



Interventions to Improve Minority Health Care and Reduce Racial and Ethnic Disparities

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PREFACE

Health Services Research & Development Service's (HSR&D) Evidence-based Synthesis Program (ESP) was established to provide timely and accurate syntheses of targeted healthcare topics of particular importance to Veterans Affairs (VA) managers and policymakers, as they work to improve the health and healthcare of Veterans. The ESP disseminates these reports throughout the VA.

HSR&D provides funding for four ESP Centers and each Center has an active VA affiliation. The ESP Centers generate evidence syntheses on important clinical practice topics, and these reports help:

- develop clinical policies informed by evidence,
- guide the implementation of effective services to improve patient outcomes and to support VA clinical practice guidelines and performance measures, and
- set the direction for future research to address gaps in clinical knowledge.

In 2009, the ESP Coordinating Center was created to expand the capacity of HSR&D Central Office and the four ESP sites by developing and maintaining program processes. In addition, the Center established a Steering Committee comprised of HSR&D field-based investigators, VA Patient Care Services, Office of Quality and Performance, and Veterans Integrated Service Networks (VISN) Clinical Management Officers. The Steering Committee provides program oversight, guides strategic planning, coordinates dissemination activities, and develops collaborations with VA leadership to identify new ESP topics of importance to Veterans and the VA healthcare system.

Comments on this evidence report are welcome and can be sent to Nicole Floyd, ESP Coordinating Center Program Manager, at nicole.floyd@va.gov.

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EXECUTIVE SUMMARY

BACKGROUND

Racial and ethnic disparities are widespread in the US health care system. A 2007 report from the Veterans Affairs (VA) Health Services Research & Development Service (HSR&D) Evidence-based Synthesis Program (ESP) found disparities were prevalent in a variety of clinical arenas within the Veterans Affairs health care system. The report identified several promising avenues for future interventions designed to reduce racial and ethnic disparities.

The objectives of this review are to describe the state of disparities intervention research within the VA, glean lessons from systematic reviews of intervention research not limited to VA settings, and develop an organizing framework to describe studies in this field of research. This report is also intended to inform future disparities intervention research in the VA, as well as VA policies and programs to reduce disparities.

To accomplish these objectives, we will answer the following key questions:

Key Question #1. What is the state of research on interventions to reduce race/ethnic disparities or to improve health and health care in minority populations within VA health care settings?

Key Question #2. What are the results of interventions (within and outside the VA) to reduce race/ethnic disparities or to improve health and health care in minority populations?

METHODS

We conducted a search for recent primary intervention studies of VA patients in MEDLINE® (PubMed®) (2006 through August 2010) using the search strategy developed for the 2007 VA-ESP report on health disparities. We also conducted a follow-up search for recently published studies by investigators conducting current research during the time of the 2007 report. Due to the large amount of literature on race/ethnic intervention studies conducted outside VA settings, we conducted a search for systematic reviews of intervention studies not limited to VA patients in MEDLINE® (PubMed®), the Cochrane Database of Systematic Reviews (OVID), and PsycINFO® (OVID) (database inception through November 2010). We obtained additional articles from reference lists of pertinent studies. Additional articles were obtained through reviewer feedback following review of the initial draft of this report.

Two reviewers assessed the titles and abstracts identified by the literature search for relevance to the key questions. Two reviewers independently reviewed the articles for inclusion, and discordant results were resolved through discussion and input from a third reviewer. We included studies evaluating the effects of an intervention within (single-race) or between racial/ethnic groups (comparative). We relied on systematic reviews and meta-analyses of intervention studies conducted outside the VA setting (inclusion/exclusion criteria provided in Appendix B). We excluded poor quality reviews as defined by previously developed criteria (Appendix C).

RESULTS

The search for systematic reviews yielded 2,127 citations, and the search for primary VA studies published since the 2007 report yielded 1,290 citations. Following a review of these 3,417 titles and abstracts, we selected 115 articles for further review at the full-text level. We organized the literature addressing key question #1 and key question #2 according to clinical or substantive topic area.

SUMMARY OF FINDINGS

Key Question #1. What is the state of research on interventions to reduce race/ethnic disparities or to improve health and health care in minority populations within VA health care settings?

We found five recently published primary studies of interventions involving minority Veteran populations.¹⁻⁵ The populations included in these studies varied. Two were comparative and included black and white Veterans.^{1,5} Another two studies were comparative with black, white and Hispanic Veteran populations.^{2,4} The final study was single-race and examined Native American Veterans.³

The effectiveness of the interventions examined by these studies also varied. Only one of the studies examined is able to conclude that the intervention significantly reduced disparities.⁴ One of the studies did not examine the effects of the intervention by race group,¹ one study piloted the acceptability of the intervention in the minority population without evaluating the effects on the outcome,³ one study found reductions in disparities in intermediate outcomes only⁵ and the final study concluded that no significant findings were attributable to the intervention.²

Key Question #2. What are the results of interventions (within and outside the VA) to reduce race/ethnic disparities or to improve health and health care in minority populations?

