

## National Implementation of an Evidence-Based HIV Prevention and Reproductive Health Program for Bahamian Youth

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### Abstract

*A wide range of behavioral prevention interventions have been demonstrated through longitudinal, randomized controlled trials to reduce sexual risk behaviors. Many of these interventions have been made available at little cost for implementation on a public health scale. However, efforts to utilize such programs typically have been met with a range of problems to be addressed, leading to the recognition that new processes must be identified and integrated into the emerging field of implementation science. A randomized, controlled trial conducted among Bahamian grade six students attending fifteen elementary schools found the sexual risk-reduction intervention "Focus on Youth in the Caribbean (FOYC) and Caribbean Informed Parents and Children Together (CImPACT)" to be effective through three years of follow-up. Based on these results, the Bahamian Ministry of Education decided to implement FOYC-CImPACT throughout all government grade six classes in The Bahamas. This manuscript describes the considerations, approaches, and actions taken regarding national implementation of this evidence-based intervention. The implementation process included active data-gathering, observation and feedback components to inform subsequent intervention phases. This manuscript reviewed the success and challenges to date within this framework and described changes made to enable next stages of the national implementation effort.*

**Key words:** HIV/AIDS Prevention, Reproductive Health Education; Implementation Research

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## Introduction

Spanning more than a quarter century, efforts toward HIV prevention and improved reproductive health have yielded a wide array of effective behavioral interventions.<sup>1,2</sup> Despite these successes, still challenging to the field have been efforts to widely implement effective interventions in a manner which retains their effectiveness. These problems emerged as a result of cultural differences in the new settings and inadequate infrastructure capacity in overburdened public health or educational venues tasked with delivery of the intervention. Even with successful in-country longitudinal research prior to broader dissemination, there remained the challenges associated with implementation fidelity including adherence to an intervention's content and dosage, and delivery processes and competence.<sup>3</sup>

Within school environments, specific challenges may be faced during implementation of a new program. Fullan, Cultress & Kilcher<sup>4</sup> discussed "implementation dip" as a normal expectancy when implementing programs within schools. The concept of implementation dip recognizes and anticipates that even when a program (e.g., new curriculum) is structurally sound and has gone through appropriate adaptation processes, there will be awkwardness at start-up of implementation. Teachers need to be trained both to implement the program and to expect this "dip". Without proper training, teachers may give up or resist the change when problems begin to destabilise the existing standard curriculum. With training, these "dips" can be minimized and teachers can experience positive outcomes earlier in the implementation process as they integrate the new program into the existing curriculum.

In this manuscript, the national implementation efforts of the "Focus on Youth in the Caribbean (FOYC) and Caribbean Informed Parents and Children Together (CImPACT)" adolescent HIV prevention program in The Bahamas are described. To contextualize the implementation efforts, we briefly described the history of the FOYC-CImPACT program, including the adaptation process of the original US-based intervention, for use within the socio-cultural and epidemiologic context of The Bahamas. A brief summary of the evaluation process and outcomes of the effectiveness trial of FOYC-CImPACT followed. The remainder of the manuscript described the national school-based implementation of FOYC-CImPACT at the grade-six level, including the components of the evaluation

process, reactions to the program on the part of teachers and wider community, and the processes followed to address the challenges and successes encountered with the integration of FOYC within the existing grade six curriculum, the "Health and Family Life Education" course.

## Background to the Development and Evaluation of FOYC-CImPACT

### *Political-economic and Socio-cultural Contexts in the Bahamas*

The Bahamas, an archipelago of predominantly rural islands, is a young nation celebrating just four decades of independence from Great Britain. The population of 323,000 includes an estimated 10% Creole population; 65% of Bahamians reside on the tiny island of New Providence.<sup>5</sup> Approximately 85% of Bahamians are of African descent. As children of freed slaves, Bahamians describe themselves with pride as religious and bound by significant kinship ties throughout their inhabited islands and cays.<sup>6-9</sup> Approximately 70% of the population is Protestant congregants, the majority of whom are Baptist.

The government of The Bahamas is a parliamentary-based democracy. The Bahamas maintains a strong economic linkage to the United States and strong cultural linkages to the African American culture. Tourism directly and indirectly (e.g., tourism-related construction) accounts for approximately one half of all employment.<sup>5</sup>

### *HIV and Reproductive Health Issues in the Bahamas*

The HIV prevalence rate in The Bahamas was estimated at 3% among the general population.<sup>10</sup> Heterosexual transmission was the primary mode of infection. Early intervention on the part of government and other non-governmental organizations in The Bahamas has made a significant impact on the HIV/AIDS epidemic in the country. These interventions consisted of: 1) primary prevention including widespread voluntary counseling and testing that is well-integrated within primary health care; 2) aggressive prevention of mother-to-child transmission including screening and triple anti-retroviral therapy (ART); 3) post-exposure prophylaxis; 4) contact tracing and partner notification; 5) condom distribution; and 6) behaviorally-based education programs. The country has established an effective clinical care system with multiple points of entry and close coordination

between hospital-based services and outreach clinics located across the nation. The Bahamas offers universal access to ART; initially with help from the Clinton Foundation, the country now provides these medications at low or no cost. As a result of these efforts, between 2001 and 2010 the annual number of new HIV infections and diagnoses of AIDS declined by about 39% and the number of annually reported AIDS deaths decreased by 70%. Despite this progress, HIV/AIDS continues to be the leading cause of death for persons ages 15 to 45 years.<sup>10</sup>

