Crossing Borders, Crossing Boundaries
2005 Joint Canadian Evaluation Society/American Evaluation Association Conference
Toronto, Canada
24-30 October 2005

Title
Crossing Boundaries: Development of a National Community Nutrition Education Logic Model Online Program Management and Reporting System

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Abstract
This work builds upon the development of the Community Nutrition Education Logic Model (Medeiros, et al., *Journal of Nutrition Education and Behavior*, 2005; 34:197-202) using Food Stamp Nutrition Education (FSNE) as a prototype for creating a national online program management and reporting system. In February 2004, a nine-member taskforce conducted a blind review of 2002 State Extension FSNE data. Insights gleaned were used to refine the logic model, identify training needs, and guide development of the online system. FSNE reporting criteria from the Food and Nutrition Service were incorporated into the online system to ensure greater consistency in informing multiple stakeholders. Fourteen States piloted the online system in November 2004 using Extension and Public Health FSNE and other nutrition education data. Results will guide further development of the online system, with a completion goal of December 2005. Lessons learned and potential usefulness to other applications will be discussed.

Note: This paper was presented with the accompanying PowerPoint slide presentation "Crossing Boundaries – CES-AEA Conference – October 2005."

Acknowledgements

Good afternoon. I wish to begin by sharing my appreciation for the many individuals and organizations that made this work possible. Financial support came from Extension Directors and Administrators of the Land-Grant University System and from the Families, 4-H and Nutrition Unit of the Cooperative State Research, Education and Extension Service (CSREES) of the U.S. Department of Agriculture (USDA).

Technological expertise came first, from Mississippi State University Cooperative Extension (Stephen Green), and more recently from South Dakota State University, Ag Information Technology (Rick Anderson, Corey Aker, Sree Manthini, and Mayura Magdum). A National Workgroup is responsible for much of what I will share today. Members are: Jamie Dollahite (Cornell University, Division of Nutritional Sciences), Cindy Frederick (University of Wyoming, Cooperative Extension Service), Stephen Green, (Mississippi State University Cooperative Extension) Gail Hanula (University of Georgia, Cooperative Extension), Wanda Koszewski (University of Nebraska, Cooperative Extension), Jeff Olson (West Virginia University Extension Service), Beverly Phillips (University of Wisconsin, Extension), and Sharon Sass (Arizona Department of Health Services).

Lastly, this work builds upon that of an earlier national evaluation workgroup, which conceptualized the Community Nutrition Education Logic Model (Mederios, et. al. 2005); a national report of FSNE within the Land-Grant University System (Little & Newman 2003); an online logic model training course (Taylor-Powell et. al. 2002); and insights shared by intra-agency and inter-agency colleagues.

Background - Context

Food Stamp Nutrition Education (FSNE) is an excellent example of "crossing boundaries." Financial support comes from Food Stamp Program administration dollars provided by the Food and Nutrition Service (FNS)/USDA to State Food Stamp Agencies and from State and local contractors, such as Land-Grant Universities, State Health Departments, Indian Tribal Organizations, local food banks, and local health organizations. CSREES/USDA contributes to FSNE as a Federal partner to the Land-Grant University System.

What began in 1988 as a county Extension educator identified need to expand the reach for teaching basic food skills to people with limited budgets has grown to a nearly 460 million dollar Federal, State, and local partnership to address nutrition education concerns among the Food Stamp population in a health and obesity conscious environment. The Land-Grant University System, and Cooperative Extension Service in particular, has made a key investment to this work. By 2004, Land-Grant Universities conducted FSNE in all 50 States and at least one U.S. Territory, and accounted for more than 80% of State and local "match," not counting California, which is an outlier given its massive State Nutrition Network.

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Inherent to the rapid expansion of FSNE among States was the high variability or absence of evaluation methods used to assess and report program impacts. Needed was a system that could inform State programming and capture State findings into a national report to demonstrate program accountability within the Land-Grant University System.

Guiding Factors

Considerable attention has been given to the development of this "data collection" system, that it might inform multiple stakeholders, guide program planning, and create a mechanism to better focus evaluation efforts, such as resources, methods, measures, indicators, and researchable questions.

Challenges have been considerable. Have we opened a Pandora's Box with the grassroots beginning and rapid growth of FSNE? Do we have the capacity to develop a national system that can inform local stakeholders with a shoestring budget? Additionally, while there is considerable research on nutrition education, research is lacking on education for people with limited financial resources, particularly in a holistic context – influencing behaviors in the areas of diet quality/physical activity; food security; food safety; and food shopping/resource management. Interest in this type of research has increased on many fronts, driven in part by greater focus on evaluation and accountability. As we proceed forward, how will we coordinate efforts to contribute to greater understanding for all? On a related note, understanding and expectations concerning evaluation vary considerably. Can we find a common ground?

