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Planning for community scale-up of Project HEAL: Insights from SPRINT initiative

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Abstract

Project HEAL (Health through Early Awareness and Learning) is an evidence-based intervention rooted in health behavior change theory and aims to increase cancer awareness and early detection through African American faith-based organizations. This study explored the potential for broader scale-up and dissemination of Project HEAL with the team's participation in a training program called Speeding Research-tested **INT**erventions (SPRINT). The SPRINT training was framed using tools from the Business Model Canvas and the Value Proposition Canvas to guide trainees in designing (1) compelling value propositions, (2) a minimal viable product, and (3) questions to gain critical insight from various stakeholders during a process called Customer Discovery. We report on our experiences and insights on intervention scale-up that we gained from the training, including key findings from 41 discovery interviews conducted with various stakeholders of the church. We learned several valuable lessons from the discovery interviews such as scale-up will likely be more incremental than immediate. Additional refinement is needed to scale-up the intervention for "real world" application, including making our technology more user-friendly and including additional health topics beyond cancer. We discuss how insights from the training refined our plans for future scale-up and dissemination in a constituent-informed way.

Keywords

scale-up; dissemination; health-education; evidence based; African American

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Introduction

According to the World Health Organization (WHO), scaling up refers to “deliberate efforts to increase the impact of successfully tested health interventions so as to benefit more people and to foster policy and program development on a lasting basis” (World Health Organization, 2010). Prior to 2012, the majority of examples in literature that document attempts to scale-up health promotion efforts have been primarily in low and middle income countries (Rychetnik, Frommer, Hawe, & Shiell, 2002). Yet, a growing body of literature describes frameworks for scaling up health interventions in high income countries with the majority focused on delivering interventions in healthcare settings and scaling up to policy and practice (Indig, Lee, Grunseit, Milat, & Bauman, 2017; Norton & Mittman, 2010).

Background

Current research about “scale-up” has highlighted theoretical frameworks and the importance of processes that increase the likelihood of scale (Milat, Newson, & King, 2014; Milat, Bauman, & Redman, 2015; Norton & Mittman, 2010). Recommendations suggest that an intervention is more likely to be successful if (1) a systematic approach to scaling up is adopted from the outset; (2) monitoring and evaluation systems to adjust to changes in the political, social, or organizational context are established; and (3) participatory approaches are used (Bolton et al., 2017; Milat et al., 2014; Milat et al., 2015). One widely cited guide for increasing the scale of population health interventions uses a 4-stage process and was published in 2014 by the New South Wales Ministry of Health (Milat et al., 2014). The 4-step process includes: (1) completing a scalability assessment, (2) developing a scale-up plan to create a vision, (3) securing resources and building a foundation of legitimacy and support for the scale-up plan, and (4) continual consideration of a broad range of factors and maintaining a balance of desirability and feasibility (Milat et al., 2014).

In contrast to focus on processes that increase scale-up, processes that create barriers to scale-up have also been noted such as time limitations and difficulty adapting the interventions for communities with limited resources (Indig et al., 2017; Milat, King, Bauman, & Redman, 2013; Norton & Mittman, 2010). Another barrier to scale-up that has been included in studies is an insufficient knowledge of program costs and economic modelling of intervention approaches at the population-level (Johns & Baltussen, 2004; Johns & Torres, 2005; Kumaranayake, 2008; Rani, Nusrat, & Hawken, 2012).

Project HEAL (Health through Early Awareness and Learning) is an evidence-based intervention (EBI) aimed at increasing cancer awareness and cancer screening behaviors working through African American faith-based organizations (Holt et al., 2014). African American faith-based organizations are widely recognized as an influential venue for implementing health promotion efforts, (Schoenberg, 2017) particularly in underserved communities (Campbell et al., 2007). Project HEAL was developed with extensive

community engagement and proven to be efficacious with supporting data from previous trials (Holt & Klem, 2005; Holt et al., 2009; Holt et al., 2013). Using a Community Health Advisor approach, lay leaders were trained and certified in their own churches to teach their peers about cancer (breast, prostate, and colorectal), early detection, and living a healthy lifestyle (Holt et al., 2014; Santos et al., 2017). All materials were culturally fitted for African Americans, spiritually-grounded, and based on health behavior change theory (Holt et al., 2014). We have previously established that Project HEAL Community Health Advisors can receive their training and intervention materials using web-based methods (Santos et al., 2014; Santos et al., 2017), and those trained online are as effective for intervention outcomes (e.g., cancer awareness and screening behaviors) as those trained in the classroom (Holt et al., In press). The introduction of web-based technology for Project HEAL has been a pivotal step in advancing the availability of this EBI for community users who often have competing demands involving time restraints and scheduling challenges (Santos et al., 2014; Santos et al., 2017). Given this, we anticipated that we could begin to think about approaches to scaling-up Project HEAL to achieve population-wide health improvements using computer/internet access.