Other sexual health outcomes including sexually transmitted diseases and adolescent pregnancy are also relevant to the FOYC intervention. While The Bahamas enjoyed a decrease in syphilis cases between 1987 and 2000, between 2001 and 2004 the incidence of syphilis increased. Between 1996 and 2005, cases of gonorrhoea increased throughout the Caribbean region to an average of 2000 cases per year. Cases in The Bahamas account for approximately 11% of this total, which is the third highest proportion among the 17 Caribbean countries.<sup>11</sup> To combat these increases, the government has instituted multi-pronged educational and service efforts described above.<sup>12-14</sup>

In recent years, the rate of teenage pregnancy has decreased in The Bahamas. From a rate of over 21% in 1980, the percentage of births to females under the age of twenty in 2009 and 2010 dropped to below 10%.<sup>15-17</sup> While these data indicated progress with regard to the issue of adolescent pregnancy, there continued to be more than 500 births annually to girls/women age 10 to 19 years.

#### *History and Adaptation of the U.S.-based FOY-Impact intervention for The Bahamas*

The U.S. Focus on Youth (FOY; originally entitled Focus on Kids) HIV Prevention program was developed in Baltimore City during the early 1990s as a community-based intervention for African American youth ages 9 to 15 years.<sup>18,19</sup> FOY was framed on social cognitive theory and consisted of eight, 90 minute face-to-face sessions. Initial evaluation through a randomized effectiveness trial indicated significant changes among intervention youth including a decrease in engagement in unprotected sexual intercourse.<sup>20</sup> With data increasingly supporting the need to target and improve parental monitoring and communication skills as components in adolescent reproductive health interventions,<sup>21-23</sup> the Baltimore research team developed Informed Parents and Children Together (ImPACT). ImPACT was a two-hour face-to-face

intervention with parents of adolescents. Subsequent post-intervention evaluation data indicated that youth in the FOY-ImPACT group compared to FOY only participants reported significantly lower rates of unprotected sex and other risk behaviors.<sup>24, 25</sup>

In 1996 staff from the Bahamian Ministry of Health approached the U.S. research team to partner in the adaptation of FOY-ImPACT for Bahamian youth in grade six. A key component of effective cross-cultural adaptation of interventions includes maintaining core elements which have been assessed as essential to program efficacy.<sup>26-28</sup> Core elements can be divided into three categories: *implementation*, *content*, and *pedagogy*. *Implementation* refers to those program characteristics related to delivery, including creating a “conducive learning environment” such as attending to the details of program setting and dosage.<sup>29-30</sup> *Content* refers to core elements which include knowledge, attitudes, and skills taught in the intervention. *Pedagogy* refers to how the materials are taught, e.g., teaching strategies. The adaptation process in The Bahamas included consideration of the eight core elements of FOY and the seven core elements of ImPACT (see Tables 1 and 2).

Beyond attending to the core elements during the adaptation of FOY-ImPACT to FOYC-CImPACT, the Bahamian and American researchers and the Bahamian Ministry of Education recognized that adaptation needs to be an interactive process whereby changes occur both within the intervention and the environment in which the intervention is implemented. Wingood & DiClemente<sup>31</sup> defined successful adaptation as a process that modifies an effective program without competing or contradicting its core elements or internal logic. They emphasize the importance of a sense of ownership within the implementation community to increase receptivity. In terms of managing what Barrera & Martinez<sup>32</sup> described as the tension between fidelity and fit, Wingood & DiClemente noted that failure to give proper attention to cultural sensitivities results in “adapted interventions (that) may remain faithful to the underlying theoretic framework and core elements on which they were originally developed but, unfortunately, may lack relevance, sustainability, and acceptability for the target population.”<sup>31, page 1</sup>

For FOYC-CImPACT, the adaptive process was a three-tiered transition over a period of six years. In terms of FOYC program content, scenarios and activities were modified from FOY to reflect Bahamian social structure and culture. As a result of focus groups conducted, two sessions were added

(bringing the total to 10) which focused on the relationship between alcohol use and engagement in risky sexual behaviors and on sexual abuse and rape. In terms of implementation, FOYC was delivered in the classroom setting to a gender-mixed audience, as opposed to the small-group, same-gender format of FOY. In addition, the curriculum had to be consistent with the policies and philosophy of the Bahamian Ministry of Education.

The video for CImPACT was remade in The Bahamas, utilizing Bahamian youth and adults and local scenes. The basic content was similar to the US intervention (ImPACT), emphasizing parent-child open conversation, condom-use knowledge and parental monitoring. While the implementation process was similar, the context was different; ImPACT was delivered one-on-one with a youth and his/parent in the home while CImPACT was delivered with small groups of parents and children in a community setting. Bahamian research team members felt that culturally it would be perceived as intrusive to deliver the intervention in someone's home and that people would be more comfortable in a group setting.

#### *FOYC-CImPACT: Effectiveness Evaluation and Outcomes*

In 2004-2005 and 2005-2006, grade six classes in 15 of 26 of New Providence Island's primary schools participated in a longitudinal randomized controlled trial of FOYC-CImPACT. A total of 1,360 youth and 1,175 parents were enrolled in the project. The project was evaluated using an adaptation of the youth and parent assessment instruments developed for FOY and ImPACT.<sup>19, 32</sup>

FOYC was delivered to (and evaluation data was collected from) youth during school hours as a part of the Health and Family Life Education classes, an integral part of the grade six curriculum throughout The Bahamas. The FOYC teachers had all participated in a five day training workshop on FOYC. Intervention assessment questionnaires were administered to the enrolled control and intervention students at baseline prior to the teaching of the FOYC curriculum, and at five intervals extending 36 months post-intervention. CImPACT was delivered at the child's school after school hours; parent evaluation data was collected at baseline and at six months post-intervention.

