Be Legendary – Using Intervention Mapping and Participatory Strategies to Develop a Multi-Component Teen Pregnancy Prevention Intervention for Older Teen Males of Color

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Background
Research on males and teen pregnancy indicates significant negative life outcomes and substantial racial/ethnic disparities. African-American and Hispanic teens are more likely to become teen parents\(^1\) than white and Asian teens. For African-American male teens in particular, teen fatherhood is associated with negative outcomes (high school dropout, unemployment, criminal activity).\(^2\) To date, no effective teen pregnancy prevention intervention has been developed specifically for older teen males from disadvantaged backgrounds. Although most pregnancy prevention efforts have not directly targeted adolescent males, there is an increasing recognition that they should be engaged in such efforts.\(^3\) - \(^4\) Most men believe they share equal responsibility with their female partners for decisions about contraception.\(^5\) However, young men, especially blacks, do not have an adequate knowledge of female contraception methods, such as long-acting reversible methods, and emergency contraception methods.\(^6\) - \(^7\)

Contraception use is higher when male partners are involved in contraceptive decision-making than when they are excluded, and male involvement in contraception decision making increases the use of dual protection.\(^8\) - \(^11\) However, few interventions that have been shown to be effective in preventing teen pregnancy are designed specifically for young men. A systematic review identified 35 rigorously evaluated interventions found to have an impact on sexual risk behaviors, teen pregnancy, and/or sexually transmitted infections.\(^12\) Most of these interventions included male and female participants; however, only one of these interventions was designed specifically for males.\(^13\) These interventions were typically designed as HIV/STI prevention interventions and focus primarily on condoms, with relatively little discussion of other contraception methods. Furthermore, these interventions typically lack a focus on the shared responsibility of contraceptive decision-making or on sexual and reproductive health services. Because of their scarcity, rigorous evaluations of interventions targeting male-specific risk and protective factors for teen pregnancy are missing from the peer-reviewed literature.\(^14\) - \(^17\) Thus, federal agencies and professional groups are calling for more teen pregnancy prevention programs for males.\(^18\) - \(^20\)

Our team sought to fill this gap through the development of Be Legendary (BL). BL is an innovative, culturally appropriate multi-component school-based teen pregnancy prevention intervention for African-American older male teens living in economically disadvantaged areas. BL was developed using Intervention Mapping,\(^21\) participatory methods and design
thinking strategies. This article outlines the methods we used in developing BL, key lessons learned and insights from working alongside African-American male teens.

**Intervention Development Activities**

Our team engaged in three major activities to develop BL. These included: completing the Intervention Mapping process, conducting participatory development strategies with the target population using design thinking tools and convening a stakeholder advisory group. We provide a description of each major activity here along with lessons learned.

**Activity 1. Intervention Mapping**

We used Intervention Mapping (IM), a systematic instructional design approach, to guide intervention development. IM is a stepped developmental process that incorporates evidence from empirical and theoretical research to inform each phase of intervention development in order to influence changes in health-related behavior. IM involves five steps that include: (1) assessing needs and establishing community support, (2) developing planning matrices to assess necessary intervention elements, (3) selecting theory-based methods and strategies for intervention production, (4) developing program components and activities and (5) planning for program adoption, implementation and sustainability.

**Steps 1 – 3:** Needs assessment activities involved implementing school wide health behavior surveys in target high schools to examine the problem scope. We also facilitated listening sessions with male teens to understand their needs and desires for education related to teen pregnancy, relationships and post-secondary opportunities. After a thorough review of the literature to better understand the target population’s needs, we selected multiple theories and empirically based frameworks that served as the foundation for intervention development. These include social cognitive theory, theory of planned behavior, critical race theory, trauma-informed strategies and healthy masculinity framework. BL targets the following health and behavioral outcomes: For health and quality of life related outcomes BL seeks to decrease unintended partner pregnancy, decrease STD/HIV, increase high school completion and increase post-secondary opportunities. To do this, BL proposes to target the following behaviors: correct and consistent condom use, partner use of effective contraception, partner communication, healthy intimate relationships, personal goal setting.
and mentor support. At this step, we identified theory based change methods. Theoretical methods and strategies were operationalized into practical strategies (e.g., persuasive communication, modeling, chunking, stereotype inconsistent information, counter storytelling) to influence psychosocial determinants that will ultimately lead to behavioral change (See Fig. 1).

