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Expanding the Evidence for Health Promotion: Developing Best Practices for WISEWOMAN

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ABSTRACT

Implementing effective programs to prevent chronic disease holds the promise of reducing morbidity and mortality, reducing health disparities, and promoting health. Yet many programs have demonstrated success only in highly controlled research settings and few address the needs of low-income, uninsured, minority women. Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN), a demonstration program funded by the Centers for Disease Control and Prevention (CDC), that provides chronic disease risk factor screening and lifestyle interventions for low-income, 40–64-year-old women is learning from our own successful programs but is also charting new territory. As the CDC, state health departments, tribal organizations, and other WISEWOMAN partners approach the end of the first decade of WISEWOMAN demonstration projects, we are seeking to understand what has worked and what has not. This paper describes the rationale and proposed methodology for assessing best practices in the WISEWOMAN program through a participatory process that will examine scientific evidence and quantitative and qualitative program data. By emphasizing practicality in addition to scientific rigor, we are expanding the base of evidence considered to identify effective approaches for reducing cardiovascular disease (CVD) risk in financially disadvantaged, ethnically diverse women. Results of the 3-year project will be disseminated in a format intended to encourage programs to select and adapt those strategies best suited to their particular contexts.

Knowing is not enough; we must apply.
Willing is not enough; we must do.

—*Goethe*

INTRODUCTION

RESEARCH INTO CHRONIC DISEASE PREVENTION has been ongoing for decades, yet cardiovascular diseases (CVD) still claim the lives of more than half a million women every year. Although heart disease death rates have declined over the past decade, the gap between CVD death rates for men and women continues to widen,[1] and CVD morbidity and mortality continue to disproportionately burden racial/ethnic minorities.[2] Researchers also increasingly emphasize the influence of socioeconomic conditions on CVD risk. For example, adults who lack health insurance and who have hypertension or high blood cholesterol have diminished access to care, are less likely to be screened and to take prescription

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medication if diagnosed, and experience worse health outcomes.[3] Programs that address CVD not only must deliver the most effective health promotion interventions but also should maximize positive impacts in reducing health disparities and promoting overall health.

Sound evaluation is a key strategy for identifying effective interventions and promoting efficiency in program delivery. Distinguished from intervention research, best practices evaluation identifies program strategies that are successful in the field to inform other programs. The call for best or promising practices is being sounded throughout the fields of chronic disease prevention and health promotion,[4–7] but as Glanz[6] observes, "we really do not know how well many of our [health promotion] strategies work, or how well they work in a certain context. Blind faith and the unquestioning belief that we are 'doing good' are weak substitutes for sound evaluation." Conducting evaluation that explicitly recognizes the importance of context as well as the challenges of program management and implementation is a critical step in closing the gap between science and practice.[4]

The adoption of best practices by communities is hampered by research that ignores the practicalities of the real world, a lack of consensus on defining "effectiveness," and a failure to disseminate effective programs.[4] To meet the needs of practitioners, broader definitions of evidence are required that address practicality in addition to outcomes. This paper describes a study undertaken by Well-Integrated Screening and Evaluation for Women Across the Nation (WISEWOMAN), funded by the Centers for Disease Control and Prevention (CDC), to transfer knowledge to practice settings by building consensus on definitions of CVD program effectiveness, identifying best practices from the field, and disseminating the findings. To guide this project, we have defined best practices in WISEWOMAN as those activities or practices that follow from an articulated model or theory and are indicated by systematically gathered evidence to be effective or efficient (or both) for delivering health promotion services to the target population of underserved women within varying contexts of program, policy, culture, socioeconomics, and geography. Critical dimensions of the success of these practices include their feasibility, replicability, adaptability, and cost-effectiveness.

WISEWOMAN is approaching the end of its first decade of demonstration projects (i.e., implementation of small-scale programs in natural settings). A cornerstone of the WISEWOMAN program is its commitment to promoting applied research and program evaluation, thereby increasing the science base for interventions to prevent chronic disease. CDC provides guidance to state programs on existing research, but an information gap remains. As the program continues to develop and expand, newly funded WISEWOMAN projects require guidance in several key areas, including intervention development and implementation, participant recruitment, retention and tracking, follow-up care and access to medications; and program management and monitoring (Table 1). Existing WISEWOMAN projects are uniquely positioned to identify the most successful practices and to translate their experiences into useful recommendations for new projects as well as those seeking to improve the effectiveness of existing programs.