The program effect at six, 12, 18, 24 and 36 months follow-up has been described in considerable detail in multiple publications and thus will not be repeated

here. Throughout the follow-up period extending to 36 months post-intervention (see references<sup>32-35</sup>), data demonstrated a sustained positive effect in increasing HIV knowledge, condom use perceptions, intentions and skills, and/or reported condom use among sexually active youth.<sup>32-35</sup>

Several factors were believed to have contributed to the success of FOYC-CImPACT. As noted, the adapted Bahamian curriculum was adherent to the core elements of the original FOY-ImPACT. FOYC was delivered to youth at a critical time in the life of the learners. The use of role plays provided an interactive learning experience that the youth would not generally experience elsewhere in their academic careers or their day-to-day life. The program involved cooperative learning techniques and contained strategies which support an early, student-centered, face-to-face, teacher supervised, dialogue between girls and boys about sexuality, sexual rights, gender roles, sexual abuse, and responsible behavior. The inclusion of the parental program (CImPACT) engaged parents with a focus on increasing monitoring and parent-child communication.

#### **National Implementation of FOYC-CImPACT**

##### *Decisions made regarding the implementation program*

Based on HIV epidemiological trends in The Bahamas, data on youths' engagement in sexual risk behaviors, and the positive FOYC-CImPACT outcomes evaluation data indicating sustained effectiveness, the Bahamian Ministry of Education decided to implement FOYC throughout all grade six classrooms in the 78 government classrooms across The Bahamas, with follow-up booster sessions in grades 7 and 8 at the junior high school level. FOYC would be delivered as part of the Health and Family Life curriculum and CImPACT would be delivered during parent-teacher meetings.

During the FOYC-CImPACT effectiveness trial described above, the Bahamian research team had worked closely with the schools to support the program and ensure implementation fidelity. Therefore, as part of their decision to implement FOYC across all schools, the Ministry of Education recognized the need to understand how to sustain similar intervention results in a 'real world' setting, including the identification of those factors believed to be critical to the continued success of the program. Accordingly, the Ministry in conjunction with the

US-Bahamian research team proposed to conduct “fidelity of implementation research” as part of the national implementation of FOYC-CImPACT. At the same time, the Ministry recognized that practical accommodations would be necessary to increase the likelihood that teachers would implement the program. For example, in order to accommodate the curriculum within the timeslot allotted for teaching FOYC (the 45 minute HFLE sessions), the 10 FOYC sessions, each 45 to 70 minutes in length, were divided into 16 45-minute sessions. The proposed implementation research was intended to enable the team to refine and validate a definition of fidelity of implementation and identify factors which impact fidelity of implementation which could be used across the field of implementation science.

The Bahamas and US research teams applied for and were awarded funding from the Eunice Kennedy Shriver National Institute of Child Health and Human Development to conduct implementation research on FOYC-CImPACT during the national implementation effort. Incorporated into the program design research was the recognition of the act of implementation as a vehicle and an opportunity to create new knowledge through the tracking and documentation of the processes and procedures for implementation.<sup>37, 38</sup> Therefore, the implementation process would be conducted in “waves” in which findings from each wave would inform subsequent waves.

Central to the implementation process of FOYC, like any new curricular program in The Bahamas, are the teacher training workshops. While attendance at any specific teaching training workshop is not mandated by the Bahamian Ministry of Education, participation in professional development in general is a requirement. Therefore, as had been done for teachers and schools participating in the FOYC-CImPACT effectiveness trial described earlier, standardized teacher workshops were offered to all grade six teachers and elementary school administrators during national implementation of FOYC.

The training workshops that had been conducted for the effectiveness trial of FOYC-CImPACT were five days in length; the Ministry of Education offered similar-length training workshops several times as part of the national implementation of FOYC. In addition, because not all teachers wished to or could devote five days to the workshop, more condensed workshops (one to three days) were designed and offered to the teachers as part of the national implementation effort. Regardless of the length of a workshop, all of these workshops included grounding

in facts about HIV, other STDS, and reproductive health and protection. Teachers also received basic sensitivity training to enhance their ability to communicate effectively about sexuality, reproductive health, and other difficult issues. They were advised to anticipate some early frustration (“implementation dip”<sup>4</sup>) and mechanisms to overcome these problems were discussed.

#### *Monitoring the implementation process*

Nine research assistants were hired by the Bahamian-US research team. The research assistants were certified teachers and participated in an initial two-day training session and on-going weekly training and follow-up activities. All grade six teachers were invited to participate in the research portion of the national implementation effort. While participation in the research aspect of national implementation was voluntary, the Ministry of Education requested all grade six teachers to teach the FOYC curriculum as part of the Health and Family Life course. Those teachers wishing to participate in the research indicated their willingness by signing a written consent form. The research was approved by the Institutional review Boards of Wayne State University and the Bahamian Public Hospitals Authority.

The implementation process evaluation included: 1) research staff-observations of the training workshops of the FOYC curriculum conducted by the Ministry of Education (and assisted by the research team) for grade six teachers and primary school administrators; 2) pre-and post workshop training questionnaires to be completed by workshop attendees who consented to participate in the research; and, 3) pre-and post curriculum delivery questionnaires to be completed by teachers and other school administrators who consented to participate in the research assessments.

