as country reports."[52]

The 25 UNGASS indicators currently collected in the Caribbean fall into 4 groups: National commitment and action (indicators 1 & 2); National Programs (indicators 3 – 11); Knowledge and behaviour (indicators 12 – 21); and Impact (indicators 22 – 25).[46] Some of the data sources mentioned are population-based surveys (e.g., Demographic Health Survey, AIDS Indicator Survey, Multiple Indicator Cluster Survey or other representative survey). Also mentioned are the "special behavioural surveys such as the Family Health International Behavioural Surveillance Survey for most-at-risk populations" including sex workers, intravenous drug users, and men who have sex with men.

Global Response Database (GRD), a large global database developed by UNAIDS, serves as the main data repository for UNGASS 2003, 2005 and 2007 country data. The participating UN member countries submit all of their UNGASS indicator data using the **Country Response Information System (CRIS)**. CRIS, a UNAIDS information system, allows systematic (1) collection, (2) storage, (3) analysis, (4) retrieval and (5) dissemination of project, financial and indicator data related to a country's response to HIV and AIDS. More specifically, it allows:[53]

- setting up national M&E reporting, standalone or web-based solution
- monitoring progress targets, such as Universal Access, Global Fund, UNGASS data from earlier years, 2003, 2005 and 2007 is pre-loaded
- enhanced program monitoring
- linking indicators with projects
- entry of data and monitoring plans at sub-national levels
- roll-up of financial and indicator data from sub-national to national level
- use with Indicator Registry and Global Database

"Second-generation" epidemiological surveillance, which includes information on incidence as well as behavioral indicators, is increasing in **Caribbean Epidemiology Centre (CAREC)** member countries: Anguilla, Antigua & Barbuda, Bahamas, Barbados, Belize, Bermuda, British Virgin Islands, Cayman Islands, Dominica, Grenada, Guyana, Jamaica, Montserrat, St Kitts & Nevis, St Lucia, St Vincent, Suriname, Trinidad & Tobago, Turks & Caicos.

Another accepted source of data is the **UNAIDS/WHO HIV/AIDS prevalence estimates**, which base national estimates of HIV prevalence "on data on pregnant women who attend a selected number of sentinel antenatal clinics, and, in an increasing number of countries, on nationally representative surveys."[54]

DevInfo is a general purpose database system designed for the collation, dissemination, and presentation of indicators, specifically to support governments in monitoring progress on reaching Millennium Development Goal targets and assisting these efforts through evidence-based planning, monitoring, and evaluation. "The Organization of Eastern Caribbean States (OECS) Secretariat launched its **OECS Info statistical database** on 3 November 2009. OECS Info is an adaptation of the DevInfo database system, endorsed by the United Nations system for dissemination of human development data, including social and economic statistics."[55]

Numerous countries have **Education Management Information Systems (EMIS**) in place, though this can indicate very different things, ranging from project management to the use of computers in education administrative tasks. The annual school census conducted in all countries is the one source of data typically associated with EMIS.[56] *Strengthening the Education Section Response to HIV&AIDS in the Caribbean* recommends the use of EMIS or school survey data to assess HIV and AIDS-specific indicators, teacher mortality and attrition data, teacher absenteeism data, and district level data.[10]

For long-term planning, computer models, such as **EdSida** (combining epidemiological and education data) are available that project the impact of HIV and AIDS on education supply and demand. EdSida (available at http://sn.im/edsidav3) can be used to assess the implications of the following changes due to the spread of HIV and AIDS in a particular country:

- supply for teacher recruitment and training
- changes in the size of the school population
- the proportion of orphans and vulnerable children

Users can also model teacher attrition to AIDS-related illnesses as well as other causes and can estimate the future cost of new teacher training and of absenteeism due to HIV-related illness.

2.6. Sample tools for developing customized valid surveys and other data collection instruments

If it is determined that the necessary data parameters to conduct a high quality M&E of HIV and AIDS in the education sector in the Caribbean do not exist, there are a number of guidelines available, helping individuals develop customized valid survey and other data collection instruments. Involved in these data collection efforts are the potential substantial costs of designing and implementing a brand new survey or data collection approach. Therefore, if at all possible, existing data sources should be tapped, keeping in mind that a trade-off may be required between utilizing what is already available and obtaining exactly the desired data (e.g., with an indicator question phrased exactly right and gleaned from the desired population at the frequency desired).