**Steps 4-5:** At this stage, we used participatory activities to develop intervention components, activities and materials (Step 4) and to plan for program adoption and piloting (Step 5). Our purpose was twofold. We first wanted to center the experience of African-American male teens in order to develop a culturally responsive program related to teen pregnancy prevention, a topic they are often not engaged in. We also wanted to assess the needs and wants of youth service providers who served African-American male teens to ensure that the intervention developed would be feasible for implementation. The next section will describe both participatory activities undertaken during intervention development.

**Activity 2. Participatory Engagement with Target Group**
Due to the lack of interventions on sexual and reproductive health for older teen males of color,12 engagement with the target population was critical for BL development. Through the use of participatory research methods28-29 and design thinking strategies22 we (1) developed and refined intervention activities, (2) developed intervention scope and sequence, (3) refined initial behavioral outcomes from IM Step 3, and (4) gained further insight on intervention messaging, facilitator approach, and intervention delivery. Our project team became immersed into the lives, feelings, and realities of older male teens and the complexities they experience related to sexual health and overall well-being. This immersion experience transformed the Be Legendary concept into a comprehensive, multi-component intervention reflective of the target population’s actual needs.

We engaged 13 male high school students ages 16-19 in weekly workshop sessions over a six month period. Students participated in design thinking strategies adapted from IDEO’s Design Thinking for Educators Toolkit22 to refine BL program goals, activities and recruitment/retention strategies. During 1.5 hour-long sessions, our project staff facilitated intervention activities to get their feedback, reactions and insight. We also facilitated group discussions on each Be Legendary session topic to better understand their attitudes to the program concept and approach. During the final three meetings, we sought to better understand how they felt about the
program goals, their suggestions on how the program should look and feel and their attitudes toward the intervention as whole. Through the use of nominal group process techniques we facilitated an activity to understand how students felt about each of the proposed behavioral objectives. During this particular activity, male interns also acknowledged that the proposed goals did not encompass all that they felt was important for a young man to “be legendary” and make healthy decisions. They stressed the importance of managing stress and giving back to their community as helping young men maintain healthy lifestyles. The students overwhelmingly agreed that giving back to their community included providing education to their peers about information they would learn in Be Legendary group sessions. They also acknowledged that community service, in general, is important. This influenced our decision to add two additional behavioral outcomes (practicing self-care and participating in service learning – See Fig. 1).

Through the use of storyboards, we allowed students to map out how the Be Legendary intervention should recruit and engage participants (See Fig. 2). Storyboards confirmed that group sessions should be engaging, include participants themselves leading discussions, and should include competitive games or debate-style learning techniques. Also, the majority of interns supported sharing the information with non-BL participants in effort to share knowledge and encourage peers to be healthy.

Activity 3. Community Advisory Group
We engaged an advisory group of school-based and community-based stakeholders who provide services to African-American male teens. This advisory group included stakeholders from a variety of sectors including school districts, social service agencies, clinical services, higher education, workforce education, and local health departments. Input from the community advisory board assisted our project team in determining the most feasible setting for implementation, criteria for program facilitators, insights on scope and sequence and strategies for male recruitment.

Intervention Components
From these three major activities, Be Legendary (BL) was developed into a multi-component intervention that includes innovative strategies for teen pregnancy prevention. Engagement with the target population to develop Be Legendary provided several key insights that program developers incorporated into each component. BL seeks to challenge the way both adults and youth view male roles in relationships and family planning by providing them with communication skills to support healthy decision
making and partner support. BL combines sex education, socio-emotional learning and youth development to improve sexual and reproductive health outcomes and build socio-emotional and leadership skills. To do this BL is comprised of three components that include group educational sessions, youth-initiated mentoring and service learning.

Component #1: Group Education Sessions
The Be Legendary (BL) curriculum is intended to provide male participants with the necessary education and skills to change their sexual health behavior and develop core social emotional skills.32 The BL curriculum includes 12 sessions that focus on goal-setting, healthy relationships, consent, condom use, contraception-related communication, stress management and leadership (See Table 1). Session activities use theory-informed strategies such as interactive learning, chunking, counter-story telling, and games to keep participants engaged and facilitate learning and skill building. Group education sessions will focus on program goals that state males will 1) use condoms; 2) communicate with partners; 3) have healthy relationships; 4) select personal goals for post-secondary opportunities; 5) select mentors who support their decision-making; 6) practice stress management; and, 7) get involved, give back, and share with information others (service learning) (See Table 1).