Project HEAL is unique because this EBI is delivered in a non-healthcare setting. Thus, scale-up may follow different processes relative to previous literature. Project HEAL has experienced a modest level of dissemination occurring organically without planning (e.g., spreading through word of mouth by church leaders and community members), but this dissemination has not been widespread or systematic (Scheirer et al., 2017). For example, Project HEAL is being adapted and replicated in a number of churches in East Harlem, NY (Z. Costello, personal communication, 2017–2018). While very promising, such an organic approach to dissemination is likely to be limited as compared to a purposeful and systematic scale-up initiative. The web-based resources and training available for Project HEAL makes it an ideal intervention for scale-up as with computers and internet technology, the intervention could be implemented anywhere.

This paper examines the potential for broader scale-up and dissemination using tools, models, and methodologies from an NIH training program called **Speeding Research-tested INTerventions** [SPRINT; <http://www.nci-sprint.com/>; (National Cancer Institute)]. The SPRINT training program leverages the experience and impact of the National Science Foundation (NSF) I-Corp program (Servoss, Chang, Fay, & Ward, 2017), but is customized specifically for the science of cancer prevention and control interventions designed to impact behavior change. We posited that participating in SPRINT would expose the research team to innovative ideas about how Project HEAL could be scaled up, what modifications would need to be made to the intervention in order to bring it to scale, and thoughts about a sustainable financial model for these activities. We report on our experiences in the SPRINT training program including what we learned by talking with key constituents, changes in our thinking about scale-up, and thoughts on next steps as a result of this training.

Methods

The SPRINT training provided a real-world learning experience for NCI-funded investigators and their teams to systematically consider the commercial and/or scale-up

potential of their evidence-based interventions. The training program was an eight-week course that began with a three-day in-person meeting, followed by weekly online training seminars, and a two-day in-person meeting to close out the training. The SPRINT training was framed using tools from the Business Model Canvas (Blank & Dorf, 2012) and the Value Proposition Canvas (Osterwalder, Pigneur, Bernarda, & Smith, 2014) to guide the participants in designing (1) compelling value propositions, (2) a minimal viable product, and (3) questions to gain critical insight from various stakeholders during a process called Customer Discovery.

The SPRINT research team, consisting of academic researchers and leaders from community-based organizations (n=5 total), participated in the SPRINT weekly meetings. The discovery interviews were brief and informal in nature and were intended to gain insights from key stakeholders about potential commercialization and/or scale-up of the target intervention. Stakeholders identified for discovery interviews included those in the Project HEAL “ecosystem”. The ecosystem was defined as the customer segments that can somehow affect or be affected by our intervention. The Project HEAL “ecosystem” was defined as Payers (e.g. funding agencies), Pastors of African American churches, Project HEAL Community Health Advisors, and other key church leaders and members. Additional stakeholders, reflecting the categories of Recommender/Influencers and key opinion leaders, were also included as suggested in the training (Blank & Dorf, 2012).

A broad approach was taken in the interviews, employing open-ended questions designed to better understand the interviewee’s daily world and the most important jobs, “pains” (challenges), and “gains” (beneficial outcomes) they face regularly (Blank & Dorf, 2012; Osterwalder et al., 2014). Depending on their role, interviewees could also be queried on their thoughts about how Project HEAL could be scaled up and/or its potential for commercialization (e.g., asked if they would consider paying for it). During the SPRINT weekly meetings, the project team reported on discovery interviews conducted with the church ecosystem stakeholders and discussed how the interview content would be used to refine plans for future scale-up. A final presentation and brief video were prepared for the close-out meeting to describe how ideas for broader scale-up and dissemination had evolved during the training.

Results

Participating in the SPRINT training was the team’s next logical step for considering how to expand the reach and sustainability of the Project HEAL intervention. As a result of this training, we acquired unique “business style” tools on how to engage and collaborate with a wider audience of stakeholders, including (1) developing our Value Proposition and Minimal Viable Product (Blank & Dorf, 2012; Osterwalder et al., 2014), (2) learning valuable interview strategies to acquire insights about and shape our plans for future intervention scale-up, and (3) identifying potential revenue streams and models.