2.6.1. Steps to take to glean the data or design a new survey tool

Often data has been collected for another purpose, such as hospital administration data or data collected as part of governmental technical report, but these data may not be immediately available for broader research use. Gaining access to such data through agreements on confidentiality protection and extraction of the data of interest is sometimes possible at much lower cost than what would be required for developing and implementing an entirely new survey.

Possible sources for lower cost data are:

- Population censuses and estimates: Annual population estimates account for births and deaths in a country and disease prevalence. They come from national bureau of statistics reports and WHO country-specific disease prevalence estimates.
- Vital registration statistics: Most countries require registration of births and deaths.

- Routine administrative data: These come from the routine of services delivery institutions, such as hospitals.
- Regular reports of government and non-government agencies
- Large-scale monitoring or surveillance programs
- Technical publications
- National and local studies, with information on child and maternal poverty, health, nutrition, welfare, education, community participation
- Discussions with informed people/communities
- Rapid appraisals
- Evaluations and legislation and policy documents

If a major survey is required, what type of survey should it be? The authors of the document, *Indicators for Education Sector HIV Response Programmes: A review of existing resources*, recommend using facility-based surveys and routine data collection rather than population surveys for ongoing monitoring in M&E. A health facility survey targets a representative sample of facilities to gather information about such aspects as human resources, equipment, and the type of services provided. The expense of conducting such a survey depends on the scope of the survey and on the number of facilities included.[35]

Other types of surveys are general population-based surveys, representative sampling of the population, and special population-based surveys.[35] Again, the cost will vary depending on the scope and sample sizes, but these surveys are typically large endeavors and financial commitments.

2.6.2. Survey design complexities and mistakes to avoid

The sampling methodology of surveys determines which respondents (such as individuals, facilities, or whatever unit is the focus of the study) are selected for inclusion in the study. Usually it is not possible to include everyone in the population or even in a selected group within the population, requiring careful statistical sampling methodology to ensure that the selected sample is representative of the broader group. For example, if a large population has important subpopulations, these groups are often oversampled so that that their results are represented statistically in the survey. Additionally designers of surveys need to make sure that sampling/survey methodology and country situations are comparable when using national data.[31]

Biases in survey data are likely so additional means are needed to verify the collected data. Possible biases in survey design include:

- Selection bias: making an error in the selection of the sample
- Sampling bias: systematic error due to a non-random sample of a population
- Non-response bias: results when respondents differ in meaningful ways from non-respondents
- Voluntary response bias: occurs when sample members are self-selected volunteers, as in voluntary samples

Response biases can also result from inappropriately phrased survey questions. For example, response bias can come from leading questions or when respondents are unwilling to reveal behaviors

or facts about themselves that they believe are socially undesirable. It is a challenge to measure the impact of HIV and AIDS on the education systems because stigma and discrimination motivate people to hide their HIV status.[30]

2.7. Additional resources

One of the most thorough and easy to understand data guidelines is The World Bank document, *Monitoring and Evaluation Toolkit, HIV, Tuberculosis and Malaria and Health Systems Strengthening , Part 1: The M&E system and Global Fund M&E requirements*. The tables in this toolkit are very clear, relevant, and user-friendly. This document and other useful references are shown below:

Title	Brief Description	Most Useful Components
EDUCAIDS Technical Briefs[30]	Two-page summaries on key issues related to the five essential components of a comprehensive education sector response to HIV and AIDS. Supports "development and implementation of policies, determining resource allocations, and implementing programs for education sector staff and learners."	One of these summaries is entitled, "Monitoring and evaluation of HIV and AIDS education responses."
UNDP Handbook on Planning, Monitoring, and Evaluating for Development Results[34]	Thorough and User-Friendly. Provides easy to use worksheets and tools. Integrates planning, monitoring, and evaluation in a single guide. Includes comprehensive chapter on evaluation design for quality assurance. Intended for UNDP staff, but with broader applications.	Detailed discussion of data collection, capacity development and how the two are linked. Very user-friendly worksheets and tools.