Vital elements to which we have held are to: 1) reflect performance based budgeting – what comes from the investment made; 2) be theory driven – using a socio-ecological approach; 3) be politically astute – respecting the voices and understanding the pressures upon all sources of financial and other types of support (.e.g. FNS, other Federal Agencies, Universities, State and local partners); 4) create a system that is comprehensive, clear and easy to understand with training; 5) be helpful to Universities – serving both State and national interests; and 6) always keep sight of our ultimate goal, to "*provide educational programs and social marketing activities that increase the likelihood of people making healthy food choices consistent with the most recent dietary advice as reflected in the Dietary Guidelines for Americans and the Food Guidance System with special attention to people with limited budgets.*"

Design

Conceptualization and testing of the Community Nutrition Education (CNE) Logic Model represents five years of work to date. Development and initial testing of the model has been described recently in the *Journal of Nutrition Education and Behavior* (Medeiros et. al., 2005). These findings were reported in greater detail in a study commissioned by the Families, 4-H and Nutrition Unit at CSREES/USDA (Little & Newman, 2003). This national report reflects the work of 42 Universities that voluntarily submitted a FY 2002 FSNE State Report, using a CNE Logic Model worksheet template that had been developed. The report illustrated the usefulness

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of the CNE Logic Model in providing a "snapshot" of FSNE across the country within the Land-Grant University System and revealed the need for further refinement of the model and development of an online program management and reporting system.

Today's presentation will focus on the second and third phases of the project, which were to conduct an independent blind analysis of the national data and refine and test the model for FSNE and other nutrition education programs. We are now in the fourth phase, and plan to conduct a second national pilot in the next few months.

Phase 2: Blind Review of 2002 FSNE State Reports and Refinement of the CNE Logic Model

Eight individuals with FSNE experience were charged with conducting a blind review of the FY 2002 FSNE State Reports that had been submitted for the 2003 National Report, refining the existing model, and providing guidance to a contractor who was developing an online program reporting system. Members of this workgroup were selected for their expertise in research, program management and reporting, and technology; commitment to improving evaluation; and attention to detail and flexible thinking. Additionally, this workgroup represented a geographic balance of the four Extension regions, Extension and Public Health perspectives, and use of direct, indirect, and social marketing campaign interventions.

Each workgroup member independently reviewed 10 – 12 State Reports. Workgroup members were reminded that the model was to serve as a "management tool" to inform program planning as well as to document and report accountability within States, regions, and nationally. They examined the reports for what was missing, ambiguous, or duplicative; what was "need to know," "good to know," or "unnecessary;" what training was needed; and other themes that became apparent to them.

A two day face-to-face meeting was held in Atlanta, Georgia in February 2004 to discuss data collection, definition of terms, and report recommendations. Workgroup members first broke into small groups to discuss themes from reviews. Meeting then as a total group, they began going through the model item-by-item, and providing specific recommendations. Initial work on an online reporting prototype was also demonstrated at that time.

Overwhelmingly, workgroup members emphasized the need for training on content and use of the model as a program management tool. Training was of almost greater concern than refining the model, itself! Workgroup members expressed concern that some individuals who had prepared 2002 FSNE State Reports may have seen the report as extra work since the request did not come from the Federal funding Agency, and that the commitment of funding from their Universities and the Land-Grant University System, as a whole, was not well understood. Noting the sheer volume and great variability in what was submitted, they strongly supported development of the CNE Logic Model worksheet into an online system, with pop-up definitions, forced choices from baseline data of previous years, and limited open-ended responses. Recommendations for eliminating content were minimal.

Monthly conference calls and group email followed as the workgroup continued examining, refining, and testing specific components of the logic model and online system in detail. State FSNE Coordinators were kept apprised of the project and received some general training on CNE Logic Model refinements and the use of the model as a program management tool through existing communication channels – group email, regional conference calls, and breakout sessions at national meetings.

CNE Logic Model

At this point, let me take a few minutes to explain specific characteristics of the CNE Logic Model. A one page overview and detailed graphic can be found on the www.ces-fsne.org website. Shortly, a revised version of this graphic will be posted to the same site.

