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## Lessons Learned from the Development of the North Carolina Extension Master Food Volunteer Program

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### Cover Page Footnote

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# Lessons Learned from the Development of the North Carolina Extension Master Food Volunteer Program

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**Abstract.** This article describes the curriculum and program development process that was used to create the North Carolina Extension Master Food Volunteer program. We used a rigorous program development process, including conducting a needs assessment, piloting and evaluating the program, incorporating revisions based on feedback, and receiving external reviews that were incorporated into the final product. We provide lessons learned and best practices for others to follow. These include the importance of piloting the program, involving agents and key partners throughout the entire process, and providing flexibility and adaptability in program delivery.

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## INTRODUCTION AND BACKGROUND

Volunteers play an important role in delivering Extension programs in their local communities. In particular, Extension professionals across the country have developed structured master volunteer programs to engage, train, and prepare community members to support and expand family and consumer sciences (FCS) programming. Examples of such programs can be found in Table 1.

Existing research on these programs is focused on analyzing behavioral outcomes of volunteers related to healthy living (Washburn et al., 2017). There is limited research that explores the process of developing a structured volunteer program within the Extension context, including the steps taken and lessons learned to inform future volunteer program development. While one study describes the curriculum development process within the context of the Virginia Tech Master Food Volunteer Program (Jiles et al., 2019), it focuses on one continuing education module rather than the entire program. We address this gap by describing the development process and lessons learned from the North Carolina Extension Master Food Volunteer (NC EMFV) program pilot.

## NC EMFV PROGRAM DEVELOPMENT PROCESS

Specialists at North Carolina State University (NC State) first learned of the master food volunteer program model in 2014 from the program manager for the Virginia Tech Master Food Volunteer Program. Table 2 summarizes the subsequent program development process we followed to adapt this program for North Carolina.

We originally selected and trained eight agents in the NC EMFV program pilot. One agent dropped out due to challenges in recruiting volunteers, and two agents were unable to complete volunteer training before the end of the pilot's first year due to personal reasons. As a result, some evaluation activities included seven agents (for example, individual interviews after the agents finished training), while other activities included only those who were able to pilot the program for an entire year (for example, focus groups with volunteers).

Interviews with agents provided valuable feedback that we then incorporated into the curriculum. The curriculum originally included PowerPoint presentations with scripts, activities, and handouts for each section, plus video content for certain sections. Agent feedback indicated that the curriculum needed to include more opportunities for hands-on learning. We made many changes based on the agents' feedback, and agents helped develop original content to address the gaps in content and delivery methods identified through the evaluation. Agents were included as coauthors to reflect these contributions. A summary of these changes is provided in Table 4.

**Table 1.** Examples of Family and Consumer Sciences–Based Volunteer Programs

Program Name	Institution
Certified Food and Wellness Volunteer	Penn State Extension
Champion Food Volunteers	University of Kentucky Extension
Master Food and Nutrition Volunteer Program	University of Florida
Master Food Educator Volunteer Program	University of Delaware
Master Food Preserver Program	Oregon State University Extension
Master Food Preservation Mentor Volunteer Program	South Dakota State University Extension
Master Food Preserver Volunteer Program	Clemson University
Master Food Safety Advisor	Colorado State University
Master Food Volunteer Program	Virginia Tech
Master Food Volunteers Program	Kansas State University Extension
Wellness Ambassador Volunteer	University of Arkansas