Title	Brief Description	Most Useful Components
UNESCO IIEP Modules[57]	In partnership with the Mobile Task Team on the Impact of HIV/AIDS on Education (MTT), a series of training materials has been developed to: increase access for a wide community of practitioners to information concerning HIV/AIDS and educational planning and management; expand the capacity and skills of educational planners and managers to conceptualize and analyze the interaction between the epidemic and educational planning and management, and plan and develop strategies to mitigate its impact.	Many useful modules re: impact of HIV/AIDS on education, HIV/AIDS management structures in education , policy development, management structure, analysis, projecting education supply in context of HIV/AIDS, costing the implications of HIV/AIDS in education, etc.
Global Fund Monitoring and Evaluation Toolkit, HIV, Tuberculosis and Malaria and Health Systems Strengthening , Part 1: The M&E system and Global Fund M&E requirements[35]	Thorough with easy to understand tables and guidelines. It also provides users with references to key materials and resources.	Basic elements of the M&E including target setting, methods of data collection, monitoring outcome and impact, evaluation and operations research; Strengthening the M&E System, including addressing data quality issues, monitoring the quality of the services, generating strategic information, institutionalizing the annual review process, M&E assessments and follow-up
National AIDS Councils Monitoring and Operations Manual[58]	This manual attempts to: introduce key concepts; present simple, clear procedures, with a checklist of the process, timing and costs of building participatory program M&E for NACs; offer key tools that implementing partners need for M&E; and provide examples of terms of reference and other M&E management and administration materials.	Appendices 1-9 are meant as TOOLS; budgeting, planning, quality assurance is addressed. Data flow, central database, and timing of data collection is addressed as well.

Title	Brief Description	Most Useful Components
Pact Building Monitoring, Evaluation and Reporting Systems for HIV/AIDS Programs[59]	The goal of this workbook is to present M&E in its most basic and useable form. Therefore, the goal is to provide materials to help organizations construct a quality system that is straightforward, affordable, efficient, and most importantly, useful to the management and operations of the organization itself.	Chapters 4, 5, and 6 are on monitoring, evaluation and reporting, respectively. Worksheets are included to tailor the lessons to the respondent's individual needs and circumstances.
UNAIDS Organizing Framework for a Functional National M&E system[33]	The organizing framework can be used to establish a common understanding of what constitutes a functional national HIV M&E system. It can serve as a concise checklist for national M&E system planning and implementation which need to address all 12 components of the system over time. It can be used in M&E trainings, technical guidance and assistance. It can also be used as guidance for assessing the national HIV M&E system based on the performance results for each system component.	**People, partnerships and planning** (1. Organizational structures with HIV M&E functions; 2. Human capacity for HIV M&E; 3. Partnerships to plan, coordinate, and manage the HIV M&E system; 4. National multi-sectoral HIV M&E plan; 5. Annual costed national HIV M&E work plan; 6. Advocacy, communications, and culture for HIV M&E) **Collecting, verifying and analyzing data** (7. Routine HIV program monitoring; 8. Surveys and surveillance; 9. National and sub-national HIV databases; 10. Supportive supervision and data audits; 11. HIV evaluation and research) **Using data for decision-making** (12. Data dissemination and use)
A UNICEF Guide for Monitoring and Evaluation, Making a Difference?[60]	Thorough discussion of UNICEF's M&E policies and guidelines. Dense document with lots of useful (as well as with UNICEF-specific) information. UNICEF policies, but with broader application possible.	Organization of M&E; Strengthening Monitoring, including data collection approaches; Strengthening Evaluation
World Health Organization A Guide to Monitoring and Evaluation for Collaborative TB/HIV Activities[61]	Intended for joint TB and HIV M&E, but basic guidelines for M&E system building apply here too.	Gives basic steps and criteria for building a good M&E system. Not much detail given for the specific steps, such as data collection.

In addition to the toolkit mentioned above, a number of these documents are particularly recommended for data collection and/or capacity development guidance. They are:

- *Handbook on Planning, Monitoring, and Evaluating for Development Results*[34]

- *National AIDS Councils Monitoring and Operations Manual*[58]
- *Building monitoring, evaluation and reporting systems for HIV/AIDS programs[59]*
- *Organizing Framework for a Functional National Monitoring and Evaluation System[33]*

The strength of all these documents is that they use clear language and try not to overwhelm the reader with too many steps to take or with too many issues to keep in mind. The lessons in these toolkits and guidelines are even more effective when they give worksheets and discussions questions for consideration. None of these resources are particularly geared for the education sector or for the Caribbean, but the fit is close enough to make them highly relevant and very useful.

2.8. Capacity development

Capacity development is another important topic related to an M&E framework in the education sector in the Caribbean. "Capacity is the ability of individuals and organizations to perform functions effectively, efficiently and sustainably."[62] Human resources, structural components, and process components all contribute to successful capacity.