In addition, the Ministry of Education asked teachers, as part of their normal teaching assignment to: 1) complete self-assessment checklists at the end of each FOYC session and 2) participate in two observations of their class while they were teaching FOYC. The implementation outcome evaluation was accomplished through an anonymous and confidential written curriculum evaluation instrument (questionnaire) given to all youth at the beginning and end of the school year. On a weekly basis, the research assistants would make themselves available to the teachers to discuss their evolving feelings and experiences regarding FOYC.

*Description of the implementation evaluation instruments:*

Self-assessments and Observer assessments: The assessment of FOYC implementation was designed to assess both whether FOYC was taught and if so, how much of it; specifically, were the “core elements” covered? (See earlier discussion and Tables 1 and 2 regarding the core elements.) Because countless evaluations of implementation of education and behavioral interventions have documented that some degree of alteration during implementation is unavoidable and may actually be beneficial,<sup>26, 39-45</sup> we also wished to measure what activities were modified and/or added. To assess both “fidelity” and “adaptation” we designed teacher self-assessments, and independent observer assessments (to be completed by the research assistants) for two of the 10 sessions taught by each teacher. The observation and self assessments included a pre-formatted “check list” (yes/no and multiple choice format) with space for a free-form explanation of observations/self-reflections. These forms were based on the measures successfully used in the prior FOYC effectiveness evaluation.

In order to evaluate the importance of factors described in the literature as influencing implementation (comfort with the material, experience with the mode of delivery, belief in the relative importance of the content compared to competing areas, years in teaching, perception of the local school authorities regarding the importance of the material, and sense of ownership of the material<sup>39, 44, 46-47</sup>), questionnaires were designed to assess the perceptions of individual teachers regarding these issues. Each teacher was asked to complete two 14-item questionnaires; one was to be administered before beginning to teach FOYC, and the other after FOYC teaching had ended. The questionnaires assessed the teachers’ feelings about the importance and appropriateness of the contents of FOYC for sixth-grade youth, their perceived ability to teach it, and the importance of the curriculum compared to other topics, etc. (The questionnaires are available upon request from the authors.)

Finally, a brief, one-on-one open-ended interview was conducted with each teacher regarding their experiences with implementation (or lack thereof) of FOYC. While the quantitative analyses of these instruments will not be reported in depth in this document, the findings presented in the remainder of this manuscript are based on the written and oral comments of the teachers.

Student outcome curriculum evaluation instruments:

The anonymous written curriculum evaluation instrument to be completed by all youth prior to receiving FOYC during grade six and again at the end of the school year was designed to assess curriculum impact on changes between the baseline and post-intervention assessment in knowledge, intentions, skills and behaviors relevant to the FOYC curriculum. This evaluation instrument, requiring approximately 30 minutes to complete, was a shortened and modified version of the original FOY assessment which was used during the effectiveness trial of FOYC-CImPACT.<sup>19, 32</sup>

*First Wave National Implementation Experiences*

In September 2011, three islands participated in the first wave of implementation of FOYC. CImPACT was not a part of the initial roll out, as the logistics of implementation for CImPACT were still being finalized. On these three islands there were a total of 118 government school grade six teachers (115 female). Four teachers did not consent to participate in the research. The following information is based on implementation on the largest of the three islands where 77% (91) of the teachers were employed. Among these 91 teachers, 34% (31) had been teaching for more than 20 years, 31% (28) for 10 to 20 years, and 28% (25) for 5 to 10 years, with the remaining 7% having less than five years experience. Approximately 79% had a Bachelors degree. Sixty-seven percent of the teachers had received some form of FOYC training ranging from 3 to 5 days.

The teachers were asked about their perceptions regarding HIV/AIDS education in the primary school level. Despite the recognition on the part of the teachers of the importance of preparing children for addressing issues related to HIV/STD and pregnancy prevention and other health risks, such recognition did not always lead to classroom instructional changes. The teachers recognized the importance of the information to be conveyed, but some still felt that the contraceptive component should be left for junior high school. Based on responses to the evaluation measures described earlier in this manuscript, 95% of teachers felt that HIV/AIDS program in general were very important for youth, while only 59% felt that it was important for grade six youth in their school.

*First Implementation Adjustment: Assess and classify teacher and school readiness*

While the objective was to implement the program in all government primary schools, the Ministry of

Education realized that teachers and schools varied in their receptiveness to the new curriculum. In response, schools were evaluated as to their readiness for implementation based on several factors including: 1) the number (proportion) of grade six teachers who had been trained and/or were using the FOYC curriculum, who had consented to participate in the implementation research, and/or who had completed the pre-teaching survey; and, 2) the schools' participation in the pilot implementation study in 2010.

At the start of the implementation process, three schools (14 teachers) were classified as 'Not Ready for Implementation'. At two of these schools, on-site meetings were held with the grade six teaching team during orientation week prior to the students' return to school. Teachers use the orientation week for classroom preparation, planning and professional development activities. In one of these two schools, the principal sat in on the meeting. Both meetings took the form of a FOYC short-training. The agenda included an explanation and rationale of the implementation process, overview of the FOYC manual, introduction of the consent form, overview of the youth evaluation tool and other evaluation measures, clarification on the process of administering the evaluation tool, and dissemination and collection plans for each of the measures. The third school expressed no interest in teaching the FOYC curriculum.

The two schools that received the orientation week training were reclassified as "Ready for Implementation" based on their positive response to the on-site training and their acceptance and positive attitude regarding the administration of the youth evaluation instrument. However, four additional schools were classified as 'Not Ready for Implementation' prior to the beginning of the semester and eventually six additional schools were reclassified as 'Not Ready for Implementation' due to teachers' concerns about the student curriculum evaluation instrument, the FOYC content, and logistics and time allocation issues.

