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#### **Cover Page Footnote**

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# A Taste of Learning: A Collaborative Early Childhood Pilot Project at Grocery Stores

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A Taste of Learning, a community initiative involving several collaborating agencies, has two primary foci: 1) To encourage healthy food decision-making at grocery stores and 2) to have families of young children engage in fun learning opportunities while grocery shopping. This paper provides an overview of the pilot project, which was implemented at two Remke Market stores, the preliminary findings, and the lessons learned from working with multiple partnering agencies.

A Taste of Learning (ATOL) is a program aimed at improving the quality of life of individuals and families by encouraging healthy food choices and fostering children's learning opportunities during grocery shopping. When Cincinnati Children's Hospital Medical Center approached United Way of Greater Cincinnati (United Way) about its desire to reduce and prevent childhood obesity, United Way reached out to other community partners including Vision 2015, Agenda 360, regional universities, and Remke Markets Incorporated, a local grocery chain, to explore the possibility of promoting school readiness and healthy eating for families and their children. What resulted, in 2011, was ATOL. ATOL exposes children and parents/caregivers to fun learning opportunities tailored to the grocery store environment. It provides experiences, questions, and materials to encourage learning through play and interaction while grocery shopping. These activities require children and their families to spend a longer time in the produce section as they play games highlighting different vegetables and fruits. This paper will describe the collaboration process with community partners with the intent of providing families supports for healthier food decision-making and engaging in fun learning opportunities through a pilot project in the grocery store.

#### **Literature Review**

School readiness is multidimensional and includes all areas of children's development including physical well-being (Boethel, 2004). Kentucky's readiness motto, *Ready to Grow,* 

Ready to Learn & Ready to Succeed (Kentucky Governor's Office of Early Childhood, n.d.) addresses a child's non-academic and academic development prior to school, including health, and physical well-being. Children's experiences prior to kindergarten help shape their dispositions, knowledge, and skills. Opportunities for early learning experiences play a key role in supporting kindergarten readiness and future academic achievement (Gregory & Rimm-Kaufman, 2008). What children are exposed to in relation to types of food during the first five years at home influences children's food preferences and dietary habits (Peters, Parletta, Campbell, & Lynch, 2014; Savage, Fisher, & Birch, 2007), which can impact children's health and school readiness. Thus, having children who are ready for kindergarten involves all of the adult partners who touch children's lives. The family, community, and environment need to be ready as well.

#### **Healthy Eating and Kindergarten Readiness**

School readiness encompasses having children who are healthy. When children are physically healthy, they can concentrate on stimuli and requests made of them. When children are battling even a mild illness like a common cold or cavity induced toothache, all of their energies are expended to manage the discomforts rather than focusing on learning. For children to be school ready, physical wellness matters. Research (Krombholz, 2012; Tomporowski, Davis, Miller & Naglieri, 2008) associates physically fit children with positive emotional wellbeing, cognitive function, brain development, and motor performance. In contrast, children who are obese may experience reduced capacity in executive functioning and emotion regulation (Miller, Lumeng, Delproposto, Florek, Wendorf, & Lumeng, 2013; Smith, Hay, Campbell, & Trollor, 2011; Taylor & MacQueen, 2010).

Unfortunately, many children under age five are at risk of being overweight or obese due to lack of movement or their diet. The rate for preschool age children from low-income families deemed obese or extremely obese was about 17 percent (14.94% for obesity and 2.07% for extreme obesity) in 2010 (Pan, Blanck, Sherry, Dalenius, & Grummer-Strawn, 2012). The obesity rate in 2012 for all children under two years of age and two to five years was about eight percent each (Ogden, Carroll, Kit, & Flegal, 2014). Additionally, the prevalence of obesity increases as children age (from 8.4% for 2- to 5-year-olds to 17.7% for 6- to 11-year-olds and 20.5% for 12- to 19-year-olds) (Ogden et al., 2014). Extra weight for young children can contribute to a higher rate of Type II diabetes and other health issues (Boney, Verma, Tucker & Vohr, 2005; Gutin, Basch, Shea, Contento, DeLozier, Rips, Irigoyen, & Zybert, 1990; Gidding, Barton, Dorgan, Kimm, Kwiterovich, Lasser, Robson, Stevens, Van Horn, & Simons-Morton, 2006; Leary, Ness, Smith, Marrocks, Deere, Blair, & Riddock, 2008; Seipel & Shafer, 2013).