**Table 2.** Summary of North Carolina Extension Master Food Volunteer (NC EMFV) Program

Year	Steps Taken
2014	<ul style="list-style-type: none"> <li>NC Extension Association of Family &amp; Consumer Sciences administered independent survey that showed 41% of FCS agents indicated master food volunteer programs as a training need</li> </ul>
2015	<ul style="list-style-type: none"> <li>Lead author formed an advisory committee of 20 Extension specialists and three agents to contribute to EMFV program design and curriculum content</li> <li>Advisory committee conducted needs assessment survey; 59 agents responded, indicating specific areas and activities where they most needed volunteer support</li> <li>Advisory committee solicited applications from FCS agents to participate in pilot program, selecting eight experienced agents who also represented geographic diversity</li> <li>Member of advisory committee conducted four regional focus groups with potential volunteers in the 12 counties where selected FCS agents worked</li> <li>Lead author conducted focus group at NC Extension Community Association (ECA) conference to engage ECA members in development process</li> <li>Lead author formed interdisciplinary curriculum writing team consisting of 15 Extension specialists and one FCS agent</li> </ul>
2016	<ul style="list-style-type: none"> <li>NC EMFV curriculum writing team created an 800-page curriculum that provided an introduction to all FCS food- and health-related program areas: cooking skills, cooking demonstrations, food safety, nutrition, food systems and local food, teaching strategies, evidence-based programming, changing health behaviors, history of Extension/FCS, and diversity, inclusion, and equity.</li> <li>Extension specialists led four-day agent training in May 2016</li> <li>Seven agents piloted program from May 2016 to May 2017</li> <li>Extension specialists conducted observations of one volunteer training in each county</li> <li>Lead author evaluated pilot program May–September 2017 (see Table 3)</li> <li>Curriculum writing team made revisions based on agent and volunteer feedback (see Table 4)</li> <li>Seven external reviewers analyzed revised curriculum; reviewers included professors and Extension specialists at other universities, a representative from the NC Division of Public Health, and a representative from the USDA’s Agricultural Marketing Service whose responsibilities included local food research and development</li> <li>Curriculum writing team incorporated reviewer feedback into final curriculum and program</li> </ul>
2018	<ul style="list-style-type: none"> <li>Curriculum writing team launched NC EMFV Program with agent training in February 2018 with 17 FCS agents representing 22 counties</li> </ul>

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**Table 3.** Summary of North Carolina Extension Master Food Volunteer (NC EMFV) Pilot

<b>Step 1</b>	Agents completed evaluation of the agent training (this step includes quizzes after each module, a final exam, and training evaluation)
<b>Step 2</b>	Volunteers completed evaluation of the volunteer trainings (includes quizzes after each module, a final exam, and training evaluation)
<b>Step 3</b>	We collected feedback from seven participating agents on each section of the curriculum, using a Microsoft Word document listing each curricular component
<b>Step 4</b>	We conducted individual interviews with seven participating agents when they finished training (two hours each)
<b>Step 5</b>	We conducted individual interviews with five participating agents after one year in the pilot program (one hour each)
<b>Step 6</b>	We conducted five focus groups with participating volunteers (agents not present)

Seven external reviewers reviewed this adapted curriculum, including representatives from universities, the USDA, and the NC Division of Public Health. In addition, we created an online volunteer management portal (modeled after the NC Extension Master Gardener Volunteer portal) that houses all curricular resources. This portal also offers tools for volunteer management, including an interactive calendar to manage volunteer opportunities and sign-ups, and a system to collect volunteer hours and create reports.

## KEY PARTNERS

One key partner organization for the NC EMFV program is the NC Chapter of the Extension and Community Association (ECA). ECA is a national organization that has a long history of volunteerism to support FCS programming. The NC ECA advisor was very engaged in the program development process. Because we considered collaboration between ECA and the EMFV program as critical to both organizations, the EMFV program was officially brought under the ECA umbrella as county-based, “topic-focused” ECA clubs in 2018. To date, this collaboration has brought 83 new volunteers to ECA. The EMFV program has benefited from access to ECA funding and participation in the annual statewide ECA conference, which provides networking, continued education opportunities, and recognition for volunteers.

We also included representatives from key partner programs on the advisory committee (NC Extension Master Gardener Volunteer program) and in the curriculum writing process (NC 10% Campaign, NC Cooperative Extension Local Food Flagship Program, Supplemental Nutrition Assistance Program Education). This ensured coordination and consistent messaging with other programs. Similarly, each section of the curriculum was created by a specialist in that area to ensure that it was evidence-based and consistent with other FCS programs. In addition, the Cooking Skills portion of the curriculum consists of NC State Extension’s Cook Smart, Eat Smart program. Finally, the program benefited from the participation of NC State Extension’s volunteerism specialist. This specialist provided critical information to ensure the program adhered to NC State guidelines about working with volunteers, including risk management and best practices for volunteer recruitment, training, and management.