The results from systematic reviews of interventions conducted in settings not limited to the VA are summarized by clinical area below:

Diabetes Interventions

Five good quality systematic reviews of interventions for diabetes mellitus identified studies that were mostly conducted in single-race populations. We also identified one primary intervention study tested on a multiethnic population of Veterans. There was some evidence of benefit for interventions focused on community health workers, care managers, and culturally tailored health education for patients. Provider-focused interventions reported improvements in process measures, although computerized reminders for physicians resulted in negligible or negative results. Studies on the long-term effects of diabetes mellitus interventions on process and outcome measures are lacking. Heterogeneity between studies in subjects, settings, study design, and multiple aspects of the interventions limit the comparisons that can be made across studies. One small single center VA study suggests a telemedicine/care coordination intervention may reduce disparities in black Veterans with diabetes; this finding warrants further research.

Arthritis and Pain Management Interventions

Our search identified one fair quality systematic review examining the effects of behavioral interventions for arthritis in minority and white populations. We also identified one primary study of VA patients evaluating the effects of a decision aid on expected postoperative total knee replacement pain and function levels. The systematic review of behavioral interventions for arthritis found limited evidence from two randomized controlled trials that exercise interventions may be effective in improving differences in pain and disability between white and black patients. In addition, one primary VA study investigating an educational intervention provides evidence of improving knowledge and expectations related to total knee replacement for black patients; however, willingness to consider total knee replacement surgery did not change among either whites or blacks. There remains a need for interventions designed to measure and reduce disparities in the burden of osteoarthritis outcomes.

Preventive and Ambulatory Care Interventions

We identified the greatest number of reviews in preventive and ambulatory care interventions. Fourteen good quality reviews of single-race and comparative studies encompassed several preventive health subtopics, including cancer screening, smoking cessation and physical activity and diet. Little research focused on reducing gaps in screening, treatment and outcomes for minority compared to white adults. Several reviews noted the lack of sufficient number of studies to compare similarly configured interventions or specific components of multifaceted interventions. There is some evidence that community health workers may improve rates of preventive health service utilization. Overall, improvements in preventive and ambulatory care for minorities are inconsistent. The overwhelming majority of reviews focused on improving screening and process of care measures for race/ethnic minorities; there is less research evaluating the effects of interventions on health outcomes.

Cardiovascular Disease Interventions

We identified three systematic reviews that examined cardiovascular health care interventions. Most studies were conducted in single-race populations and could not test the ability of interventions to reduce disparities. Those comparative studies with mixed populations did not test for differential intervention effects based on race/ethnicity. The largest body of literature focused in the areas of hypertension and smoking cessation. On the whole, nurse-based interventions were associated with improvements in proximal health outcomes (e.g., blood pressure, lipid level, body mass index) for minority populations, but the addition of community health workers provided limited gains. Culturally tailored education approaches to lifestyle change interventions appear promising. Several small trials suggest intensive nurse-led multicomponent care management interventions may reduce hospitalization in minority patients with heart failure.

HIV/AIDS Interventions

We identified four good quality comparative and single-race systematic reviews (meta-analyses) that examined the effectiveness of behavioral interventions for HIV and sexually transmitted infection risk reduction among African Americans and Hispanic Americans. No intervention studies were specifically designed to reduce disparities. However, evidence suggests that behavioral interventions can be effective in improving HIV/AIDS service utilization and health

care outcomes for African American and Hispanic American populations. A number of studies consistently found that behavioral interventions can reduce risky sex behavior and sexually transmitted infection rates. In particular, gender and culture-specific interventions focused on empowerment were effective in at-risk African American female populations. The reviewed studies did not address organizational barriers and only targeted behavioral intervention efficacy. No studies focused on reducing disparities among Veterans.

Mental Health Interventions

We identified two good quality systematic reviews examining interventions aimed at reducing disparities in mental health care in settings not limited to the VA. Additionally, we found two primary studies conducted within VA settings that addressed mental health care disparities. There is good evidence suggesting that multicomponent chronic disease management interventions including case management strategies and care coordination are helpful in reducing health disparities related to depression. There is insufficient research investigating the effectiveness of culturally tailored psychotherapeutic and preventive interventions in reducing disparities in depression; however, the preliminary evidence in this area indicates that these types of culturally tailored interventions hold promise. No good quality primary studies designed to compare disparities before and after interventions in Veteran populations were identified; however, two primary studies provide some support for the feasibility of using technology-based interventions with ethnic minority Veteran populations. There were no good quality reviews examining disparities reduction interventions for mental health conditions other than depression. There is insufficient evidence for psychopharmacological, psychotherapeutic, and preventive interventions in ethnic minority populations. Preliminary research suggests such interventions can be effective, particularly when they are culturally tailored and include a care coordination or case management component.