Food selection is an important factor in physical wellness and weight control. The frequency of exposure to particular types of food can modify children's preferences for certain food (Carruth, Ziegler, Gordon & Barr, 2004; Eliot, 2000; Falciglia, Pabst, Couch, & Goody, 2004). Children's decisions to eat certain foods are dependent upon fun or positive experiences with that particular food (Birch & Fisher, 1996) rather than its nutritional content. Unfortunately, about 25 percent of adults and 46 percent of children in our region report consuming vegetables and fruits less than one time per day (Centers for Disease Control and Prevention, 2013). Young children's choices of food also depend on the people around them (Bellows & Anderson, 2006) and the positive role modeling of adults (Gregory, Paxton, & Borzovic, 2010).

# **Parent Role in Kindergarten Readiness**

Parents play an important role in children's early learning and experiences. From school selection to interactions to beliefs, parents' role in shaping factors which influence kindergarten readiness is integral (Belfield & Garcia, 2014). As role models, parents influence interactions, physical activity, and diet. For example, children's dietary intake and consumption amount can be correlated with the mother's own weight concerns (Markey, Markey, & Schulz, 2012). Children are more likely to eat foods that are familiar to them, and parents help create familiarity by having certain foods available at home (Savage et al., 2007). However, the selection of foods that are available and accessible at home may be less healthy than fruits and vegetables due to parents' real or fictional perception of lower cost and ease of preparation with unhealthy foods (Peters et al., 2014). Within a store, parents are more likely to respond to children's requests for certain food items when these are inexpensive or can be eaten in the store (Ebster, Wagner & Neumueller, 2009). Even children's risk-taking behaviors, as well as attitude toward physical activities, are informed by the opportunities their parents provide, and parents choose these particular learning opportunities because parents, themselves, value these experiences (Ellis, Lieberman, & Dummer, 2013; Niehues, Bundy, Broom & Tranter, 2013).

When parents know how to engage young children, it can have a positive influence on children's development. Interactions between adults and children support both social-emotional competence and language development (NICHD, 2006). The frequency with which young children engage in certain types of play activities including book exploration, writing, puzzles, and blocks may be related to kindergarten readiness (Long, Bergeron, Doyle & Gordon, 2005). The collaboration between parents and children fosters positive learning environments for exposing children to literacy and math activities (Lukie, Skwarchuk, LeFevre, & Sowinski, 2014). Opportunities for authentic early learning experiences with families may support not only children's development but also empower families (Harte & Gilbert, 2012).

According to Boethel (2004), there are four general ways that families play a role in kindergarten readiness. These are: 1) providing support, 2) teaching, 3) serving as intermediaries and 4) advocating for children. Providing support includes having warm, responsive interactions with children, keeping children safe, and meeting their needs in all areas of development. The role of teaching for families entails providing materials and interactions that encourage children and motivate learning. As intermediaries, families serve as a liaison helping children access the larger community in a safe and appropriate manner. Lastly, families become advocates and work to ensure their children have the necessary services and opportunities. However "readiness" does not reside within a child but rather a child becomes ready as communities, families, and schools get ready for the child. This means, adults within the community can do various things such as being responsive to children (Pretti-Frontczak, 2014) and providing experiences that contribute to foundational learning of the whole child. The key to having a "ready" child is to provide community supports for families. These supports have to be simple, realistic and, fun for both children and adults for continued application.

Children benefit from positive interactions and examples related to healthy eating as well as other developmental domains such as communication and intelligence. *A Taste of Learning* is a collaborative pilot designed to address the region's need for more healthy food decision making and supports to increase children's kindergarten readiness.

## **ATOL Pilot Project**

#### **Project Partners**

This four-year program began through the collaboration of community agencies in the greater Cincinnati region that had shared goals. Cincinnati Children's Hospital Medical Center, through the Office of Community Relations, engages in "partnership investments with other nonprofits" (Cincinnati Children's, n.d.) and helps sponsor identified focus areas, which include Kindergarten readiness and children's health. Agenda 360, Cincinnati's regional action plan, emphasizes a qualified workforce, business growth, transportation, inclusion, government collaboration, and creation of quality places to live and work (Agenda 360: A regional action plan, n.d.). The focus of Vision 2015 (now Skyward beginning 2015), Northern Kentucky's regional initiative, includes a competitive economy, educational excellence, livable communities, urban renaissance, effective governance, and regional stewardship (What is Skyward, n.d.). The bold goals of the Cincinnati region address education, income, and health (Bold goals for our region, n.d.). Two regional universities, Northern Kentucky University and the University of Cincinnati, were also involved. The mission statements of both universities aim to contribute to the region and to be committed to service to the community.