2.8.1. Human resources

Regarding human resources, capacity "requires an enabling environment to ensure that people are used effectively, retained within organizations and structures that need their inputs, and are motivated to perform their tasks."[62] Training of personnel is recommended "to ensure accurate and reliable projections, sound demand and supply analysis, impact assessments, and timely management information through EMIA, and the use of EMIS data for planning purposes."[63]

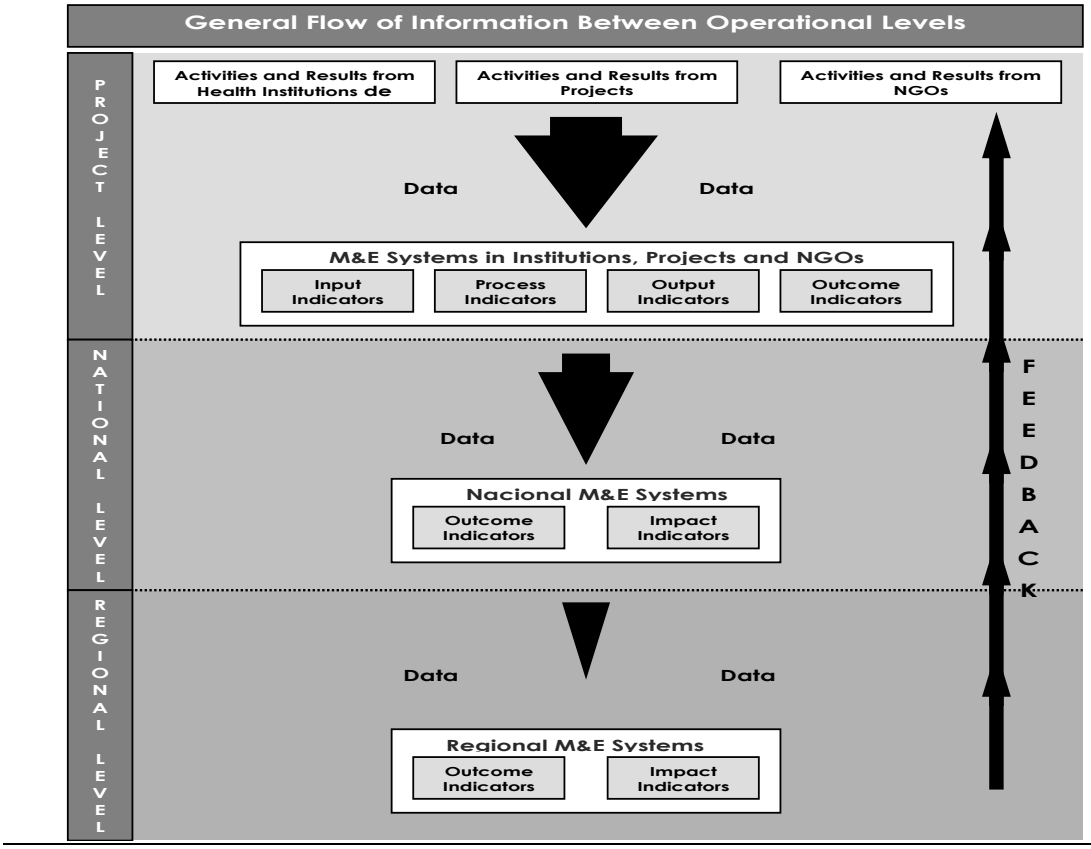
Training in M&E is one, but not the only, human requirement of capacity development. Another important issue to consider is how HIV and AIDS might affect the number of people available for these M&E activities. Designers of the M&E framework for the education sector in the Caribbean should "take account of the many ways that the HIV epidemic undermines capacity in all of its dimensions, both directly and indirectly, and respond to this challenge in ways that lead to effective outcomes."[62]

2.8.2. Structure and process

Capacity development includes approaches to collecting data (methods of collection, timeframes for collection) and approaches to data analysis, interpretation, and dissemination. International agencies, such as UNICEF (DevInfo), UNAIDS (CRIS, GRD), and Caribbean-specific agency, OECS (OECS Info) are assisting with these development efforts.

Data collection and flow: The general consensus is that data flow needs to include both the most local and the most expansive levels. The experiences of Zambia, another country included in the IATT case studies document, suggest that data sources and flows should include: School (public, community, grant-aided, private), district, provincial, and headquarters (universities, ministries, top management M&E technical committee).[45] The WHO document, *A Guide to Monitoring TB/HIV*, reiterates the recommendation to create a logical flow of data from service delivery to national level.[61] The data figure below is from *M&E Capacity and System Development in the Caribbean* presented by Ansari Z.