In this paper, we use examples from the WISEWOMAN program to present a framework for best practices evaluation. The framework is designed to explicitly address the transfer of scientific findings to practice settings and to gather evidence derived from programs' experience. Thus, the framework keeps the interests of practice settings at the forefront. In the first section, we review models for identifying best practices and provide an overview of our approach. We then describe specific steps to be taken to expand the evidence base for assessing program effectiveness and to disseminate recommended strategies. As the CDC, state departments of health, tribal organizations, and other WISEWOMAN partners develop an understanding of what has worked, it may be possible to strengthen the technical assistance provided by CDC to the agencies and professionals involved in WISEWOMAN while articulating best practices that can be shared with the wider public health community.

THE WISEWOMAN APPROACH TO BEST PRACTICES

Evidence-based practice is an important public health goal, but evidence is often narrowly defined as health outcome data from highly controlled research studies.[8–9] This standard often is too strict for complex health promotion programs operating in the field, as in addition to health out-

TABLE 1. WISEWOMAN BEST PRACTICE AREAS LINKED TO LITERATURE AND EXISTING DATA SOURCES

Best practice area	*Focus of literature review*	*Existing process data sources*	*Outputs and outcomes from existing MDE[a] database*
Intervention	Public health literature (e.g., CVH[b] in vulnerable female populations)	Intervention protocols, success stories on cultural adaptation of interventions, WISEWOMAN program quarterly reports	Behavioral and physiological outcomes
Recruitment to WISEWOMAN	Social policy and welfare literature, unpublished program evaluation reports (NBCCEDP[c], others)	Recruitment protocols, WISEWOMAN program quarterly reports	Recruitment compared to eligible populations
Participation and retention	Social policy and welfare literature, intervention participation literature, unpublished program evaluation reports (NBCCEDP, others)	Service delivery and retention system protocols, WISEWOMAN program quarterly reports	Participation rates in screening, intervention, and rescreening
Follow-up care and access to medications	Social policy literature (e.g., safety net providers), unpublished program evaluation reports (NBCCEDP, others)	Follow-up care protocols, medication access protocols, WISEWOMAN program quarterly reports	Medication use at rescreening, alert value database[d]
Program management and monitoring	Health administration literature (e.g., patient tracking), unpublished program evaluation reports (NBCCEDP, others)	Data collection system protocols (forms, computer protocols), WISEWOMAN program quarterly reports	Timely MDE data submissions and error reports[e]

[a]MDE, minimum data elements (quantitative measures collected systematically across all WISEWOMAN projects).
[b]CVH, cardiovascular health.
[c]Reports from the National Breast and Cervical Cancer Early Detection Program (NBCCEDP) will be of particular interest to WISEWOMAN, as these two programs are linked legislatively to serve the same population of underinsured and uninsured women.
[d]WISEWOMAN currently defines screening alert levels as blood pressure >180/110 mm Hg, total serum cholesterol >400 mg/dl, or blood glucose of >375 mg/dl.
[e]Error reports are generated with each submission of the MDEs, which identify missing and out-of-range values. Best projects should have minimal errors.

comes, the programs must be concerned with costs, efficiency, feasibility, and political climate. Best practices (particularly those deemed best based only on health outcome data) can be applied too rigidly when used as gold standards imposed on highly variable settings where they may not fit the particular circumstances.[10,11] As an alternative to denoting specific packaged interventions as best, process-centered approaches to best practices promote a systematic and critically reflective planning process sensitive to context.[7,12] Other protocols have tried to balance outcomes evidence with plausibility and practicality by using a key informant process to gather stakeholder input on the criteria for judging evidence.[4]

For health promotion programs that need to consider feasibility along with impact on health outcomes, no absolute form of evidence exists.[13] Thus, in best practices evaluation, we broaden the definition of evidence to include sources not limited to the results of traditional social science research. By consulting unpublished program reports in addition to the scientific literature, involving experts and stakeholders, and gathering new evidence from our own demonstration programs, WISEWOMAN will expand the base of evidence for best practices. In turn, the involvement of stakeholders will promote wider dissemination of best practices to WISEWOMAN projects. Under a contract with CDC that began