## **Strategy to Address Shared Goals**

In an effort to align and address their shared goals, these community partners examined area needs and existing programs that were successful in making connections, working towards systemic change, and laying the groundwork for sustainability. One program deemed successful was the United Way Born Learning Academy, a family engagement program using United Way bornlearning® public engagement campaign materials created in 2005 in partnership with United Way Worldwide, The Ad Council, and the Families and Work Institute to boost community engagement around young children. The United Way Born Learning Academy, a workshop series that helps parents learn about child development and support learning during daily tasks such as sorting laundry or reading signs in the environment, has been shown to have positive effects on families with young children (Gilbert, Harte, & Kinne, 2016). ATOL, like the United Way Born Learning Academy, is a bornlearning® strategy with its goals of helping children and families make healthy food choices and engaging them in activities to promote school readiness during one of the families' everyday tasks (i.e., going grocery shopping). The next section will describe the progression of activities project partners engaged in for ATOL implementation.

## **Timeline and Description**

Each partner served a different function, contributing in ways consistent with their mission. Cincinnati Children's Hospital Medical Center provided funding. Remke Markets Incorporated (Remke Markets) volunteered two of its grocery stores for a pilot project. They are a family owned local grocer committed to sustainability over time. Initiatives that support customer and community engagement are consistent with their mission. They were approached by the United Way of Greater Cincinnati in October 2011 to be a partner. Vision 2015 (now known as Skyward) solicited volunteers from the community and area high schools to help staff ATOL events. United Way of Greater Cincinnati Success By 6 (SB6) served as a convener of the partners. The first two authors, representing Northern Kentucky University and the

University of Cincinnati, served as content consultants. The content consultants, who had a background in early childhood, created the prompts and activities to be used in the program.

Pre-launch efforts began in 2011 with the identification of community needs. SB6 convened content experts, and the university faculty began developing curriculum and a survey to measure effectiveness. In early 2012, all partners met to review content and plan the marketing efforts. Marketing ideas included providing parent incentives through Remke Markets store coupons and developing six live ATOL characters dressed as Gabby Grape, Martez Mushroom, Betty Broccoli, Buddy Banana, Carly Carrot, and Sammy Strawberry to highlight vegetables and fruits as well as the produce section of the grocery store. Parent focus groups were held at community libraries to review the content. These parent focus groups were open to any community family members who came to the community libraries. The content experts made improvements based on partners' feedback and parent focus groups. In fall of 2012, ATOL was piloted at two Remke store locations, selected based on the demographic information on neighborhood income level. Because families with more resources do a better job with helping their children succeed within the educational system (Becker, 2014), the target population for ATOL initiative was low-income families with children under age five.

#### **Materials and Family Engagement**

Learning materials in the store included banners, signs hanging from the ceiling and signs on shelves to encourage various levels of interactions. Floor clings with footprints were intended to lead young children to see the activities with colorful ATOL character drawings. The grocery stores incorporated "I Spy" game prompts and encouraged families to find a specific letter, number, color or shape items within the produce section. Monthly special events, intended to bring families into the store, introduced ATOL characters (2-dimensional drawings and live characters for children to interact with in the store), modeled use of materials and engaged with families and children. Families engaged with children through following game prompts and participating in the special event activities. The monthly events included eco-friendly bags with coupons for healthy foods, children's art activities, health screenings, live and silent food demos in designated ATOL food stations and recipe cards featuring kid-friendly, healthy recipes. In order to gain feedback, store displays included surveys (see Table 1) printed on index cards. In addition, store employees disseminated surveys at the special events.