Value Proposition and Minimal Viable Product

During the initial three-day in-person opening session and weekly webinars that followed, the project team received training on how to map and design Project HEAL into a business

case to test as a business model. As part of this process, we constructed a Value Proposition, which has been defined as “a business or marketing statement that a company uses to summarize why a consumer should buy a product or use a service.” The Value Proposition “convinces a potential consumer that one particular product or service will add more value or better solve a problem than other similar offerings” (Osterwalder et al., 2014). We crafted our Value Proposition as follows: “*Our intervention helps African American churches that want to provide evidence-based cancer education, by capacity building to enhance the sustainability of health programming and providing reliable information, unlike sporadic, non-evidence-based health promotion activities with no continuity.*” We included a focus on evidence-based interventions because of its importance and the particular challenges identifying, implementing, and sustaining evidence-based interventions in community settings, relative to a healthcare setting. Additionally, each team was strongly encouraged to develop a Minimal Viable Product—a storyboard that sketches out the intervention process from beginning to end. The Minimal Viable Product could then be presented to a stakeholder or potential user in order to provide insights about how the intervention would fit in the stakeholders day-to-day workflow or process. We created a Minimal Viable Product that could be shown to stakeholders as a descriptive illustration of Project HEAL’s web based training (Figure 1). “Insert Figure 1 here”. The web-based training for the community health advisors was primarily accessed through an email invitation, but we have now posted our training videos on our web site (<https://sph.umd.edu/departments/bch/lab/43501>) and YouTube channel.

Customer Discovery Interviews

Next, our team tested our research hypothesis (Value Proposition) by “getting out of the building” and interviewing stakeholders during the eight-week course (Blank & Dorf, 2012). Our team interviewed a total of 41 stakeholders within the church ecosystem. Each member of the SPRINT team conducted 3–5 interviews either in-person or by phone. There were no refusals to interview. Among the eight stakeholder categories, the greatest number of interviewees were the Recommenders/Influencers (n=16) [(Table 1)]. “Insert Table 1 here” Only the Community Health Advisors had prior relationships with Project HEAL. Insights gathered from the interviews were presented during a report-out period during the weekly webinar meetings. During the eight-week training, we gathered several key insights from the interviews. For example, one Pastor stated that “Health education is needed in the church, community, and African American churches in general; Not just on cancer, but high blood pressure, diabetes, are also priority needs in health.” This was echoed by other key church leaders and members who felt that churches would also benefit from health promotion activities that address chronic disease for which there is an increased burden in the African American community.

When asked about obstacles to meeting your church’s health goals, one church member said, “Not sure if persons in the church are prepared to teach health topics. We have a few nurses but I don’t know if they would be willing to, given they work all of the time.” A Community Health Advisor said, “Our church has an older congregation. Age differences are a hindrance for program planning and getting people to participate in and buy-in to program; also many

members may live far away and can't come to all programs, even though the church offers transportation."

Participants also provided feedback to assist in our understanding of the feasibility and potential for Project HEAL to be scaled up. "Moving EBI into the market is challenging; there is little money invested in sustainability and a narrow focus of an intervention makes it more challenging for broad dissemination and implementation.", said one payer.

Revenue Streams and Models

Unlike many previous scale-up models, SPRINT had a major focus on commercialization and thus heavily emphasized issues of program costs and economic modelling of interventions. Each team was encouraged to consider how their intervention would remain sustainable after the initial funding was no longer available. Using the "Demand for Creation Economics" concept (Blank & Dorf, 2012), we considered various issues around costs including

- Who would be willing to pay for our intervention - and how?
- What channels would be used to create a demand for the intervention?
- Does the value of our intervention justify its cost?
- How much money will it cost to advertise? Who will do the advertising and how often?

We received mixed feedback in response to whether churches would be willing to pay for the intervention and how they might do so. One key opinion leader said, "...church leaders would not consider Project HEAL as priority for implementation in their church or community if it requires their expenditure of money. They will only spend church wide. Perhaps the missionary group, which raises its own funds and has a budget may be willing to help pay to provide Project HEAL." One church member said, "People may or may not be willing to pay for the training. It would depend on how much it cost, and any type of certificate or credential you get for going through."

One church leader mentioned that some churches may be willing to pay to continue health promotion. However, this was not the sentiment of the majority of the stakeholders. We found that the majority of interviewees felt if there was a cost to adopting Project HEAL, leaders of their church would most likely not consider Project HEAL as priority for implementation in their church or community. Overall, the consideration of developing a revenue model for Project HEAL was new and challenging for us as commercialization was not the original intent of the intervention.