in 2003, Mathematica Policy Research, Inc. (MPR) is leading a comprehensive 3-year effort to identify and disseminate WISEWOMAN best practices. The first phase of the WISEWOMAN best practices evaluation project includes a review of the literature to broaden the program's research foundation. Next, two consultant groups will be convened (one comprising project stakeholders at the state/tribal level and the other comprising experts in the areas of women's health, cardiovascular health, and underserved populations) to provide guidance on the best practices project. These two groups will assist in selecting best practice areas, defining success criteria, assessing the feasibility and rigor of data collection plans, and assisting with data interpretation. Third, WISEWOMAN project sites will participate in compiling and synthesizing the collective knowledge gained since the program's inception in 1995. Evidence from the literature and data collection phases will be analyzed and interpreted by MPR, CDC, and the stakeholder and consultant groups, producing a best practices toolkit with detailed descriptions of successful methods for providing CVD risk factor screening and intervention services to underserved women. The toolkit will highlight sound practices for the planning, implementation, and program maintenance phases of WISEWOMAN projects. We describe each of these steps and their proposed use in preparing the WISEWOMAN best practices toolkit in greater detail.

Literature review

During the first phase of the WISEWOMAN best practices study, MPR and CDC are conducting a literature review to summarize current knowledge of strategies to reduce CVD risk factors among culturally diverse, financially disadvantaged, midlife women. Clinical trials have demonstrated the potential for interventions to address modifiable risk factors and facilitate healthy eating, increased physical activity, and smoking cessation.[14–18] Research has been minimal, however, on lifestyle and cardiovascular interventions among women.[19,20] In addition, research has been inadequate on interventions applied across a range of healthcare settings that serve ethnically diverse and low-income populations.

Of 65 population-based studies previously reviewed that addressed behavior change related to tobacco use, physical activity, or diet, a number of intervention strategies demonstrated some success in improving women's cardiovascular health promoting behaviors.[19] These studies did not specify the components that most strongly contributed to program results, however, nor did they discuss implications for underserved women in real-world settings.[20] With rare exceptions,[21] few interventions have been translated to reach culturally diverse, financially vulnerable, midlife women in healthcare settings. The need to develop, implement, and test culturally appropriate lifestyle interventions remains.

In addition to considering what is known about health risks and interventions, the WISEWOMAN literature review includes such topics as practices that promote participant retention and access to needed medications. To gather background on best practices for these topics, the review will draw broadly from reports on vulnerable populations from the social policy and health administration arenas (Table 1). In addition, unpublished reviews of health promotion programs in various practice settings will be consulted, as they often provide good descriptions of program strategies, such as participant recruitment, staffing, training, and intervention development.[22–24]

Considered alone, reports of scientific studies may prove inadequate for understanding specific populations, social contexts, and healthcare settings. In addition, although scientific studies often focus sharply on a research question, a comprehensive health promotion best practices approach may more broadly consider ethics, theory, and context.[7] Although a review of the scientific literature provides a context for this best practices evaluation, additional data will be collected and input from experts and stakeholders will be sought to bridge the gap between science and practice.

Involving experts and stakeholders

Expert panels can provide informed human judgment that may be vital for building a consensus when the data are inadequate, research gaps exist, and findings conflict. Such panels are particularly useful for developing practice recommendations. Expert panels have developed several evidence-based publications that outline goals, strategies, and recommendations to improve the cardiovascular health of individuals and communities.[5,25–29] In the clinical area, expert panels developed the *Guide to Clinical Preventive*

Services,[26] which includes recommendations for screening for high blood cholesterol and high blood pressure, as well as counseling recommendations to prevent tobacco use, promote physical activity, and encourage a healthy diet. For community settings, expert panels developed evidence-based recommendations[8,9] for the *Guide to Community Preventive Services*,[25] a resource to provide practitioners with information on relevant, effective, and cost-effective strategies, policies, and programs. Although this guide explicitly states the strength of evidence supporting each guideline, it lacks detailed advice on how to implement its recommendations. While acknowledging the valuable evidence-based reviews provided by expert panels, we propose that the process of best practices goes beyond their work to systematically consider the relevance of the current evidence base for underserved women as well as the practical aspects of program implementation and delivery.