Ameen, PhD, from the Caribbean Health Research Council (CHRC). It shows how data should flow from local programs to national programs to regional programs, with feedback then going all the way back from the most expansive to the most local level.



Related to data flow is the issue of the timing of data collection. The recommendations for how this should be done vary greatly depending on the type of data (for example, input indicators vs. outcome indicators) being collected.

Data storage and management: As a within-country data collection tool, use of the EMIS is generally recommended, although as discussed earlier, use of the term "EMIS" can refer to radically different things.[56] Luckily, there are also a number of standardized databases in use, such as GRD. Regarding data collection and analysis a national-level data collection and analysis plan is recommended,[61] as well as:

- a plan to collect data and analyze indicators at different levels of M&E
- a centralized database or library of all TB- and HIV-related data collection, including ongoing research
- coordination of national and donor M&E dissemination needs.

Data analysis and interpretation: Once the data is collected, "analysis and interpretation of data is complex, but essential. Often best to bring in an outside qualified consultant specifically trained for this purpose."[64] If high quality data is collected, but not analyzed correctly by someone with the

necessary statistical knowledge, results from the analyses may be erroneous and can do more harm than good.

Statistical analysis is often more appropriate for evaluation purposes. These quantitative data help, simply, to measure change. Importantly, they are not "designed to explain why a situation has changed or has failed to change… It is therefore important to support and implement (smaller-scale) qualitative studies and routinely perform a national situation analysis that can answer the 'why' question and contribute to decisions about 'how.'"[43]

A particularly advanced type of evaluation is assessing the effectiveness of interventions. The document *Evaluating Programs for HIV-AIDS Prevention and Care in Developing Countries* helps clarify which kinds of study designs for this purpose are the most rigorous. The hierarchy of evidence (decreasing strength of evidence) of intervention study designs are: experimental studies, including randomized controlled trials; quasi-experimental studies, including controlled trials with no randomization; observational studies, including cohort studies with concurrent controls, cohort studies with historical controls, and case-control studies; and, cross-sectional surveys with no control groups, including repeated surveys in target populations and pre-post intervention surveys.

Reporting and dissemination: After data collection and data analysis, the next step is reporting and dissemination of the results. "Transparency, collaboration, and the wide dissemination of relevant research can be encouraged by development partners to ensure that findings on HIV and AIDS and education are reaching policy and program audiences."[63] It is recommended[61] to:

- develop "a national-level data dissemination plan with clear guidance on how information can be used for program improvement at all levels."
- create "a well disseminated and informative annual M&E report."
- hold annual meetings to disseminate and discuss M&E and research findings with policy-makers and planners.

"At the legislative level, action needs to be taken to ensure that reporting is undertaken consistently by all sources and that confidentiality is assured."[65] Also central systems of data collection need to be appropriate for managing this process. It is necessary at the policy level to create "standard methods for reporting and data collection," as well as "appropriate training and awareness building."[65]

There are numerous possibilities when devising plans for Caribbean education sector M&E data collection, data management, analysis, reporting, and dissemination. The toolkits listed above mention many of these variations for consideration, such as how often to collect input data, who should be trained in M&E, and what types of reports should be written by whom. The "best" design choices for the Caribbean education sector M&E framework will be those that are adaptable to change, make the most efficient use of limited resources, build on existing M&E efforts and capacity in the region and strengthen the effort in the region to collaborate together on M&E activities.

3. Summary and recommendations

This desk review pulls together resources that focus on a range of issues related to developing an M&E framework for the Caribbean education sector's response to HIV and AIDS. Some of the documents cited relate specifically to the Caribbean, while others are more global in scope. Fortunately, across domains M&E strategies are fairly consistent in terms of their organization and intended effects. The challenge will be the effective implementation of M&E systems in countries throughout the Caribbean that are consistent enough to support a regional approach, but unique enough to allow for the varying capacities and experiences of those countries. Below we offer a summary of the essential elements and issues to consider, when developing an M&E framework for use by countries instituting a comprehensive approach to HIV and AIDS, unique to their particular circumstances but amenable to a regional response.

3.1. A comprehensive approach to M&E

Developing an M&E framework that supports and reflects a comprehensive approach to HIV and AIDS in the Caribbean education sector is critically dependent on the program design or sector-wide approach itself. If the selection of goals, objectives, and activities do not address the five major components of a comprehensive approach (according to the IATT Review), then M&E cannot be conducted across those components. The results of the M&E efforts may reveal significant gaps and problems in sector-wide or school-based strategies that suggest a need to create more balance or improve some of the weaker components, but they cannot institute a comprehensive approach unless the program or response itself reflects that approach. M&E, then, serves a supportive and informational role for the education sector's response to HIV and AIDS, whether or not it chooses to employ a comprehensive approach.