## CONCLUSIONS

The development of the NC EMFV program followed best practices for program development, including conducting a needs assessment, piloting and evaluating the program, incorporating revisions based on feedback, and receiving external reviews that were incorporated into the final product. Reviewing the process led us to four important takeaways for future Extension volunteer programs:

1. Conduct the pilot test, even if you do not think you have time to do it. Getting feedback from a small group of individuals who have already bought into the program results in a better product.

**Table 4.** Major Changes Made to North Carolina Extension Master Food Volunteer (NC EMFV) Curriculum and Program as a Result of Pilot Evaluation

Type of change	Who developed change	Description of change
Program management	Local foods specialist (lead author)	Added introductions to the entire curriculum (one for agents, one for volunteers) that includes program management guidance based on the experiences of agents in the pilot program. This section establishes systems for running the program at the state and county level.
Program management	Local foods specialist (lead author)	Added introductions to each section of the curriculum that includes a summary of the resources and “tips for teaching” based on experiences of agents in the pilot program. These additions provide guidance for agents to deliver the program at the county level.
Curriculum	Agent and volunteerism specialist (third author)	Added a PowerPoint presentation about teaching strategies throughout the life course. This section addressed a need identified by agents to prepare volunteers to teach different age groups.
Curriculum	Agent and local foods specialist (lead author)	Added a handout about managing food waste during FCS classes. This section addressed a topic that volunteers identified as of interest to them.
Curriculum	Agent	Added food system activity “Weaving the Web” (demonstrates how the food system is like a web, and how local food systems differ from food systems at other scales). This activity added a hands-on component to the curriculum.
Curriculum	Agent	Added food system activity “What’s the Issue?” (asks volunteers to put the sectors of the food system in order and then to brainstorm different issues and projects that exist nationally, statewide, and at the county level for each sector of the food system). This activity added a hands-on component to the curriculum.
Curriculum	Agent	Added “My Plate and Teaching Strategies” activity (provides volunteers opportunity to practice knowledge gained from both the Teaching Strategies and Nutrition Modules by asking them to create a lesson plan to teach MyPlate to different age groups). This activity added a hands-on component to the curriculum.
Curriculum	Local foods specialist (lead author)	Added “Local Food Common Questions Scenario” activity (gives volunteers a chance to practice how they would respond to consumer and class participants’ questions about local food). This activity addressed a need identified by agents to allow them to observe how volunteers respond to consumer questions.
Curriculum	Local foods specialist (lead author)	Added “Certifications Common Questions Scenario” activity (gives volunteers a chance to practice how they would respond to consumer and class participants’ questions about different types of standards, certifications, and labels). This activity addressed a need identified by agents to allow them to observe how volunteers respond to consumer questions.
Curriculum	Extension specialist	Moved the socio-ecological model and corresponding information from Food Systems into its own section called Changing Health Behaviors. This change corresponded with an increased emphasis on Policy, Systems, and Environmental changes within FCS programming, warranting its own section of the curriculum.

## Lessons Learned from the North Carolina Extension Master Food Volunteer Program

2. Include agents intimately in the process. Agents created activities and experimented with different types of program management, which helped shape the curriculum and program. They also helped with agent recruitment by participating on panels at Extension conferences and answering other agents' questions.
3. Identify and engage key stakeholders throughout the process. Involving organizations and specialists with a vested interest in quality programs helps ensure greater support for future endeavors or for program improvement. The EMFV curriculum prepares volunteers to assist FCS agents in a variety of Extension programs, which further illustrates the criticality of consistent messaging and program coordination.
4. Provide flexibility in the curriculum and program management when it is possible and feasible. Maintaining fidelity to curriculum is critical for technical components, yet often there are options to adapt teaching strategies or activities for learning, or to include content that reflects the county context. Including alternate lesson plans or activities where possible helps create a sense of autonomy and allows agents to stay within their comfort zone in delivering content.

It is clear that the process of developing an extension volunteer program takes an investment of time from specialists, agents, and reviewers. We estimate that each hour's worth of curriculum took 22 hours to develop (Chapman 2010), for a total of 660 hours to create, pilot, and evaluate the 30-hour NC EMFV curriculum. As of 2020, there are 42 agents (representing 53 counties) enrolled in the program, with 110 trained volunteers who have contributed just under 6,000 service hours and reached a total of 35,864 contacts cumulatively since 2017. These numbers indicate nearly a 1,000 fold return on investment, suggesting the high value of extension volunteerism programs.

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