Although experts provide a bridge to the scientific literature, state and tribal organization program staff are best situated to assess how practical the proposed best practices really are. Policy and program guidelines are more likely to be implemented effectively when local planners and practitioners can adapt them to their specific needs and circumstances.[22] Although guidelines can be adapted after they are issued, best practices evaluation is strengthened when health promotion practitioners and other relevant stakeholders are involved throughout the process in planning and conducting research and evaluation. In addition to making the evaluation process more inclusive and participatory, the involvement of stakeholders in systematically studying contextual factors, such as place, setting, culture, and population, can help ensure that health promotion practice guidelines are relevant to local settings.[6,12,30]

The focus on adaptability may seem unfaithful to the promise of universal best practices: if a set of practices has been proven to work, should they not be used exactly as designed? As suggested, however, context plays a key role in the effectiveness of many practices for preventing chronic disease.[7,31] For example, *A New Leaf . . . Choices for Healthy Living*,[21] an intervention developed for the North Carolina WISEWOMAN project, was intended to provide nutrition and physical activity counseling for women with low incomes and low literacy skills. As the North Carolina project began to document the counseling tool's effectiveness,[32] WISEWOMAN projects in other states (e.g., Massachusetts, Alaska) expressed interest in using *A New Leaf*. Projects outside the southeastern United States however, quickly realized the need to tailor the dietary assessments and counseling tools to the eating habits and cultural profiles of women in their geographic regions while retaining the theoretical integrity of the original intervention. These projects also recognized the need to collect data anew to assess whether the modified intervention had achieved the expected level of behavior change.

To address practical programmatic issues, such as adaptability, MPR will oversee the input of two working groups of key WISEWOMAN stakeholders and experts. The nine-member stakeholders group will include four project staff at the state and tribal levels, one representative from the National Breast and Cervical Cancer Early Detection Program (NBCCEDP), two experts in program evaluation and intervention development, and two CDC staff members involved in efforts to strengthen the effectiveness and reach of WISEWOMAN. The group will meet regularly to guide the best practices evaluation by selecting program areas in which to identify best practices, designating criteria to determine which practices are best, choosing data collection methods and sources; and synthesizing the data so that recommendations may be developed. Of particular importance are the insights regarding local contexts that state and tribal representatives may bring to the process. WISEWOMAN has already assembled an expert consultant group with expertise in women's health, cardiovascular health, and underserved populations that will serve to assess scientific evidence for WISEWOMAN's population of financially disadvantaged women.

As the definition of "evidence" expands, new criteria for success need to be established beyond the impact on health outcomes. As an early step in the process, the expert and stakeholder working groups will work together to establish consensus on priority criteria of success for each best practice. The working groups will consider indicators of performance, indicators to assess successful program structures and processes, and traditional behavioral and physiological outcome measures. Although a full model is still to be developed, Figure 1 presents examples of criteria that could be used to identify the best programmatic, behavioral, and physiological outcomes for the practice area of intervention development