In that role, however, there appear to be two primary elements of an M&E framework that may be organized to support a comprehensive approach, as outlined by UNESCO, EDUCAIDS, the IATT Review, and elsewhere. First, the selection of core indicators is directly informed by the selection of those goals, objectives, and activities that constitute the HIV and AIDS response. As this review shows, certain components of a comprehensive approach receive greater attention than others and the development of standardized internationally recognized indicators often reflect this unevenness. Second, the involvement of different stakeholders in M&E activities would likely depend on resources available and what components of the approach are to be measured. For instance, health services personnel, students, and other personnel may be involved both as survey participants or facilitators for monitoring and evaluating activities related to providing testing, care, and support services, while political and community leaders may be more appropriate for understanding how well education sector policies, plans, and management are functioning.

3.2. What an M&E framework for the Caribbean education sector HIV and AIDS response should look like

An M&E framework for an education sector response to HIV and AIDS in the Caribbean needs to address a range of components related to organization and management, as well as the capacity to

carry out the necessary activities. Also, a good M&E framework needs to be sufficiently comprehensive to provide meaningful findings, and at the same time it needs to be simple and efficient to implement. The reality is that good M&E practices are dependent on the compliance of the human resources that are involved and it is therefore important to keep the M&E arrangements simple and affordable. EDUCAIDS outlines several issues important to developing a successful M&E system:[30]

- "Clarity of aims and simplicity of data collection and analysis
- Consistency with data collection systems of the education sector and national AIDS programs
- Agreement among partners about the process
- Adequate training and technical assistance
- Monitoring and data collection processes should be transparent and locally owned and driven
- Ability to feed results into future planning processes
- Culturally and ethically appropriate"

Developing the capacity to perform M&E activities extends beyond simply observing and recording changes throughout the course of a program or sector-wide response. It involves the deepening of core capacities in areas of resource and personnel management, project conceptualization and long-term planning, data collection and management, and analysis and dissemination. While significant gaps in the literature and documentation of country-level experiences specific to implementing M&E activities for assessing the Caribbean education sector response to HIV and AIDS exist, there are several core elements recognized consistently to be critical for constructing a functioning, sustainable, and useful M&E system. This section provides a summary of these elements, as well as some of the primary considerations that should be addressed when developing a framework.

3.2.1. Involving stakeholders and assessing capacity for conducting M&E

At the outset, and throughout the implementation and evaluation of the HIV and AIDS response, planners need to assess the availability of resources for conducting M&E activities. These resources may include, but are not limited to, financial, human resources, and structural needs supporting data collection and management. As the *Handbook on Planning, Monitoring and Evaluating for Development Results* explains, "it is vital to engage stakeholders, promote buy-in and commitment, and motivate action. A strong results-management process aims to engage stakeholders in thinking as openly and creatively as possible about what they want to achieve and encourage them to organize themselves to achieve what they have agreed on, including putting in place a process to monitor and evaluate progress and use the information to improve performance."[34]

3.2.2. Developing a logic model and setting up an M&E matrix

Planners and education sector leaders need to develop next, when designing the program or sector-wide response, a clear logic model that outlines the goals, objectives, activities, inputs, outputs, and outcomes. Those responsible for M&E activities can then map out indicators, timeframes, responsibilities, and other relevant information that will help to measure how well the program or

response is achieving its intended effects. Logic models are relatively straightforward in concept and the literature is generally consistent. At a minimum, they should consist of inputs, outputs, outcomes, and impacts, but may also include descriptions of planned activities. Once planners have established a logic model to organize the HIV and AIDS response in the education sector, M&E activities can then be organized using a matrix. Though structures vary, they should cover the "who, what, where, when, and how" of the M&E system.