Table 1
Survey Questions

Original Survey		Revised Survey	
Question	Answer Choices	Question	Answer Choices
What is the age of child?	0-3 4-6 6-8 8+	What is the age of child?	0-3 4-6 7-9 10 and up
Were the activities	Yes	Will you change	Yes

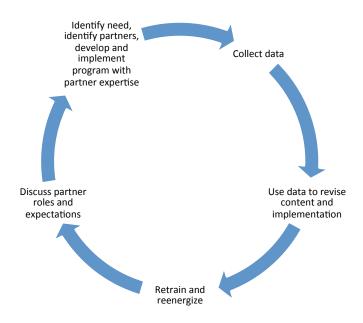
helpful?	No	at least one eating or purchasing habit as a result of ATOL activities?	No
Will you use these activities again with your child?		Did you learn at least one new way to engage with your child at the grocery store?	
Comments	Open-ended	What is one new healthy food option that you learned?	Open-ended

## **Continuous Improvement**

Partners held monthly meetings focused on the continuous improvement of ATOL. (See Figure 1. Cycle of Continuous Improvement). At the mid-year meeting (December 2012), partners realized that the presence of ATOL signs in the store did not necessarily result in parents and children "doing" the ATOL activities. Verbal prompts by the store employees or by other means (e.g., PA prompts) were needed. Remke Markets developed simple but specific ATOL talking points and tasks for their employees to interact with families. Additionally, a secret shopper concept was implemented where an employee who created a positive ATOL experience would be recognized for their effort. The feedback from secret shoppers was shared with the partners at the monthly meetings and informed next steps for employee re-training on ATOL events.

At the June 2013 monthly meeting, results from both locations were reviewed, and the partners noticed that the Newport store did not draw many families with young children in the target age ranges. The group decided to re-evaluate the Newport store location by examining the demographics of other Remke grocery stores. Based on the Remke Markets customer database, the Turfway store location had a higher number of families with children in the target age range, and the population of the area was of low socioeconomic status. Beginning in the fall of 2013, ATOL began at the Turfway store in lieu of the Newport store location.

Figure 1
Cycle of Continuous Improvement



# **Program Modification**

As the partners discussed the value and sustainability of ATOL in June 2013, they decided to modify the questions on the survey (see Table 1) to obtain information on healthy eating for the funder, Cincinnati Children's Hospital. Partners also brainstormed ways to enhance community involvement in order to extend the pilot project beyond the funding period and increase the sustainability at the two locations. One solution was the solicitation of additional community partner(s) with expertise or resources that aligned with the monthly instore events, which increased community involvement. For example, Walgreens provided a "Henry the Hand" station on the importance of washing hands, and the YMCA offered a "get up and move" station at the "Winter Wellness" ATOL event in November. In October 2013, the YMCA child care center near the Highland store was contacted to find other ways to reach out to additional local families. They agreed to have a parent night as well as hand out the flyers to inform child care center families about store events. With the coordination of more community partners, monthly in-store events resulted in more interactive activity stations and live food demonstrations that had been a part of ATOL events since its inception.

Another change was strengthening all of the grocery store staff's involvement in ATOL events at these two locations. The corporate office provided trainings on how to better engage with target families during ATOL events and every day, regardless of staffs' assigned areas. The training involved having store employees interact with customers as they naturally would do in their roles so that it would be authentic and comfortable, but also encourage engagement with and direction to the ATOL activities. In order for Remke to truly assume complete ownership of ATOL, the store associates at these two locations had to buy into the program and be actively involved. One way to do that was to highlight a targeted produce item. This allowed all store associates to talk with families about the produce item. Additionally, simple one-page recipes

for the highlighted produce item were made available to encourage families to try it. Both stores also began to incorporate public announcement (PA) messages about healthy eating, using children's voices, talking about that week's highlighted produce.

## **Preliminary Data and Findings**

Data sources included in-store surveys and focus groups. Survey results reflected the 2012-2014 academic years (See Table 1 for the original and revised survey questions). The surveys were compiled in an Excel spreadsheet to determine the response rate percentage. The first two authors conducted a focus group at each of the two ATOL pilot stores in February 2015 (see Table 2 for the focus group questions). The two focus groups were audiotaped and transcribed, then analyzed.

Table 2 Focus Group Questions

Tell us about your shopping habits before and after participating in a taste of learning. Have they changed? If so, how?

Share some healthy snacks or meals you have made in the last month. What is an example of a new healthy snack or meal you have made for your family? Did you make those before participating in a taste of learning?

