



PUBLIC VALUE: PERSPECTIVES FROM MINNESOTA EXTENSION FOOD SAFETY PROGRAMMING

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ABSTRACT

Cooperative Extension has existed in the U.S. for a century. Extension professionals play a major role in community-based, science-driven problem-solving that leads to stronger and better-functioning societies. However, as public expectations of accountability rise and funding streams become more limited, Extension professionals need to better articulate the public value accrued from administered programs. This study offers perspectives on Extension programming within the context of food safety, and reports on stepwise progress while addressing the challenge of successfully executing long-term studies to collect more robust data.

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The United States Cooperative Extension system was established in 1914 to deliver useful, practical, science-based information to communities in nontraditional settings (Franz, 2014). However, as public expectations of accountability rise and funding streams become more limited, Extension professionals need to better articulate the public value accrued from administered programs (Ahmed & Morse, 2010; Franz, 2015; Kalambokidis, 2004, 2011; Peters & Franz, 2012). The role of Extension in the dissemination of information is also evolving as online learning offers a more convenient and in some cases inexpensive option to acquire knowledge (Kassebaum et al., 2016; Yeung et al., 2019).

According to Kalambokidis et al. (2015), public value can be classified into four aspects, namely; a) narrowing information gap; b) fairness or justice of resource distribution; c) public benefits and costs; and d) public goods (nonrival and nonexcludable). All four potentially address a type of market failure to meet a need. In exploring the public value of a program, accurately pinpointing and clearly articulating the failure being addressed is crucial. However, making a case for aspects a) and b) above is highly challenging because of information abundance, and the need for a community consensus on program goals, respectively. This leaves aspects c) and d) as the basis for most public value messaging (Kalambokidis et al., 2015).

Simply put, public value would be any benefits cascading into the greater (tax-paying) community, usually to individuals not directly involved with Extension programming (Franz, 2015; Kalambokidis et al., 2015). On the other hand, private value is essentially the return on investment realized by the individuals directly involved with Extension programming (Kalambokidis et al., 2015). In this food safety example, the most relevant benefit is meeting the food production requirements set forth by the Minnesota Department of Health (Minnesota Department of Health, 2019).

At the University of Minnesota (UMN), Extension is organized into four centers (UMN Extension, 2021). Food safety education is offered by one of 12 teams in the Center for Agriculture, Food and Natural Resources (AFNR). In a previous study, one of us evaluated the private and public value of three of the food safety courses offered through AFNR, namely: a) Keep It Safe! Keep It Legal! for cottage food producers; b) Serve It Up Safely™ for food protection managers; and c) the Produce Safety Rule for specialty crop farmers (Omolo, 2020). In this study, we focus on the results from the Serve It Up Safely™ course, which is divided into 12 topic-specific modules, each designed and approved for one continuing education credit (UMN Extension, 2022). These modules provide learners with choices based on their interest and business needs. From an industry standpoint, the modules are typically considered to be 12 different mini-courses. The design makes it easier for Extension faculty to relate comments and feedback to the relevant modules for continuous improvement.

OBJECTIVES

The objective of this study is to offer perspectives on the public value of Extension food safety programming, using the UMN's Serve It Up Safely™ course as an example.

METHODS

In Chapter 5 of a recent dissertation study, Omolo (2020, pp. 54–66) explored the public and private value of the UMN Serve It Up Safely™ food safety course., by analyzing the 2019 post-training evaluation data from UMN Extension - AFNR. The data were captured in Qualtrics survey software (Qualtrics, 2019). Questions covered focused on course content, delivery and level of satisfaction based on learner expectations. Learners also provided feedback on self-assessed knowledge gain and behavior change goals in key areas related to food safety practices. For detailed evaluation questions, contact the corresponding author or refer to Appendix D of the dissertation (Omolo, 2020, p. 121). While the example used is based on food safety programming, the considerations may be relevant in any other areas of Extension-based efforts.