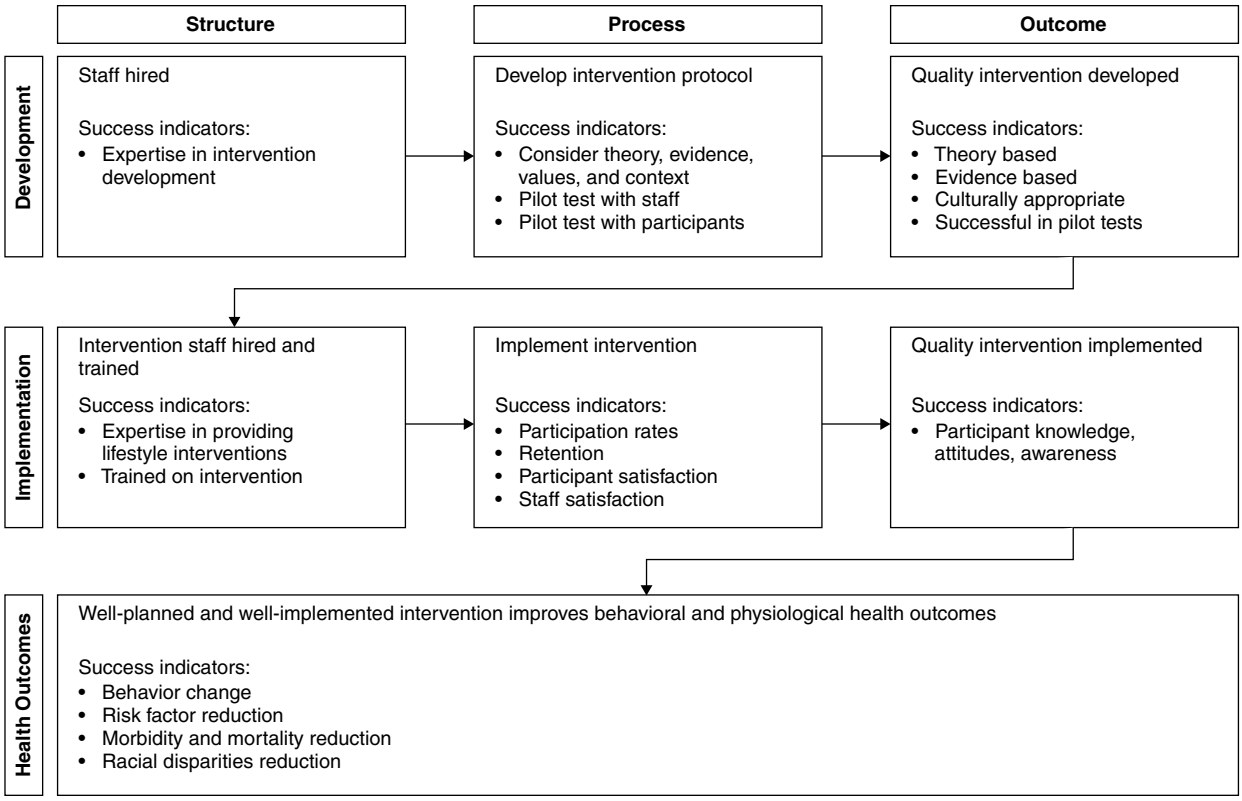

FIG. 1. Success criteria elaborated for one best practice area: lifestyle intervention.

and implementation. In the first row, steps such as hiring staff and developing an intervention protocol precede the outcome of a quality intervention. Figure 1 illustrates the complexity of the WISEWOMAN program and the need to examine program structures, processes, and outcomes[33] to fully understand each practice area.

Gathering evidence

Among applied social science methods, best practices evaluation may rely on case study designs and qualitative methods,[34] such as ethnography, participant observation, and stakeholder interviews that provide thick description[35] (i.e., rich, detailed descriptions of people and places that furnish an understanding of the phenomena being studied and facilitate interpretation about meaning and significance). These methods are likely to be particularly useful when trying to understand complex program strategies in WISEWOMAN, which combines medical screening with lifestyle interventions. Rich, detailed summaries of program strategies are necessary for understanding how the strategies are successful within a specific context and for constructing descriptions from which other projects can learn.[36]

Data collection will be carried out during the second year, using qualitative and quantitative methods, multiple data sources, and multiple categories of respondents, including national, state and local-level staff and program participants (Table 2). MPR will conduct basic case studies of all 14 currently operational WISEWOMAN projects, which will include reviewing documents and conducting semistructured telephone interviews ($n = 21$) with state and tribal project directors and project coordinators. The basic case studies will provide a general overview of all projects and allow for a preliminary assessment of each project's approach to the selected best practice areas.

Projects will be selected for further case study based on the criteria of geographic diversity, rural or urban service delivery settings, service delivery system, and whether their practices are assessed as successful based on the criteria prioritized by the stakeholder and expert working groups. Telephone-based case studies ($n = 6$–7) will allow MPR to talk to project-level and site-level staff, providers, and partners to gather more in-depth

TABLE 2. WISEWOMAN BEST PRACTICES PRELIMINARY DATA COLLECTION PLAN

Data collection stage[a]	*Purpose*	*Methods*	*WISEWOMAN program data source*	*Content*
Basic case studies (12 projects)	Describe projects and assist with selection of sites for further study of successful practices	1. Document review 2. Semistructured phone interviews	1. Quarterly reports, protocols 2. Project directors and coordinators (n = 21)	Collect basic information about all projects and their approaches to priority best practice areas
Selection	Select projects/sites for telephone-based and site visit-based case studies based on success and other criteria (e.g., geographic diversity, rural/urban settings)	1. Qualitative data review from basic case studies 2. Existing quantitative data 3. Project staff input	1. Basic case study results 2. MDEs[b] 3. Stakeholder and expert consultant groups, CDC staff	Develop consensus among respondents on priority criteria for success, including program structure and process criteria, as well as behavioral and physiological outcomes
Telephone-based case studies (6–7 projects)	Gather information for toolkit	Semistructured telephone interviews	Project/site staff and partners (5–8 calls per project in 6–7 projects = 30–56 interviews)	Gather in-depth information about successful and promising practices and program operations, successes, and challenges in projects and sites
Site visit-based case studies (3–4 projects)	Gather information for toolkit	Semistructured in-person individual or small group interviews, focus groups, observation of interventions	Project/site staff and partners, current participants, and dropouts (3–4-day site visits)	Gather in-depth information about successful and promising practices, program operations, successes, and challenges in projects and sites