Discussion

We participated in the SPRINT training to examine the feasibility of scale-up and/or commercialization of the Project HEAL intervention. We aimed to learn about innovative ways to scale-up Project HEAL that would meet the needs of a wider audience and also have a sustainable financial model. The SPRINT training helped our team carefully consider issues around broader scale-up and wider dissemination of Project HEAL, based on

feedback from stakeholder discovery interviews. Our week-by-week analysis of the discovery interviews and regular conference calls with the SPRINT faculty helped us refine our ideas about scale-up. We discuss our key findings, our unique scale-up approach in the context of other models, and our recommendations for future scale-up.

At the end of the eight-week training, we determined that our next steps will be to:

1. consider how to scale Project HEAL for “real world” application that would be more user friendly and include health topics in addition to cancer. The idea that the Project HEAL intervention may need additional streamlining prior to scale-up is based on the research team’s observations about the level of technical assistance needed by the Community Health Advisors to both complete training and implement the intervention. The team has continued unanswered questions about how to scale-up the intervention and provide technical assistance in a sustainable manner;
2. develop and pilot test strategies for Project HEAL scale-up based on established scale-up model(s)/framework(s) intervention scale-up, and potentially seek research funding for this work. The SPRINT training offered models/frameworks for evaluating the commercialization potential of behavioral interventions. Moving forward, we believe the models/frameworks specific to guiding intervention scale-up in community settings would be most appropriate;
3. hold off on pursuing the business/commercialization aspect at this time, unless we can find a partner who can take the lead on such an initiative.

We now realize that there may be greater challenges to intervention scale-up in community settings like churches. These settings are very different from other places where evidence-based health promotion interventions are typically delivered. Most churches are decentralized, make decisions independently, and do not consider health to be a primary part of their mission. Most scale-up activity to date has occurred in healthcare settings such as the Veteran Affairs or other community clinical settings (Indig et al., 2017; Norton & Mittman, 2010).

As a result of the SPRINT training, we now feel that scale-up will likely be more incremental as opposed to widespread at least initially. Thus, as opposed to considering a state or national level scale-up, we have changed our focus to identifying a base of churches in our local area that are ready for Project HEAL and have the organizational capacity to adopt the intervention. Organizational readiness and capacity have been cited as important factors to consider when identifying churches for intervention (Tagai et al., 2018) and evaluating outcomes (Allen et al., 2016; Brand et al., 2018). After scaling up to the county level, we could then proceed incrementally to scaling up within the state and then nationally, likely making refinements to the scale-up process at each level as we learn more. Moving forward, we intend to spread Project HEAL more efficiently than what we have been historically doing in the past, which is recruiting one church at a time through intensive relationship building. The current findings highlight the need to test strategies for scale-up based on a scale-up model/framework in future work. As noted previously in a systematic review Milat et al. (2015), there is no one single model used for scaling up interventions.

Yet, future research on scalability should consider which of the models highlighted might be suitable for a particular intervention, keeping in mind that in the real world, one or more of the steps may be missed (Milat et al., 2015). Another important point when considering scale-up is that for some health promotion interventions to be most effective and sustainable, strategies should become integrated into existing operating systems that are relevant to the community.

With Project HEAL in its eighth year, we recognize that the awareness of our program among other churches both within and outside of Prince Georges County will continue to grow. Therefore, in our scale-up strategy moving forward, we will also consider how our team can best support those churches interested in independently adapting and replicating Project HEAL among their congregations. Additionally in our future aims for scale-up, it would be of interest to explore whether successful outcomes could be achieved in other predominantly African American organizations.

We also learned from the SPRINT training that Project HEAL will need additional development in order to scale it for “real world” application. Indeed, feedback from several of our interviewees suggested that the narrow focus of our intervention on cancer makes it more challenging for broad dissemination. Several interviewees felt that health education is broadly needed in the church community not only on cancer, but also on other chronic diseases (e.g., high blood pressure, diabetes). This is consistent with a recommendation from our colleagues in East Harlem who are adapting and replicating Project HEAL and are including health topics in addition to cancer. Additionally, we have heard many times from the community that they have other health concerns beyond cancer. Trying to serve those interests in the context of a cancer educational intervention, funded by cancer-focused agency, has been challenging. We have come to view the Project HEAL Community Health Advisor training as capacity-building, providing a foundation where the Community Health Advisors can teach about cancer early detection and later add other health topics in accord with their church’s interests. This is currently being done by our colleagues at Mt. Sinai, who are implementing Project HEAL using an expanded health curriculum (also discussed in the paper). Indeed, it is unknown what the impact of this will be on the intervention efficacy and therefore further efficacy testing may be in order, particularly if the additional health information is not evidence-based. This idea of adapting to “real world” application is consistent with the emerging concept of “scaling out” which means to expand the use of EBIs as broadly as is feasible and appropriate in order to foster the greatest public health impact (Aarons, Sklar, Mustanski, Benbow, & Brown, 2017). Scaling out considers first defining the core EBI activities or components that are necessary to achieve a public health outcome and from there, add or modify components that complement, and do not conflict with, existing ones (Aarons et al., 2017; Cook, 1991).