FINDINGS

In the results, Omolo (2020, pp. 54–66) reported that 747 out of 1624 learners responded to the evaluation (46% return rate). All except three of the respondents were from Minnesota (2 from China and 1 from Denmark). The learners were predominantly white (92%), non-Hispanic or Latino (90%), and over 18 years old (93%). More than half of the learners were women (55%). They work in a wide range of food establishments (>20 mentioned). The majority (89%) reported having a deeper understanding of the respective subject matter as a result of the course. Ninety-two (92%) percent said they could use the content learned at their jobs and 90% planned to use the lessons learned to train others at work. While 76% intended to change food safety practices, 85% would add or update existing standard operating policies/procedures. Additionally, 40% would suggest the respective course modules to others and only 20% would retake the respective course module again, given that there are 11 others to choose from.

DISCUSSION

The safety of food at away-from-home eateries is overseen by a certified food protection manager (CFPM). Current certification of CFPMs is based on the assumption that certification leads to greater food safety knowledge, resulting in safer establishments (Yeargin et al., 2021). A 2013-14 study by the US Food and Drug Administration (FDA), indicated that continued presence of a CFPM on the premises resulted in better compliance and better Food Safety Management Systems (FSMS) inspection scores (FDA National Retail Food Team, 2018).

DISCUSSION

Findings from other studies support this observation (Appling et al., 2018, 2019; Brown et al., 2014; Cates et al., 2009; Hedberg et al., 2006; Lipcsei & Kambhampati, 2016; McFarland et al., 2019). Brown et al. (2014) suggest that greater knowledge is associated with factors such as working in a chain restaurant, working in a larger restaurant, having more experience and having more duties (Brown et al., 2014). McFarland et al. (2019) recommend that behavior-based training should be included in addition to food safety knowledge-based education. This sentiment was the primary topic in a decade old book by Yiannas (2009), titled *Food Safety Culture: Creating a Behavior-Based Food Safety Management System*.

Learners taking the UMN Serve It Up Safely™ course usually do so as part of their recertification continuing education requirement. While the course is intended to provide current, science-based food safety information, the extent to which learners apply it is influenced by many factors including the work environment, management commitment and personal value systems (Aquino et al., 2021; Yeargin et al., 2021; Yiannas, 2009). It would be invaluable if Extension professionals had access to internal data about company food safety culture. This would help contextualize the training and education evaluation data within the realities of the work environments, to better assess the likelihood of employee behavior change based on knowledge gained through the course (Yeargin et al., 2021). However, due to the sensitive nature of company data, such information would be challenging to obtain.

It is important to mention that the evaluation data presented in this present study were self-reported and may be biased. According to Rosenman (2011):

“THERE ARE MANY REASONS INDIVIDUALS MIGHT OFFER BIASED ESTIMATES OF SELF-ASSESSED BEHAVIOR, RANGING FROM A MISUNDERSTANDING OF WHAT A PROPER MEASUREMENT IS[,] TO SOCIAL-DESIRABILITY BIAS, WHERE THE RESPONDENT WANTS TO ‘LOOK GOOD’ IN A SURVEY, EVEN IF THE SURVEY IS ANONYMOUS. (P. 321)”

Nevertheless, Yiannas (2009) and Aquino (2021) propose that knowledge assessment is one of the leading indicators of food safety. It is opportune, then, that Extension plays a major role in knowledge dissemination and assessment. Besides the learners who directly benefit from the course, below are ways that non-participants may find value.

VALUE TO CUSTOMERS

On average, Americans eat about 50% of their meals away from home, usually at away-from-home eateries (Angulo & Jones, 2006; Lipcsei et al., 2019). Unfortunately, the majority of reported foodborne illnesses are associated with these locations (Angulo & Jones, 2006; Hall et al., 2012; Lipcsei et al., 2019).

In a 2017 CDC report, 841 foodborne disease outbreaks resulting in 14,481 illnesses, 827 hospitalizations, 20 deaths, and 14 food recalls were reported. Of these 64% occurred at eateries (Centers for Disease Control and Prevention, 2019). In instances where etiology is determined, norovirus accounts for the majority of the cases, followed by Salmonella (Lipcsei et al., 2019). Regardless of the inherent risks associated with a food product, food handler hygiene plays a critical role in ensuring food safety (Scallan et al., 2011; Scharff, 2012; Tack et al., 2019). Restaurant-associated outbreaks are often attributed to food handlers who are under the management of and often trained by CFPMs. With this in mind, it is safe to conclude that consumers are the most obvious beneficiaries of properly trained CFPMs.