In these group sessions BL challenges common perceptions of African-American males and their sexual behavior through counter-storytelling and message framing. Additionally, engagement with the target group provided us with critical discussion and facilitation points for the curriculum especially as it relates to contraception-related communication and healthy relationships. Mainly, male teens citied that gaining skills on how to communicate through disagreement with partners was important to them and would make it easier for them to have discussions regarding contraception. Group sessions also encourage male teens to accept healthy masculinity as a basis for their attitudes and behaviors around sex, relationships, well-being and community impact (See Table 2).

Component #2: Youth-Initiated Mentoring
Having a meaningful relationship with a non-parental adult is a protective factor for sexual health behavior.33 Initially, Be Legendary sought to strengthen interpersonal relationships through mentoring. However, through our participatory engagement efforts we learned that males did not always trust mentors that they did not know. Specifically, they felt judged by outside adults and were apprehensive of that model. This led program developers to investigate youth-initiated mentoring (YIM) as an alternative
model. YIM was more acceptable to our target population than the traditional mentoring. YIM is a promising approach for working with vulnerable adolescents and is associated with improved educational and behavioral outcomes.\textsuperscript{34} YIM is unlike traditional mentoring models in that youth are not matched with adults they do not know. Instead youth nominate non-parental adults in their existing social networks (e.g. teachers, coaches, extended family, pastors) whose role is to support them during and after an intervention period.\textsuperscript{34} If given appropriate guidance, these natural mentors help reinforce positive norms regarding responsible sexual behavior.

For Be Legendary, YIM is proposed to help strengthen male participants’ current social network by training youth-nominated mentors to support healthy decision making among mentees. In Be Legendary group sessions, males will nominate 2-3 people in their social network that they value and respect. A Be Legendary facilitator would contact those people and provide them with information on the BL program and tips to help support males in healthy decision-making through an abbreviated workshop/training. These “youth-identified” mentors will reinforce curriculum messages and help support healthy decision-making.

YIM is also a more feasible mentoring strategy for schools and partnering agencies than traditional mentoring. Because there is no length or time requirement in the YIM model as opposed to traditional mentoring, YIM has been shown to be more cost effective and sustainable.\textsuperscript{35} In instances when a young person cannot identify a mentor on their own, a rare occurrence\textsuperscript{35} program staff would identify mentors within the school to provide guidance when appropriate. This component supports the environmental intervention goal of providing messages in support of healthy decision-making without judgment and bias (See Fig. 1).

\textit{Component #3. Service Learning}

Service learning/community service components are a frequent characteristic of effective sexual behavior change programs.\textsuperscript{36} This also supports social and emotional learning approaches that emphasizes giving youth opportunities to participate in experiential learning and leadership.\textsuperscript{32} An additional Be Legendary environmental intervention goal includes providing opportunities for males to participate in meaningful community engagement and leadership activities (See Fig. 1). Be Legendary proposes to connect male participants to meaningful service learning within their school, neighborhood, and larger communities. This could include providing peer education to peers or participating in community-based initiatives (i.e. urban gardening, early-childhood literacy programs).
Conclusion
Working alongside males to develop BL helped to broaden our scope and transform BL into a comprehensive, multi-component intervention reflective of the target population’s desires, needs and motivations. Be Legendary provides an innovative approach to engaging older male African-American teens at risk for early fatherhood and other negative sexual health outcomes by using an asset-based model that sees male participants as potential leaders in their community. Be Legendary seeks to challenge the way both adults and youth view male roles in relationships and family planning by providing them communication skills to support healthy decision making and partner support. Be Legendary takes a revolutionary stance by challenging common perceptions of African-American males and their sexual behavior through counter-storytelling and message framing. Be Legendary also challenges norms on toxic masculinity and provides participants with an alternative messages and skills considered healthy masculinity.