[a]All procedures will be initially tested in two projects.
[b]MDE, minimum data element.

information about successful and promising practices in each project. Site visit-based case studies (n = 3–4) will provide the richest descriptions of successful program practices, as the interviews with project staff and partners will be supplemented with observations and focus groups with program participants. For each best practice area, templates will be used to organize and summarize the data pertaining to background and policy information; state-level, site-level, and participant characteristics; program design and infrastructure; community context; facilitators and barriers to success; and replication issues.

Because the competing demands of service delivery and research make it difficult for busy public health providers and program participants to commit time and energy to evaluation research,[31,37] the best practices effort must impose a minimal burden on WISEWOMAN staff and participants. To the extent possible, we will use data from existing sources to collect evidence on best practices (Table 1). For example, WISEWOMAN projects already submit quantitative outcome data in the form of minimum data elements (MDEs) and provide qualitative summaries of their activities in quarterly reports and

communications with CDC. The MDEs, which include individual demographic, behavior change, and physiological measures, can be used to generate site-level quantitative outcome data that provide additional evidence of project effectiveness. The qualitative summaries of activities in the quarterly reports will provide initial background that will be supplemented by data from the case study interviews and focus groups.

Dissemination

Best practice approaches must address the need to disseminate information about successful programs in a way that is timely and useful to practitioners. Glanz[6] argues that it is essential to communicate the results of health promotion efforts through meeting presentations and publications to achieve best practices and to foster evidence-based decision making. Large databases that can be frequently updated and accessed from the Internet can also be used to disseminate evidence to practitioners.[12]

The WISEWOMAN program will disseminate best practices approaches that are based on an expanded evidence base that includes unpublished program reviews and scientific literature, input from experts and stakeholders, and new evidence from the current WISEWOMAN projects. The expanded evidence base will be analyzed and interpreted by MPR, CDC, and the stakeholder and consultant groups. A best practices toolkit with detailed descriptions of successful methods for providing CVD risk factor screening and intervention services to underserved women will be the primary product. The toolkit will present multiple, context-dependent practices in a manner that allows practioners to select and adapt practices that best suit their specific situations and needs. Results of the best practices evaluation also will be shared at conferences and meetings and in published manuscripts and monographs. Finally, we anticipate that these WISEWOMAN best practices will be used as performance requirements for the WISEWOMAN program in years to come.

DISCUSSION

Limited evidence concerning the effectiveness of interventions promoting lifestyle behavior change, particularly for a population of midlife women who are financially disadvantaged and ethnically diverse, poses a distinct challenge for the WISEWOMAN program. We must develop, implement, and test interventions knowing that behavior change, particularly for the long term, is complex and difficult. Early WISEWOMAN projects have taken important steps in this direction while pioneering and refining their practices at the individual and organizational levels.[31,38]

By identifying best practices through a process that considers evidence beyond simply effectiveness, we hope to bridge some of the noted gaps between science and practice.[4] This paper describes the central elements of a 3-year best practices study that is currently in the first phase. To meet the challenges involved in developing and implementing effective best practice strategies to reduce and prevent CVD, CDC is working in partnership with WISEWOMAN projects to categorize and identify best practices. The systematic process being used addresses some of the concerns raised in the literature that no single gold standard can be applied in all contexts.[10] By tailoring interventions and using ongoing evaluation to further improve results, programs can use the WISEWOMAN best practices as a foundation for developing the best practices for their own site.

Our best practices evaluation effort occurs at an important juncture not only for the WISEWOMAN program but also for chronic disease planning more broadly. As we examine the experiences of the 14 WISEWOMAN demonstration projects, we hope to identify critical program components and resources necessary for success. We expect that this information not only will be helpful for improving existing projects but will also further the development of effective and feasible, evidence-based behavior change interventions that reduce CVD risk in financially disadvantaged, ethnically diverse women. In addition, we hope that the framework we develop for the systematic review of best practices will serve as a foundation for similar studies to continue to expand the tools and resources available for achieving the best public health practices possible.

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