3.2.3. Selecting indicators for a country-specific or regional M&E system

When mapping out the M&E activities, indicators should be selected that measure most feasibly and appropriately the various stages of the logic model. Process indicators, used for monitoring purposes, are typically related to the specific activities of the HIV and AIDS response. Developing or selecting outcome indicators for evaluation purposes might, in contrast, involve considering the intended effect produced through the combination of several activities. As different backgrounds and socioeconomic circumstances confer varying risks, the literature is clear that programs or sector-wide responses must be able to generate disaggregated data by such characteristics as gender, age group, urban or rural setting, pregnancy status (where appropriate), and orphanhood status.[43]

Caribbean planners should begin by referring to the IATT Review for core, or priority, indicators that are standardized for use in educational settings around the world, but should also include others unique to particular countries' or regional experiences and circumstances. For school- or district-level comprehensive approaches to HIV and AIDS in the Caribbean, planners should also consider incorporating indicators that allow for an assessment of the policies, programs, and services at the more local level (outside the purview of the IATT Review). M&E systems should also consider including indicators that relate to early pregnancy, the provision of ARVs to these young women for PMTCT, and their psychosocial experiences. The People Living with HIV Stigma Index and other sources may be considered for including stigma and discrimination indicators in an M&E framework to support a comprehensive education sector approach to HIV and AIDS.[41] Lastly, systems need to make use of nutrition indicators and food security measures, as well as constant monitoring of the involvement of people living with HIV and AIDS at all stages of planning and implementation.

3.2.4. Determining the data collection methods and finding baseline data for setting targets

Ideally, planners will be able to glean the chosen indicators from existing data sources. If the available indicators are not readably available, the second best options is for the planners to devise a way for the desired indicators to come from data sources requiring only minor tweaking. If neither of these are options, it is possible that the planners will need to invest a significant amount of time and resources designing and implementing a new data collection tool, such as a survey.

As examples of data options already on the table, the following data are available. UNGASS indicators are available from a variety of sources including the Global Response Database (GRD) and the HIV/AIDS Survey Indicators Database. Additional standardized indicators come from PANCAP's Caribbean Core Indicators. Economic and social development data can be found from the Organization of Eastern Caribbean States (OECS) Info database. HIV prevalence info can be found via the WHO projections. EdInfo can be used to project how HIV/AIDS will affect the future numbers of both students and teachers in a particular country. Individual states may have Education Management Information Systems (EMIS), but these data need to be examined individually to determine their components.

3.2.5. Developing capacity, analyzing data and establishing feedback loops

Capacities required for successful M&E are those needed to correctly gather, manage, and store the data, as well as those for data analysis, interpretation and information dissemination. These tasks involve human resources, such as personnel training, as well as structural and process components.

Knowing how to correctly analyze data and interpret the results requires particular expertise and training. If the analysis of the data is not done properly, using the misinterpreted results to inform policy decisions can do more harm than good. Therefore planners need to decide whether to contract out for such expertise, rather than to try to develop it in-house. Building capacity of partners and counterparts to implement M&E systems is both good development practice and valuable investment for the education sector. Luckily there are a number of organizations, both Caribbean-based and International agencies, which are available to assist with these types of efforts, requiring little or no additional financial investments. The feedback from these correctly done analyses should go back to the local level as well as to the top levels of the education sector. Also, an ideal M&E Framework for the Education Sector in the Caribbean should address how information will be communicated and coordinated with the other sectors, as well. Only by building capacity for this type of information sharing, as well as for data audits and quality assurance, will the full benefits of the M&E investments be realized. The system is meant to be dynamic, responding to changes circumstances and needs, and can only do so with properly established feedback loops.

3.3. Conclusion

Developing a framework for M&E in the Caribbean education sector response to HIV and AIDS is a complex task that must take into consideration the varying demographic, cultural, and socioeconomic profiles of the individual countries throughout the region, as well as their unique experiences with the epidemic. Moreover, it must fit within and alongside the other M&E tools and processes that are being developed in parallel internationally (such as the IATT Review). The chosen structure of an M&E framework might include a more or less detailed logic model, indicators unique to the Caribbean sector-wide approach, and user-friendly tools for data collection and analysis. The essential elements outlined above, however, are fairly consistent. This desk review is, thus, not meant to be prescriptive – rather, it provides guidance and some important considerations for developing a framework that will be applicable to each country specifically, but universal enough to be useful in a regional response.

4. Appendix

4.1. List of organizations and advisors providing M&E services and assistance in the Caribbean

Caribbean Coalition of National AIDS Project Coordinators
(http://www.ccnapc.org/index.php?option=com_content&task=view&id=14&Itemid=29)

- The organization (peer, non-profit) strives to empower its members to build strong national, territorial and regional responses to HIV and AIDS in the Caribbean region by reinforcing member leadership and building programme management capacity primarily through peer collaboration. This is achieved through advocacy and policy assessment and development; the strengthening of membership capacity; facilitation of technical assistance; collaboration among members and key regional and international stakeholders; and the development of regional and international alliances. Membership consists of 35 countries and territories throughout the Caribbean.