#### *Second Implementation Adjustment: Responding to concerns about content*

There were five general concerns related to the content of the student evaluation instrument and the FOYC curriculum. First, some teachers felt that the content of the student curriculum evaluation instrument was too graphic and not age appropriate for 10 and 11 year old children, in particular questions about engagement in anal sex. One teacher

stated to a project research assistant, "How could you desecrate our babies so!" Second, the number of items about sexual behaviors and the wording of some of questions about this information worried some teachers that the program would promote sexual activity. The teachers were concerned that the evaluation instrument did not contain items about alternatives to sexual activity, techniques for restraint and self-control, or values clarification. Third, several teachers felt that the detailed description for condom use was inappropriate for grade six. They felt that unnecessary detail was provided and that while students should be told about condoms, graphic references (such as "place the condom on the erect penis") should not be included.

One teacher stated that "I will never mention any body parts in my class". Consistent with this, some teachers felt that the curriculum did not reflect the fact that 90% of the students were not sexually active. Finally, concerns were expressed that since parents did not have to provide written consent for their child to be in the Health and Family Life Education course, the parents were not aware of the inclusion of FOYC as a part of the curriculum. In one of the schools, a student evaluation instrument was taken home. The parent who reviewed the instrument found it offensive, and reported the content of the instrument to a local community advocate who brought the complaint to the island Ministry of Education officials. This event brought the controversy, which had to date been confined within the school system, to the broader community.

To address and formulate a response to these concerns, the Senior Education Officer for Health and Family Life Education met with the principals of the 'Not Ready for Implementation' schools. In addition, the National Coordinator met with a representative group of teachers at schools where the resistance was more acute to address their specific concerns. Research assistants worked with situations where there was resistance but the resistance was not evaluated as being strong enough to derail implementation. During these meetings the history of the evaluation instrument was explained including that Ministry of Education guidelines were consulted during its development. Information about the rationale of the items was further explained in terms of referring to the need for data on protective factors and risk factors. The teachers were assured that their comments were significant and important to the research effort and that their opinions were documented to improve the process.

In response to the community-based concern about the student curriculum evaluation instrument, officials of the Ministry of Education reassessed the evaluation tool, deemed some of the content inappropriate for grade six and issued an injunction against the continued delivery of the questionnaire. Despite concerns that the injunction against the questionnaire might threaten the continued national implementation of FOYC, implementation continued. The research team and members of the Health and Family Life Education Unit met with senior officials from the Ministry of Education who identified specific concerns with the evaluation instrument. The concerns were addressed including rewording of some parts of the evaluation instrument in a manner that did not change the concepts or the statistical properties of the document. The majority of the executive team of the Ministry of Education approved the revised assessment tool as culturally acceptable and age appropriate.

The meetings with the teachers were important vehicles for addressing the teachers' concerns. Not only did the meetings provide a forum for communication between the teachers and the research team, but they also helped to clarify the dynamics within some schools which had led to rejection of the program. For example, in certain instances the principals had not understood the purpose of the evaluation instrument. In another instance, one teacher resisted the effort and was supported out of loyalty by her colleagues even though they did not agree with her.

*Third Implementation Adjustment: Recognition that program acceptance will be uneven and even unpredictable*

Despite the rewording of the evaluation items after the initial meeting with 'Not Ready for Implementation' school teachers, a few teachers continued to disapprove of the evaluation instrument and were no longer willing to consider teaching FOYC as a part of Health and Family Life Education class. In some cases they continued to reject the FOYC program because they felt that the program simply mirrored the original version of the evaluation tool.

The research team learned very early in the implementation process that agreement to administer the baseline (pre-curriculum) student curriculum evaluation instrument was not to be construed as a commitment to teach the FOYC curriculum. The FOYC curriculum required time and preparation by the teachers prior to their teaching it. Thus, as

previously noted, additional schools were reclassified as Not Ready for Implementation when, after three weeks of the semester had passed, none of the teachers had started to teach FOYC. One issue was 'new document fatigue.' As a part of the FOYC implementation, teachers were responsible for multiple tasks including administration of the baseline evaluation, completing evaluation checklists after each session, and becoming familiar and comfortable with the new curriculum guidelines. Teachers enrolled in the research component were requested to complete additional forms. So even, while these forms were reviewed and time allotted for the completion of most of them during the training workshop, for those teachers who did not attend training workshop the additional paperwork could be construed as overwhelming at the beginning of a new school year.

As well, because the Director of the Ministry of Education had emphasized the need to focus on reading, writing and arithmetic during the school year, some teachers were under the impression that there was a directive from the Ministry of Education indicating that Health and Family Life Education was to be given less, if any, attention during the 2011/12 school year. In response, some schools did not include Health and Family Life Education in their 2011/12 class timetable. If teachers did not individually include Health and Family Life Education on their timetable, there was no vehicle to integrate the FOYC program. For some teachers, the Health and Family Life Education curriculum in general is perceived as unnecessary or taking away valuable time from academic subjects. Some teachers did provide time for Health and Family Life but did not teach FOYC. Finally, some teachers scheduled Health and Family Life including FOYC for Friday afternoons; because Fridays, especially the afternoons, are the most popular day for school holidays and teacher workshops in The Bahamas, FOYC lessons were frequently cancelled.