Have you tried any of the learning games or activities from the Remke grocery store at home? If yes, describe what you tried and what happened.

Have you made any of the meals or snacks from the store demos or recipes you received at the grocery store? If yes, describe what meal, snack or recipe you made and what happened

Are there any other comments/suggestions you would like to share with us today?

During the first year of implementation (October 2012 - October 2013), 66 families who visited two pilot Remke grocery store sites and completed ATOL activities with their children submitted surveys before leaving the grocery store. Fifty-three percent of the children were six years of age or younger. All of the families found the activities helpful and indicated that they would use the activity with their children again.

In the second year of implementation (November 2013-December 2014), 49 families who grocery shopped at the two Remke stores and completed ATOL activities filled out the revised survey, and 67% of the children were within the age range of 0-6 years. On the three content questions, 88% of families indicated they would change one eating/purchasing habit as a result of ATOL activities, 94% responded that they learned one new way to engage with their child at the grocery store, and 73% said they learned one new healthy food option. Identification of new healthy food options included comments on fruits and vegetables, like "broccoli is good for you", and "fruit instead of candy"; comments on recipes, such as "bake crab cake instead of frying", and "grape salad"; and parent/child interactions, such as "let them help with food".

In February 2015, ATOL participants were invited to a focus group to obtain additional information regarding changes in shopping habits and continued use of activities they had experienced with ATOL. Unfortunately, very few families participated in the two focus groups despite Remke sending out 78 invitations to prior ATOL participants whose contact information was obtained from in-store surveys voluntarily completed by families. At the Turfway location, two mothers came, and only one mother came to the Highland location. Feedback from the three mothers indicated that their families enjoyed "I Spy" game prompts at the grocery store but also would welcome other educational activities. They also stated that their shopping habits had changed somewhat in that their children tried more produce items more than previously.

#### **Discussion**

The preliminary findings are based on families' self-reported data from a pilot project, and it indicates families positively received ATOL. The limitations of the study include small data set (i.e., very low number of participants in focus groups and low return rate of in-store surveys) as well as limited evidence in changed family behavior (i.e., continuously making healthy food choices and engaging in interactive learning activities in all settings). As discussed in the Literature Review section, school readiness incorporates cognitive, social and physical health of a child as well as participation (direct or indirect) of the community. For each child to be better prepared for school and life, the community has a role in enhancing families' capacity to nurture and educate their children, i.e., Boethel's (2004) four family roles as the supporter, teacher, intermediary, and advocate of/for their children.

The ATOL pilot project alludes to the potential for community impact through community partner collaboration. The ATOL pilot project at two Remke Markets grocery locations provided a non-traditional and neutral space where families could support and advocate for their children's learning of basic concepts (e.g., math, literacy, and healthy eating) by engaging in games as well as interacting with produce items, grocery store environment, and staff. The preliminary results from the pilot project illustrate families' intentions for changing one eating/purchasing habit as well as playing the "I Spy" game with their children again. The parents from the focus groups stated that their grocery shopping habits had changed somewhat due to their children trying out more produce items from the ATOL pilot project. The focus group participants also shared their desire for more educational activities, which indicates parents wanting increased resources for providing early learning activities at home.

Cincinnati Children's Hospital Medical Center's perception of the regional need for better promoting school readiness and healthy eating for families and their children became the impetus for the ATOL pilot project and the identification then engagement of various community partners. The collaboration process of the ATOL pilot project demonstrates many, but not all, of the attributes identified by Kania, Hanleybrown and Splansky Juster (2014) for a collective impact initiative and Prange, Allen and Reiter-Palmon's (2016) definition of collective impact. Collective impact, according to Prange et al. (2016), results from the full collaboration of all community partners essential to the universal, long-term solution of the identified community issue. Kania et al. (2014)'s five attributes for collective impact initiative include having: 1) a common agenda, 2) shared measurement systems, 3) mutually reinforcing activities, 4) continuous communication, and 5) backbone support organization. All of the partners involved in the ATOL pilot project agreed on the issue or the community need as well as the goal or outcome. The partners also had a shared understanding of how to proceed through ongoing, regular communication with clear, yet flexible, division of roles for each partner (i.e., who will