Given that school truancy and delinquency is a predictor of early teen pregnancy, ecological approaches that are inclusive of school policies and practices impacting the well-being of male students are critical to assessing feasibility and sustainability. These policies include disciplinary approaches, service learning certification practices and school linkages to health services and post-secondary opportunities. In partnership with school administration and district level leadership, Be Legendary implementation could support comprehensive models to male student engagement, academic success and general well-being. For example, in our target high schools truancy and suspension rates are high especially among male African-American students. In lieu of suspension or other disciplinary actions (i.e. in-school suspension), school administration could refer students to participation in Be Legendary program activities to improve pro-social behavior. Other examples include providing Be Legendary program participants with service learning certification that could be useful for applications when applying for internships, colleges and career training programs. Be Legendary could also work in partnership with school nurses and area teen clinics to ensure male participants are connected to available services.

Our plans are to evaluative Be Legendary within schools situated in economically-distressed communities where issues of inequity regarding education, housing, and jobs are present as they impact sexual health outcomes of young people. Overall, Be Legendary, developed in partnership with African-American male teens is a culturally responsive, theory-based promising approach in improving sexual health and important
social outcomes for older African-American male teens. Efforts to evaluate Be Legendary are encouraged.
References


29. Rodrigues and Brown 2008. From voice to agency: Guiding principles for participatory action research with youth. New Directions for Student Leadership.


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**Figure 1. Be Legendary Logic Model of Change**

<table>
<thead>
<tr>
<th>Individual</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CHANGE METHODS</strong></td>
<td><strong>MENTORS/FACILITATORS:</strong></td>
</tr>
<tr>
<td>o Persuasive Communication</td>
<td>Training/Technical Assistance</td>
</tr>
<tr>
<td>o Verbal Persuasion</td>
<td>Shifting Perspective</td>
</tr>
<tr>
<td>o Active Learning</td>
<td>Conscious regulation of impulsive stereotyping and bias (related to gender, age, race, sexual orientation)</td>
</tr>
<tr>
<td>o Modeling</td>
<td><strong>DETERMINANTS</strong></td>
</tr>
<tr>
<td>o Chunking</td>
<td>Knowledge, Skills, Self-Efficacy, Beliefs, Outcome Expectancies, Perceived Norms, Gender Expectations, Social Support, Perceived Barriers, Problem Solving</td>
</tr>
<tr>
<td>o Managing Emotional Responses</td>
<td><strong>PERFORMANCE OBJECTIVES</strong></td>
</tr>
<tr>
<td>o Stereotype Inconsistent Information</td>
<td>1. CONDOMS: Make decision to use; List benefits/pleasure enhancing qualities; Reject myths; Evaluate peers’ behaviors; Get/Carry condoms; Communicate intentions with every partner; Elicit partners intentions; Restate intentions; Make an agreement to use condoms or not have sex; Use a condom correctly; Maintain condom use with every partner</td>
</tr>
<tr>
<td>o Counter-Storytelling</td>
<td>2. CONTRACEPTION: Make decision to communicate w/partners about birth control; Identify effective birth control methods; Evaluate pros and cons; List ways to communicate with partners; communicate intentions; Use condoms along with chosen BC method; Use emergency plan B when needed</td>
</tr>
</tbody>
</table>

3. HEALTHY RELATIONSHIPS: Decide to have healthy intimate relationships, identify healthy/unhealthy relationship behaviors; Evaluate their own behaviors; Evaluate peer behaviors; Use effective communication strategies (conflict resolution, problem solving, and active consent); Identify active consent in sexual situations; Reject myths related to sexual communication, sexual cues and sexual responsibility; Use active consent; Manage emotional responses; Avoid potential intimate partners that engage in unhealthy relationship behaviors

4. FUTURE GOALS: Decide to set goals regarding future; Reject stereotypes related to their lives; Evaluate personal and interpersonal motivation, identify potential careers; Select personal goals; Identify steps needed to opportunities; Evaluate situations that could be barriers (having a child), List ways to overcome barriers to obtain post-secondary opportunities, Identify local resources to connect to post-secondary opportunities

5. SELECT MENTORS: Make a decision to identify supportive adults; List strategies to connect; Communicate with adults in their lives; Process the role of supportive adults; Maintain communication with adults in their lives

6. SELF CARE: Make decision to express and mange emotions; Identify empatheitc listening; Acknowledge emotions; Identify and practice positive self-talk; Identify and practice self-care techniques; Role play situations for problem solving; Seek help from a supportive adult