Caribbean Health Research Council (CHRC)

- To promote, support, facilitate and coordinate health research in the Caribbean; help disseminate the findings; and advise and work with Caribbean governments and other stakeholders on health research matters.

CHRC M&E Internship Programme: http://chrc caribbean.org/Internship.php

- Caribbean Monitoring and Evaluation Technical Working Group, organizations providing free assistance, technical or otherwise, to Caribbean countries: Caribbean Monitoring and Evaluation Technical Working Group, UNAIDS M&E Advisors, UNAIDS Country Coordinators, CRIS3, CARICOM/ PANCAP, Caribbean Coalition of National AIDS Project Coordinators, Caribbean Regional Network of PLHIV (CRN+)

The Common Country Assessment (CCA) commissioned by UN development organizations

- Can be a useful tool to aid in identifying and analyzing problems. The CCA is most useful when the government, other national partners and the UNCT (United Nations Country Team) are involved in the assessment.

MEASURE Evaluation (USAID funded) http://www.cpc.unc.edu/measure

- MEASURE Evaluation provides technical leadership through collaboration at local, national, and global levels to build the sustainable capacity of individuals and organizations to identify data needs, collect and analyze technically sound data, and use that data for health decision-making. We develop, implement and facilitate state of the art methods for and approaches to improving health information systems, monitoring and evaluation, and data use; and we collect, share, and disseminate information, knowledge, and best practices in order to increase the use of data and advance the field of health monitoring and evaluation in many countries.

UNAIDS M& E Reference Group (MERG) planned to put out a M&E assessment tool in 2008 (http://www.globalhivmeinfo.org/AgencySites/Pages/MERG%20UNAIDS%20ME%20Reference%20Group.aspx)

- As recommended by the UNAIDS Programme Coordinating Board (PCB) in 1997, the UNAIDS Monitoring and Evaluation Reference Group (MERG) was established in 1998 to advise UNAIDS on monitoring and evaluation (M&E) at all levels of the Programme. The MERG – which replaced the PCB Working Group on Indicators and Evaluation – meets annually, bringing together the UNAIDS Secretariat and Cosponsors, donors, NGOs and technical experts in the field of M&E. Since 1998, the MERG has contributed substantively to the strengthening of M&E within UNAIDS and has played a critical role in harmonizing and setting the international standards for national indicators, global M&E guidelines, training curricula, and tools for use at country level by national AIDS programmes and by UN partners.

- Since 2001, a significant focus of the MERG has been on establishing and refining the global indicators for monitoring the global response and tracking progress of all countries towards meeting the UN General Assembly Special Session on AIDS (UNGASS) Declaration of Commitment. To achieve these, the most recent focus of the MERG has been on strengthening the coordination, M&E plans, data quality, and capacity at global, regional, and national levels to support a unified national M&E system, known as the 'Third One" of the "Three Ones" principle – one National Coordinating Authority, one agreed National Action Plan, and one national M&E system
- The specific activities of the MERG include, but are not limited to: 1) providing technical review and advice on the processes and products of the M&E activities of UNAIDS Secretariat, Cosponsors, and the Global Fund to fight AIDS, Tuberculosis, and Malaria; 2) harmonizing M&E approaches of UNAIDS and its partners; 3) identifying M&E indicator and other information gaps and outlining an agenda to address them; 4) identifying priority evaluation studies, research, and other evaluation-related activities and outline an agenda to address them; 5) advising on the dissemination of best practices and lessons learned in M&E; 6) critically assessing the quality and usefulness of selected reports of assessments, evaluations, and qualitative and quantitative research of relevance to M&E efforts; 7) assisting in mobilizing technical resources (consultants / institutions) for undertaking the activities envisaged in the UNAIDS Secretariat M&E Division Work Plan, which should include a work plan related to the MERG activities

UNAIDS Regional Support Teams
(http://www.unaids.org/en/AboutUNAIDS/Secretariat/unaids_country_offices.asp)

- The RST's work is structured around five key areas:
  - UN country team support for an expanded national response to the epidemic that seeks to improve the strategic quality of UN system support for HIV responses at country level
  - Regional level partnership development and coordination that mobilizes and facilitates regional leaders and partners to expand and better coordinate their support for country level HIV responses
  - Facilitation of access to technical and programming support for national AIDS responses to support the development, implementation, monitoring and evaluation of national AIDS responses
  - Evidence-based advocacy and generation of strategic information on trends and the response to the epidemic
  - Operations support to UNAIDS offices

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