From the one-page overview, we can see that two theoretical approaches have been embedded in the model, namely social science theory (the socio-ecological model), and logic modeling. This is consistent with recent work done by Bledsoe and Graham (2005), who operationalized program theory as the "synthesis of both stakeholder program logic and social science theory to define what a program does, in what manner, and how much of an effect each goal and objective can have on the outcome." Note, also, the chain of connections (i.e. the lines and directional arrows, including feedback loops). These define program theory and give the model its power. Although not initially obvious, the CNE Logic Model flows both to the left and the right. Also important to the model, assumptions and external factors are explicitly stated. One clarification for the one-page overview – in the outcome column, the core areas of education (diet quality/physical activity, food security, food safety, and shopping behavior/food resource management) are included at every socio-ecological level; space does not permit displaying them as such.

Looking now at the details, specific types of information are collected for each of the input, output, and outcome sections. For example, financial resources are distinguished by types of funding streams, which is important where States are combining or coordinating fiscal resources for more effective and comprehensive programming. Note, also, that the outcomes are distinguished in three ways – according to individual, community, or societal involvement; by core area of education received; and by extent of change that has occurred (short term skills, medium term behaviors, and long term conditions), and that impact indicators have been identified for the program outcomes.

Concern has been expressed that the model does not consider evaluation measures and methods. In actuality, evaluation is essential across the model. Some of this information is captured from the template worksheet. Also respecting evaluation, the robustness of the model still needs to be tested. Taylor-Powell has cautioned that there is too little focus on testing theory and too much focus on outcomes of logic models and that too often attention is given to context only on the front end (31 March 2005). The content (boxes) in these models is dynamic and changes according to new information, policy direction, and/or program needs. For example, "Diet Quality" has been expanded to "Diet Quality and Physical Activity" based on research and recent changes in the U.S. Dietary Guidelines.

The CNE Logic Model was never intended to be exclusive to FSNE. Rather, the complexity of FSNE, which has multiple funding streams, engages numerous partners, and balances local flexibility with national direction – makes it an excellent archetype for developing a program management and reporting framework. To address University concerns about needing to report data to multiple stakeholders in a variety of ways, we consciously considered how other data collection efforts underway or being developed would fit with this particular model. We sought integration, consistency, and complementation where possible, and questioned our own model as to what is actually needed to meet its intent to guide program planning, management, and reporting within States and nationally.

Phase 3: Revisions and Pilot Testing the Online System

Instrument

Changes from the original reporting structure were the use of forced choice responses (checklists, drop down menus, and fill in the blanks) using 2002 baseline data where feasible, and creation of an information packet for easier completion and greater consistency of State reports. Content changes included updates based on MyPyramid.gov, greater clarity on the type of information requested, and the use of consistent language with the draft Education and Administrative Reporting System (EARS) form that is being developed by FNS. For example, both forms use the same age unit breakdowns. Getting consistency is surprisingly hard to achieve when working across programs and agencies. An example is that data may be collected as "contacts" where people may participate in several types of educational interventions in a community setting; but the data is more meaningful as "individuals" at the Agency level. This difficulty is not unique to FSNE. We need to think about how we are going to accurately assess participation in a community context that is acceptable to stakeholders with different funding streams and different documentation needs.

Pilot-test

Between November 2004 and January 2005, the revised model and online system was tested with a convenience sample of 14 States. Respondents included members from the workgroup who were directly involved in the model's development, three State FSNE Coordinators who had not been involved, and three Family and Consumer Sciences (FCS) Leaders who were asked to report on another type of nutrition education program (e.g. not FSNE).

Respondents were given an outline with summary instructions to help them quickly identify the types of content requested; a list of definitions, examples, and additional clarification (in addition to the pop-up screens) to provide a common language for completing the online form; and a hardcopy worksheet that they could use if they preferred to collect and record the requested information in advance. They were instructed to report only according to information they had readily available and not spend extra time trying to gather information after the fact. In addition to completing and submitting the CNE Logic Model online reporting form, they were asked to comment on what they liked, what was difficult to complete or understand, what was most and least helpful from a State perspective, and to provide suggestions for how to improve the system.

Efforts to have a contractor analyze the data did not work out, so the data was analyzed "in house" in May. This turned out well, as we needed to check signals with other Agencies doing work in FSNE and data collection/evaluation. Additional feedback was also provided by a select group of program managers, researchers, and FCS administrators. A second contractor took over the technology side of the project in summer 2005, and transferred the system into a cold-fusion environment.

General Results – Potential Training Items
From a data analysis perspective, the data received was easier to understand and interpret than the data received in 2003. Most respondents completed all of the form; others completed most of the form based on information that they had readily available and indicated that they should have no difficulty providing the requested information as long as they knew in advance what was needed. Two exceptions were concerns raised about how to record race and ethnicity given changes in census data collection and questions about how to count "individuals" versus "contacts," as already noted. Completing the online form was less time consuming than the paper version of two years previous. Most encouraging, all participants liked the move toward an online system and the combination of forced choices and qualitative responses.