VALUE TO THE COMMUNITY

Every individual seeking an education opportunity belongs to a community beyond the program experience. While the knowledge and skills gained are primarily geared towards the individual's benefit and behavior change, immediate family members and friends may benefit if the individual applies the learned food safety practices at home and around family and friends. This was recently well summarized by one learner who stated that "Everything we learn helps others in some way, like our family and friends, when they see us practice what we've learned" (Anonymous learner, Personal communications, 12/12/2021). The benefit goes much further if the individual chooses to share the information with others and teach them how to apply the same skills (e.g. how to safely prepare and serve food). From the data presented herein, it was noted that 92% of the learners could use the content learned at their jobs, and 90% planned to use the lessons learned to train others at work. Additionally, 40% of them would recommend the course modules to others. These data indicate intent, which reflects goodwill and a positive attitude towards food safety on the part of the learners (Yiannas, 2009).

VALUE TO THE STATE OF MINNESOTA

The UMN Serve It Up Safely™ is one of 325 initial and renewal course options approved by the Minnesota Department of Health (Minnesota Department of Health, 2019). As of December 2021, there were 33,397 active certified food protection managers in the state of Minnesota, all of whom participate in any one of the approved courses as needed (Zerwas, Personal Communication, 12/20/2021). While the courses are offered by both public and private entities, the state benefits from the ongoing collaborative community-based research and engagement happening at the University. An earlier study at the University looked comprehensively at the 325 programs, and examined the influence of demographic characteristics and delivery methods on food safety knowledge of learners. The results showed no impact related to the mode of delivery, gender or delivery location on knowledge gain (Makari, 2014). This was useful because it reflects consistency in the different programs and delivery methods. Extension professionals have an opportunity to learn about a diverse range of issues and concerns as they interact extensively with local communities. In the specific case of food safety education, these professionals convert the mostly abstract regulations into manageable, practical information that learners can use to achieve their intended food safety goals.

FURTHER CONSIDERATIONS

Although the UMN Serve It Up Safely™ course is part of the educative measures against foodborne illness in the state, it is almost impossible to pinpoint or claim that a decision made by an individual after the course was a direct result of this experience alone. As such, the UMN Extension's story on public value should be understood as part of the bigger ongoing effort on food safety as a collaborative effort of many sectors across the state. The impact of the education program becomes a cog on a large wheel – a contribution towards the overall goal of ensuring the safety of the state's food supply. By considering this approach, the education team then spends more time capturing the broader context within which these programs are offered and how the efforts fit into that landscape. Franz (2014) mentions that Extension should consider how engagement with communities changes the economic, environmental and social conditions. This shift in focus may require additional resources, most notably time, without necessarily increasing the amount of funding from the legislature. Nonetheless, the goal is for Extension to remain relevant and competitive as needs continue to increase and funding is limited (Ahmed & Morse, 2010; Peters & Franz, 2012).

When having conversations about public value, it is important to consider the individuals in the discussion (Kalambokidis, 2013). Depending on the program being discussed, it is beneficial to have relevant stakeholders (Franz, 2014). It is not enough to have discussions or even document public values. These values must then be communicated to the right people, including public officials. One subtle group that could benefit from this communication is college level students interested in community based work, who will often look for clear descriptions of these impacts. By articulating these (potential) impacts, it may be possible to encourage and incentivize a new generation of Extension professionals.

Craig and Borger (2019), as well as Peters and Franz (2012) contend that Extension could benefit from highlighting the value of programs to the public, with a focus on relevant data. This is obviously not a trivial matter, but it is one that is becoming increasingly necessary as the pressure mounts on Extension to justify the need for public funding. While public input is pivotal, Extension professionals can and should invest time in discussing what value they see in their programs beyond the direct impact. While planning or in the process of executing long term studies needed to collect data on the behavior change of learners, Extension professionals should still report on stepwise progress, based on the available short term data.

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