*Fourth Implementation Adjustment: Navigating the partnership between implementation and research*

As these issues emerged in the early weeks of FOYC implementation, the project research assistants underwent a special training designed to help them manage situations which might arise in 'Not Ready for Implementation' schools as well as in schools with resistance though not meeting criteria for classification as 'Not Ready for Implementation'. These new roles for the research assistants, themselves former teachers, reflect the continued partnership between the researchers and the Ministry

of Education and underscore the complex nature of implementation research. These roles pertain to both the research but also to the implementation process itself. Research assistants were trained to briefly engage teachers when visiting a classroom to pick up materials (e.g., checklists) and ask them about challenges they were experiencing in implementing FOYC. The research assistants were trained by the Ministry of Education and research staff to allow the teachers to identify their sources of discomfort.

Responses were guided by teachers' needs and included: 1) If a teacher had not yet opened the curriculum guidelines, and imagined that it was too difficult, the research assistant was to point out the simple outlines and verbally walk the teacher through the outlined process; 2) If the teacher had concerns that the FOYC was too graphic or inappropriate in any way, the research assistants were to offer to show the teacher the similarities between the FOYC program and the Ministry of Education's curriculum guidelines. The role of FOYC within these guidelines could be highlighted. Research assistants could point out how the content reduced vulnerability and engagement in risk behaviors. If asked, the research assistants could present information from research data highlighting the needs of grade six students as they prepare to enter grade seven, and how FOYC meets those needs; 3) If the teacher had lingering concerns about the baseline evaluation, research assistants were to make reference to the meeting held for teachers and the resulting adjustments to evaluation items as evidence that serious consideration was being given to this issue. The research assistants were trained to indicate openness to teachers' suggestions for further improvement; 4) If the teacher was genuinely motivated to implement FOYC but requested some assistance in the planning of FOYC, the research assistant could offer some limited direct assistance; 5) For teachers who had scheduled Health and Family Life Education on Friday afternoons, the research assistant could discuss techniques to integrate FOYC into other subject areas and enable the full program to be offered despite time allocation issues; and, 6) For teachers expressing concern about teaching either or both FOYC and Health and Family Life Education, the research assistants were trained not to argue but simply to reference the Ministry of Education's position on the mandatory inclusion of Health and Family Life and FOYC in primary public school curriculum.

While the implementation roll-out encountered multiple challenges, by the middle of October 2011 (mid-term), implementation of FOYC was ongoing in

the vast majority of schools in Wave 1. On the most populous island (New Providence) of The Bahamas, teachers in 23 of the 25 schools were using the FOYC curriculum. In addition, implementation of FOYC in many schools occurred with minimal difficulty. The Ministry of Education (with help from the research staff) was largely successful in dealing with challenges presented during the early days of implementation.

Despite early challenges, a majority of teachers expressed appreciation for their weekly meetings with the research assistants and for much of the FOYC curriculum. Most persevered with the FOYC curriculum in their Health and Family Life Education classes. Based on their weekly interactions with the teachers, the research assistants observed that even among those teachers initially resistant to FOYC, most overcame their initial reactions and enjoyed teaching the FOYC program content, although many still expressed some discomfort with the reproductive health component. Perhaps more importantly, all of the teachers from the initial year of implementation (2011-12) perceived that their students did enjoy and appreciated the contents of the FOYC program.

## **Discussion and Conclusions**

Since the mid-1990s, the Bahamian Ministries of Education and Health have worked with the FOY-ImPACT US-Bahamian research team to establish reproductive health programs and policies for youth. These efforts resulted in program adaptation to produce a Bahamian version of the curriculum, FOYC-CImPACT, which was demonstrated through a randomized, controlled trial to be effective in reducing sexual risk. The more recent decision by the Ministry of Education to implement FOYC in all grade-six classes among government schools throughout The Bahamas reflects recognition of the evidence-based success of FOYC-CImPACT and continued concern about reproductive health issues including adolescent pregnancy and the HIV epidemic.

There are multiple advantages to utilizing the Bahamian government school system for implementing FOYC-CImPACT in terms of numbers of children reached and working within the existing infrastructure to increase sustainability. At the same time, there are challenges which must be addressed. First, the content of FOYC and other HIV and reproductive health programs can conflict with local values and morals and perceptions of appropriateness of such information for children. Although

religiosity and strong familial ties are often cited as protective factors in the HIV epidemic,<sup>48</sup> it can be argued that social constructs of gender roles and relationships can undermine these protective factors. Thus, in the Bahamas and many other cultural contexts, traditional ties may support a patriarchal system which dichotomizes masculine-feminine roles that support assertive/aggressive sexually active men and abstinent/sexually naive women as ideal roles.<sup>28,49,50</sup> For many teachers, a vast majority of whom are women, these gender constructs and the way they associate this identification with their understanding of Christianity can translate to discomfort with discussing sexuality and risk behaviors in public.<sup>51,52</sup> Yet evidence suggested that youth stand to benefit if adults can become more comfortable talking about HIV/AIDS and teaching sexual risk reduction education.<sup>23</sup>

Second, implementation of new programs into schools inherently requires additional work and change for teachers. The UNESCO model for educational implementation underscored the need to recognize teachers' existing workload.<sup>53</sup> In addition, individuals who are comfortable with the status quo often perceive no need for changes and are especially reluctant to embrace even meaningful change if it translates to more work. In the current implementation effort, the teachers were required to learn new curriculum content about subjects with which they may not be familiar and/or comfortable and, if they wish to participate in the implementation research process, additional tasks were required.