Limitations

The current findings are best interpreted in the context of several limitations. The composition of the team from both academia and faith-based organizations provided a unique depth and breadth of diversity that allowed us to reach out to different persons in our defined church ecosystem from potentials funders and lay church members. However, it is

important to note that the insights gained from the discovery interviews are limited based on the small number of interviewees. Findings may have differed with a different team composition (e.g., inclusion of church pastors). In addition, the brief and informal nature of the SPRINT interviews precluded a more in-depth qualitative approach and analysis, though this could be a promising approach for future study.

To our knowledge, SPRINT initiative is among the first to utilize tools from the Business Model Canvas (Blank & Dorf, 2012) and Value Proposition Canvas (Osterwalder et al., 2014) to systematically consider the scale-up potential of evidence-based behavioral interventions.

The SPRINT training heavily emphasized issues of program costs and economic modelling of intervention approaches. Indeed, the studies found in the current literature that utilized these tools have focused on commercialization [i.e., introducing a new product or service onto the market with the aim of extracting commercial value from it; (Athilingam, Jenkins, Zumpano, & Labrador, 2018; Hedefjäll & Titkova, 2015; León et al., 2016)]. Yet a major difference between the Business Model Canvas and other scale-up articles that focused on economics was that prior models focused on payers derived from the healthcare system that provides the intervention (Johns & Baltussen, 2004; Johns & Torres, 2005; Kumaranayake, 2008; Rani et al., 2012). This made it challenging to consider in the church context who might constitute the “customer” and who might be in a position to pay for health promotion interventions. It is important to note that unlike biomedical interventions, social science-based public health interventions, like Project HEAL, are often developed to benefit the medically underserved and are not considered as something to “sell”. Thus, while we learned that there may be some churches that would be willing to pay for the intervention, we also recognize that churches often are challenged with their own financial needs and thus may not have the funds available to pay for training, if offered. Ultimately, it would be a unique and considerable challenge to develop a revenue model for a church-based intervention such as Project HEAL. We do believe that it is unethical to raise community interest in a health issue, but not provide a way for people to access the healthcare system. To improve access, we train the Community Health Advisors to link intervention participants with local resources for free or low-cost cancer screening, through our Cancer Resource Guide that we developed (Holt et al., 2014). One possible solution offered by the SPRINT faculty was to consider an alternate model called “The Mission Model Canvas”. The Mission Model Canvas is primarily used for organizations whose goal is not to earn money, but rather to fulfill a mission that does not use revenue as a metrics of success (Blank, 2016). This models provides a framework for organizations to adapt the Business Model Canvas to modify components such as changing from revenue streams to mission achievement (Strategizer, 2016).

Conclusion

In conclusion, our team’s experience in the SPRINT training revealed insights into how the Business Model Canvas could be used as a tool to examine the commercial and/or scale-up potential of an EBI delivered in faith-based organizations. These findings may be applicable to considering scale-up of EBIs in other community settings. We learned that there may be

particular challenges to scaling up and/or commercializing an intervention that is delivered in a non-health setting. However, not all aspects of the Business Model Canvas were ideally suited for community settings such as faith-based organizations. Therefore, the aforementioned Mission Model Canvas may be more suitable as this work continues to develop. Even in the face of these challenges, scale-up of EBIs to reach medically underserved individuals in faith-based organizations remains a significant initiative with great potential to eliminate health disparities.

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Figure 1:
Minimal viable Product – How the intervention gets to the customer

Table 1

Discovery interviewees characteristics

Characteristics	Overall (N = 41) % (N)
Sex	
Male	15 (37%)
Female	26 (63%)
Stakeholder	
Payer	2 (4.9%)
Pastor	3 (7.3%)
Church Leader	2 (4.9%)
Recommender/Influencer	16 (39%)
Key Opinion Leader	12 (29%)
CHA	2 (4.9%)
Church member	4 (9.8%)
Method of Contact	
In person	23 (56%)
Phone	18 (44%)
Health Professional	19 (46%)
Prior Affiliation with Project HEAL	3 (7.3%)