Surprisingly, FSNE respondents who were not part of the workgroup had the most difficulty completing the form. They questioned why some of the information requested differed from what is presently required by the Federal funding Agency, suggesting a lack of awareness of the EARS form under development and/or the value of specific types of information for use within their University systems. By contrast, FCS Leaders noted the potential value of the model for other nutrition education and FCS programming. They did not seem to have difficulty using the model with other audiences and in other settings. However, two of the three FCS respondents did not provide outcome data, so we were unable to make any inferences as to whether or not the outcomes were appropriate for the programs they had chosen.

Even with forced choices, some data seemed suspect. Two respondents reported working almost exclusively with Hispanic/Latino audiences, which is in contrast to their State demographics. This finding points to the need for training and careful review of the data for entry errors. Other identified training needs were how to: write the narrative content; connect objectives with outcomes; and use the model to guide program planning, reporting, and accountability.

Specific Results
Despite having fewer respondents, we found a higher number of community and social policy/practice level outcomes than was seen in 2003. This is encouraging, and could be due to an increased focus on community programming and reporting within Extension, greater clarity in the instrument used, or for other reasons unknown.

Several glitches were found with the system, including a question without a response option, truncated numbers, and multi-choice options that defaulted to "0." These errors should be corrected through beta testing. Software limitations, such as an inability to distinguish between letters and numbers, should be corrected with the switch to a different technological environment.

Phase 4: Second National Pilot

Findings from the pilot study, developments in other work being done, and national policies are being incorporated into the online system at this time, with a goal to beta test it nationally by the first of the calendar year. If achieved, this timeline will not only benefit the development of the model, but support States in planning for FY 2007 at the same time, which is consistent with the CNE Logic Model approach – e.g. to have a feedback loop between planning and reporting.

Challenges to Development

Our initial timeline was overly ambitious. The process was slowed by changes in contractors (both for data analysis and technological development), progress of other Agency projects where we were trying to coordinate efforts, and especially the need for sensitivity to State FSNE Coordinators' workloads. Originally, Phase Three (pilot testing beyond FSNE) was not part of the design. Adding that step helped us strengthen the process and be more deliberate in developing the online system.

A second challenge was to develop an online program management and reporting system with limited funding and expertise needed in areas that we'd not previously tapped. This required new collaborations, prioritization of technological and training decisions, and commitment and creativity by all involved.

Future Needs and Directions

Returning to the vital elements identified at the outset of this presentation, to get clear, consistent, and comprehensive information, we need to build evaluation capacity within the Land-Grant University System. Training will be essential!

If we are to be politically astute, clear and unambiguous definitions of terms need to be used. Language is critical!

We are still struggling with how to support the development of State reports – how to be can be consistent with national reporting in substance and content and yet reflect local relevancy.

The soundness of the CNE Logic Model and its applicability to other community nutrition programs still needs to be tested.

This work will continue to be driven by performance based budgeting. We will continue to work with Federal Agencies and stakeholders invested in community nutrition education and evaluation in coordinated and complimentary ways, as we all realize there is too much work too do alone. It will take us all!

Thank you.

References

Bledsoe KL, Graham JA. The Use of Multiple Evaluation Approaches in Program Evaluation, *American Journal of Evaluation,* September 2005; 25:3, 302-319.

Community Nutrition Education (CNE) Logic Model. See www.ces-fsne.org for original model. To be replaced by revised version that is currently under development, Accessed September 5, 2005.

Enhancing Program Performance with Logic Models; Web-based course. www.uwex.edu/ces/lmcourse/. Accessed September 5, 2005.

Little DM, Newman ME. Food Stamp Nutrition Education within the Cooperative Extension / Land-Grant University System, National Report – FY 2002. Report prepared for CSREES/USDA, Washington, D.C. October 2003. Available at http://www.ces-fsne.org. Accessed October 13, 2005.

Medeiros LC, Butkus SN, Chipman H, Cox RH, Jones L, Little D. A Logic Model Framework for Community Nutrition Education, *Journal of Nutrition Education and Behavior*, 2005; 37:197-202.

Taylor-Powell E. Logic Models: A framework for program planning and evaluation (presentation) Nutrition, Food Safety and Health Conference, Baltimore MD, March 31, 2005. www.uwex.edu/pdande/evaluation/evallogicmodel.html. Accessed September 5, 2005.