Matthews, Boon & Fisher<sup>54</sup> found that teachers who implemented HIV/AIDS education were more likely to have a school that had an HIV/AIDS policy, perceived consensus from their peers about the value of HIV/AIDS education, had higher self-efficacy scores about their competence to teach not only the curriculum content but also their ability to respond to students' questions and deal with class management issues that can rise using interactive teaching activities. They noted that implementation improved over time as self-efficacy improved. In the Bahamian context, there has been some disconnect between Ministry of Education guidelines and priorities in terms of HIV/AIDS and reproductive health education, individual school policies, and the teaching environment for Health and Family Life Education. Not all aspects of the challenges faced during the roll out of the implementation are a direct response to FOYC, but rather are part of on-going struggles regarding local and national priorities within the public school system. Furthermore, the dynamic relationships between teachers and

administrators will vary from school to school. As reported here, in one instance a single teachers' resistance to FOYC and her influence over peers resulted in a school-wide unwillingness to implement the program.

Finally, government school systems should be responsive to community concerns. The Ministry of Education and the US-Bahamian research team had been highly interactive and seeking of community input at every stage of development during the adaptation of the FOY-ImPACT curriculum to the FOYC-CImPACT curriculum in New Providence (where the effectiveness trial was conducted). However, local communities in the other islands throughout The Bahamas had not been involved in these activities. Had local communities from the other islands been more involved in the adaptation and first wave implementation of FOYC, it is possible that the evaluation instrument and/or the curriculum would not have been met with such concern. It is probable that such a process would have resulted in some changes in the curriculum and evaluation tool and that the community would have had a better understanding of the purpose and reasons for the program. Currently such community involvement has been integrated into the ongoing phase of implementation roll-out.

The successes of the implementation of FOYC-CImPACT to date are doubtless in part attributable to the immediate and thoughtful implementation intervention protocols undertaken by the Ministry of Education and the implementation research staff. The research assistants' regular contact with the schools and teachers were and will continue to be an integral component of the FOYC implementation process. The existing protocol employed several of the steps suggested by Fullan et al<sup>4</sup> to address an "implementation dip" including: 1) engagement of teachers' moral purpose to enable them to see that implementation is the 'right thing' to do; 2) continuing capacity building after initial training particularly in regards to affecting teachers' perception of the bigger picture; and, 3) helping teachers to understand the implementation process. However, there will need to be a continuing effort to reinforce these steps and more fully incorporate other steps including: 1) working toward increasing a culture of implementation within the schools and providing teachers with administrative and peer support; 2) working with teachers to help them understand the concepts and see the value of evaluation; 3) building internal leadership within schools; and, 4) cultivating knowledge about the

intervention among teachers, administrators, parents and other community members.

The continued implementation of FOYC-CImPACT throughout The Bahamas over the next two years will be able to build on these past successes and lessons learned. Similar and new challenges will doubtless continue to emerge and will need to be documented and addressed utilizing existing experiences and the continued collaboration among the Bahamian and U.S. researchers and the Ministry of Education. While some details of the implementation of FOYC-CImPACT in The Bahamas are unique, many issues cross cultural lines. Hopefully, these experiences can be utilized to further implementation science and improve the dissemination of effective HIV/AIDS prevention and reproductive health programs in other contexts.

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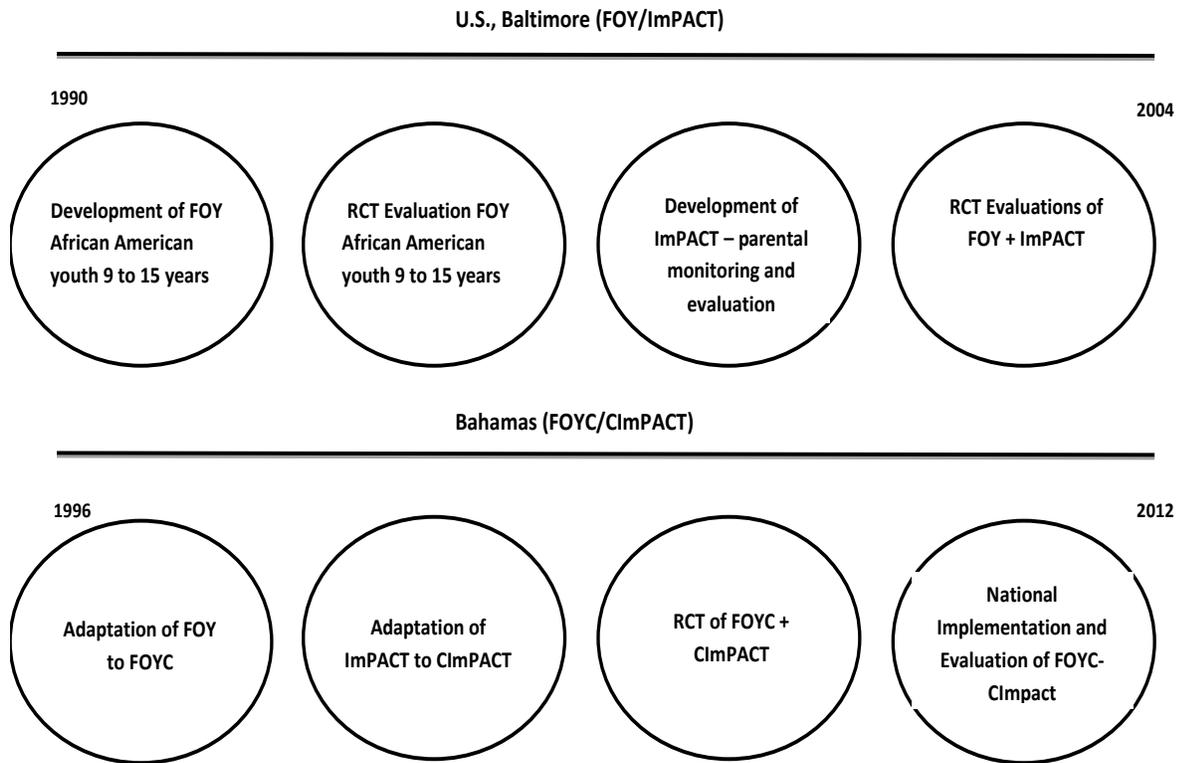
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Figure 1. Overview of Development, Evaluation, and Implementation the Caribbean.Focus on Youth (FOYC) and Parent Program (CImPACT)