be the convener/facilitator, who will be the funder, etc.). The one component that was not as strong was assessment. Partners reviewed and modified the direction of ATOL in monthly meetings based on the context, the program itself (design and process); however, the analysis was more informal, and measurement of the goal or outcome as well as the target community perceptions were not as rigorous nor holistically examined as could be. Therefore, the partners did not systematically review each organizations' existing measurement process, nor reach a consensus on what, when and how of a shared measurement system at the beginning. If the ATOL pilot project had established a clear shared measurement system with the broad common agenda of better promoting healthy eating and school readiness for the region, the actions taken by the ATOL pilot project partners would have been more effective in collectively reinforcing the agenda and communicating the identified gaps from shared assessment systems, whether the gap may be in the what and how of the assessment measurement or who needs to be at the table for the ATOL pilot project, by the convening entity to ensure collective impact.

#### Conclusion

ATOL is a four-year collaboration effort of higher education and community partners. The collaboration attempted to encourage healthy food decision-making at grocery stores and to foster children's kindergarten readiness. Despite limitations of the pilot project (small data set that is self-reported and lack of evidence of long-term behavioral changes for the families who participated in ATOL pilot project), participants reported being introduced to new healthy food items and new ways to engage their children in activities targeted to school readiness. ATOL actively engaged families in exploration of healthy eating and basic math and literacy concepts at the two grocery stores. The ATOL pilot project did provide some insight in the process of collaborating with community partners and program implementation as well as the challenges involved in creating culture of community engagement for the region.

#### **Insights for Community Engagement: Lessons Learned**

The ATOL pilot project partnership process provides some lessons about the kinds of strategies that can lead to effective and authentic community engagement, especially for the institutions of higher education. The authors believe a successful engagement between the university and community partners, ultimately, leads to an effective long-term universal solution or collective impact for a community-level issue impacting diverse partners or entities. The ATOL pilot project, then, has demonstrated the potential for success, continues to grow and evolve by effectively using community partners and using the cycle of continuous improvement (Figure 1). Rather than the institution of higher education imposing ideas on community organizations, the ATOL program grew out of a need clear in both the research literature and the immediate community. Higher education institutions, in this pilot project, served as one of many community partners that responded to the community need. Remke store management and staff, university faculty, Children's Hospital volunteers, Vision 2015 staff, United Way of Greater Cincinnati managers and staff, and parents, all, contributed time, effort and expertise. No one entity could have begun or continued the program on its own.

Insights from this collaboration have resulted in the guidelines offered below. The partners in this collaboration believe that following these guidelines will serve to strengthen future collaborations.

- Get the right people to table by thinking outside of the lines. Include a range of partners, especially those who are not typical partners, and communicate often. Remember to always keep the shared agenda for the collaborative initiative in the forefront.
- Use the Cycle of Continuous Improvement (Figure 1) to revise and enhance projects over time. Revisit project objectives and discuss what is working and what is not based on data as well as each organization's capacity and measurement system. Get feedback from a variety of sources by examining what or who is missing. For us, partnership with other agencies, stores, and child care programs was a next step after initial efforts. The timeline evolved from linear to cyclical in order to create and assess change.
- Meet people where they are. Engaging families at grocery stores reaches them at a place where they already need to go. The challenge is to influence their practices.
- Ask the sustainability question. It is important to consider what is feasible for store staff not only for effective implementation during the pilot project but also over time when there is no grant money. See Table 3 for guidelines regarding sustainability.

Table 3
Sustainability Dos and Don'ts

Do	Don't
Put a protocol in place to ensure continuity as partners are guaranteed to change.	Make assumptions about communication.
Use data for improvements and keep project outcomes front in center.	Be afraid to fail.
Provide in-store training to support associates and gain buy-in.	Underestimate the investment that needs to be made in human capital.
Teach partners to use data, piece by piece.	Make the assumption that all partners embrace/know how to use data.
Phase the project in, each step building capacity toward the final "owner" because lasting change is an evolution.	Expect immediate results.

The benefits for institutions of higher education to actively participate in community include building community relationships for service learning and research as well as helping to address community needs. For community partners, benefits include optimizing their own capacity and aligning their functions with other partners in collectively addressing community needs. If the community engagement initiative is truly successful, the community will reap the benefit as all

members of the community experience a shift in outlook for shared responsibility for the well-being of all community members.

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