7. SERVICE LEARNING: Make decision to give back; Assess needs and opportunities; Identify strengths and assets; Participate in activities; Process
Figure 2. Be Legendary Storyboard Descriptions
Table 1. Be Legendary Scope and Sequence

<table>
<thead>
<tr>
<th>#</th>
<th>Session Topic</th>
<th>Underlying Change Methods for Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Becoming Legendary: Your Profile</td>
<td>Stereotype Inconsistent Information, Counter Storytelling, Self-reevaluation, Active Learning, Chunking, Persuasive Communication</td>
</tr>
<tr>
<td>2</td>
<td>Becoming Legendary: Selecting A Mentor</td>
<td>Chunking, Persuasive Communication, Managing Emotional Responses, Mobilizing Social Support</td>
</tr>
<tr>
<td>3</td>
<td>Becoming Legendary: Healthy vs. Toxic Masculinity, Self-Preservation</td>
<td>Active Learning, Stereotype Inconsistent Information, Counter Storytelling, Self-Preservation</td>
</tr>
<tr>
<td>4</td>
<td>Becoming Legendary: Masculinity &amp; Relationships &amp; Managing Conflict</td>
<td>Active Learning, Stereotype Inconsistent Information, Counter Storytelling, Self-Preservation, Modeling</td>
</tr>
<tr>
<td>5</td>
<td>Becoming Legendary: Consent Part 1</td>
<td>Modeling, Active Learning, Persuasive Communication, Counter Storytelling, Managing Emotional Responses</td>
</tr>
<tr>
<td>6</td>
<td>Becoming Legendary: Consent Part 2 (Reject &amp; Respect)</td>
<td>Modeling, Active Learning, Persuasive Communication, Counter Storytelling, Managing Emotional Responses</td>
</tr>
<tr>
<td>7</td>
<td>Becoming Legendary: Condoms Commandments</td>
<td>Active Learning, Chunking, Persuasive Communication, Modeling</td>
</tr>
<tr>
<td>8</td>
<td>Becoming Legendary: Contraception &amp; Communication (What to Know, Supporting Partners, Accessing Services)</td>
<td>Verbal Persuasion, Modeling, Active Learning, Chunking, Managing Emotional Responses</td>
</tr>
<tr>
<td>9</td>
<td>Be Legendary: Are You Good? (Mental Health)</td>
<td>Chinking, Persuasive Communication, Managing Emotional Responses, Mobilizing Social Support</td>
</tr>
<tr>
<td>10</td>
<td>Be Legendary: Making a Difference</td>
<td>Active Learning, Stereotype Inconsistent Information, Counter Storytelling, Self-Preservation, Mobilizing Social Support</td>
</tr>
<tr>
<td>11</td>
<td>Be Legendary: Making a Difference</td>
<td>Active Learning, Stereotype Inconsistent Information, Counter Storytelling, Self-Preservation, Mobilizing Social Support</td>
</tr>
<tr>
<td>12</td>
<td>Be Legendary: Your Legacy</td>
<td>Environmental reevaluation, Chinking, Persuasive Communication, Managing Emotional Responses, Mobilizing Social Support</td>
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Table 2. Be Legendary: Healthy Vs. Toxic Masculinity Framework

<table>
<thead>
<tr>
<th>Healthy Masculinity</th>
<th>Toxic Masculinity</th>
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</thead>
<tbody>
<tr>
<td>Respect for self and the women in your lives</td>
<td>Misogyny/Objectifying the Women in Your Lives</td>
</tr>
<tr>
<td>Leadership</td>
<td>Avoiding Responsibility</td>
</tr>
<tr>
<td>Growing &amp; Evolving Everyday</td>
<td>Using Violence, Control, Coercion, Pressure, Forced</td>
</tr>
<tr>
<td>Speaking Up Yourself &amp; Others</td>
<td>Staying Silent When Someone is Being Hurt/Wronged</td>
</tr>
<tr>
<td>Making a Positive Impact on Your Community</td>
<td>Believing They Hype/Stereotypes</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>---------------------------------</td>
</tr>
<tr>
<td>Having Rules About the Type of Man You Will Be</td>
<td>Not Being Able to Separate the Real from The Fake</td>
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