LE

**GEND**

FOY: Focus on youth

RCT: Randomized, controlled trial

FOYC: Focus on youth in the Caribbean

ImPACT: Informed parents and children together

CImPACT : Caribbean informed parents and children together

<b>Table 1: Core elements in Focus on Youth (FOY) and their modification in Focus on Youth in the Caribbean (FOYC)</b>			
	Core Element	Focus on Youth	Focus on Youth in the Caribbean
<b>Implementation</b>	Deliver intervention to youth in community-based setting	Delivered through public housing and Baltimore City recreation facilities	Delivered through the public school system
	Use two skilled facilitators to model communication, negotiation, and refusal skills	Local community members trained in the FOY program. Two same gender facilitators per group of 3 to 10 friends.	Public school teachers trained in the FOY program. One teacher per group. Delivered to a classroom of ~30 youth compared to a small group (3 to 10) friends.  Delivery time changed from eight 90 minute sessions to ten 45-70 minute sessions. <i>(Further changed for national implementation)</i>
	Use “friendship” or venue-based groups to strengthen peer support	Youth recruited friends to participate in the group. Groups were held at local recreation centers where local youth congregated	Classroom setting. The program was integrated with the existing Health and Family Life Education curriculum.
<b>Content</b>	Use culturally appropriate interactive activities proven as effective learning strategies to help youth capture the constructs of the Protection Motivation Theory	Use of ethnographic and survey data prior to program development to ensure cultural appropriateness for an urban African American setting	Program adaptations based on socio-cultural conditions in the Bahamas. Close collaborations between local staff at the Ministries of Health and Education and the U.S. based research team during program adaptation. For the grade 6 team, adaptation influenced by results of the pilot ,MOE policies and teacher input whereas previously was MOH formatted
	Inclusion of a “family tree” to contextualize and personalize abstract concepts, such as decision-making and risk assessment	Family tree included with a focus on urban African American family/household structures	Family tree included with a focus on Bahamian family/household structures
	Enable participants to learn and practice a decision-making model	The SODA (Stop, Options, Decide, Action) model is included in sessions one, three, four and five and infused throughout all sessions.	The SODA model is included in the new sessions.
	Train participants in assertive communication and refusal skills specifically related to negotiation of abstinence or safer sex behaviors	<b>Session 5:</b> Communication Styles: Aggressive, Assertive and Non-assertive. Sex: A Decision for Two. <b>Session 7:</b> Role Play: Saying “No” or Asking to Use a Condom.	<b>All sessions integrate role play activities aimed at saying ‘no’</b> <b>Session 7:</b> Alcohol, Drugs; <b>Session 5:</b> Communication Styles: Aggressive, Assertive and Non-assertive. Sex a Decision for Two. <b>Session 3, 4 &amp; 8:</b> Role Play: Saying “No”

	<p><b>Session 8:</b> Pat on the Back: Sharing Positive Remarks with Group Members</p>
<p>Teach youth proper condom use skills</p>	<p><b>Session 4:</b> Condom Use Demonstration. Condom Race. <b>Session 6:</b> Contraceptive Lesson</p> <p><b>Session 6:</b> Condom Card Activity and Reproductive Health Lesson</p>

<b>Table 2: Core elements in Informed Parents and Children Together (ImPACT) and their modification in Caribbean Informed Parents and Children Together (CImPACT)</b>			
	Core Element	ImPACT	CImPACT
<b>Implementation</b>	Deliver intervention one-on-one with parents and youth in home or community-based setting	2 hour program delivered in one session with parent/guardian and child enrolled in FOY	20 minute DVD (“ Keeping the Promise”) produced locally in The Bahamas
	Use a facilitator parents find credible. Facilitator should be skilled at building rapport with parent and youth	Community members as trained facilitators. Facilitators were similar to age of parent participants.	Project staff from the FOYC program. Included community members known by the parents and children. Respected members of the Ministry of Health.
<b>Content</b>	Enable youth-parent to learn and practice communication skills	Role play in relation to communication about child’s activities and knowing where child is (monitoring) and about sexuality issues (e.g., condom use)	Discussion following video between parents and youth in the small group.
	Teach parent and youth proper condom use skills	Condom demonstration and opportunity for parent/youth to practice using models	Parents and youth all practice using a condom on models
	Distribute and guide parents and youth through an educational workbook: good communication; parental monitoring; condom use steps; facts about STIs/HIV and prevalence rates	Workbook developed and distributed during the intervention. Included information about prevalence of STIs/HIV in the African American community	Pamphlets regarding communication points and condom use given to parents and youth.
<b>Pedagogy</b>	Show and discuss the Focus on Youth parent documentary that depicts challenges and importance of parental monitoring and communication	Video produce in Baltimore with local community members. Showed settings in Baltimore that parents/youth could relate to and recognize.	20 minute DVD (“ Keeping the Promise”) produced locally in The Bahamas
	Relay important information in an entertaining format, e.g., role play	Role plays were used (see content above)	