Cross-Cutting Interventions

We found five good quality reviews conducted in settings not limited to the VA, as well as one primary VA study of interventions that cut across clinical categories. Of the five reviews, four focus on cultural competence training interventions and one focuses on interventions to improve quality of care delivered in primary care settings. One VA study examined the effects of home-based primary care on improving outcomes for minority Veterans with multiple chronic conditions. No primary studies on cultural competence with VA populations were identified. There is good evidence that cultural competence interventions can improve provider knowledge, attitude, and skills, but there are few good quality studies of effects on patient outcomes. Overall, interventions designed to improve the delivery of care for all patients are effective; however, most studies of interventions to reduce disparities between minority and white patients are characterized by poor quality. One small single-site VA study provides very limited initial evidence that care coordination and multiprofessional home-based primary care programs can improve process of care measures for an African American cohort.

Summary of Results across Interventions

Examination of reviews not limited to VA populations as well as primary VA studies points toward comprehensive interventions garnering more promising results. Although not directly comparable, there were some similar intervention types implemented across clinical areas

included in this review. Based on our review, interventions that include personnel (e.g., care managers, community health workers) providing increased connectedness between patients and the health care systems they access offer indications of effective intervention results. Though the strength of evidence is limited by methodological issues, small sample sizes, and the preponderance of studies focused on non-VA populations, the most promising interventions in the various clinical areas reviewed were care coordination, care management, community health workers and culturally tailored education interventions. However, it is interesting to note that at least one review of interventions to reduce HIV/AIDS found that efficacious interventions did not use peer outreach.

DISCUSSION

State of Intervention Research

The intent of this review was to take stock of evidence provided by VA intervention studies designed to reduce race/ethnic disparities among minority Veteran populations. However, few published interventions in VA settings were found in our systematic searches. As a result, we examined intervention studies not exclusive to VA populations because many of the interventions studied – outside of those focused on organizational change in non-integrated health systems – could be potentially informative to VA settings. In general, these reviews from disparate clinical and cross-clinical areas find that a good case can be made for interventions based on case manager-led care coordination efforts, culturally tailored education, and community health workers. However, most interventions were implemented in minority populations only, without a comparison group to determine if the interventions were reduced disparities between minority and white patients.

Our review offers the opportunity to categorize existing disparities research in order to highlight gaps in the literature and provide a framework for describing future interventions. Based on our review, we categorized disparities intervention research studies according to the populations included. Most studies included *single-race* or minority-only populations, examining the effect of interventions within a group known to receive lower quality care or have poorer outcomes than the majority white population. Effectiveness documented in such studies provides only indirect evidence that the studied intervention will reduce disparities. Fewer studies were *comparative* in nature, including both minority and majority populations and comparing measures in both groups before and after the intervention. Such studies provide direct evidence of an intervention's capacity to reduce disparities. However, studies including minority and majority groups did not always report data stratified by race/ethnicity.

We also categorized interventions, as “generic” or “tailored”. The bulk of included studies described *generic* interventions, ones that are applied without consideration of group specific needs or preferences. Many of these interventions involved quality improvement efforts or care standardization testing the premise that deficits in care for minority groups might be reduced if care was applied similarly to everyone. In contrast, *tailored* interventions describe efforts to address barriers specific to a minority group. Many of these interventions involved specially designed educational materials crafted with specific minority groups in mind (e.g., lessons that address knowledge and health beliefs of minority populations), or community health workers that addressed the special needs of minority patients within their own communities. Community

health workers were typically members of those minority communities and therefore understood the context and culture of the population served.

Conceptual Framework

Though the evidence base is overall a limited one, there are common intervention types across clinical areas that suggest promising results. Studies that considered patients in their lived environment were often more promising than those focused strictly on care delivered within health systems. This finding suggests that a framework incorporating home and community context, and the social determinants of health and illness can provide a useful way of thinking about effective interventions to reduce disparities. In this view, race/ethnic disparities in health are seen as driven in part by a broad array of social factors—ranging from education, poverty, and community infrastructure—as well as a complex interplay between these social influences, characteristics of communities and environments where individuals reside, and interactions with providers and health care systems.

Reducing disparities in the care and outcomes of minority Veterans poses special challenges that may require integrating medical care and public health interventions, and linking health systems to communities. Despite operating under an integrated health care system with universal access for Veterans, race/ethnic disparities in care and outcomes remain prevalent in VA settings. Reducing disparities in health care and outcomes will require not only improving equity *within* the health care system but extending beyond the system and into the communities where patients live and work. Health care, in other words, may need to incorporate an understanding of the social determinants of health and extend beyond health care facilities into patient communities. Such an approach is in line with current efforts to make the delivery of health care more patient-centered.

Future Research and Implications for VA Health Care Settings

There are several key steps that may aid in the development, testing, and implementation of disparities interventions that could help fill some of the many identified evidence gaps. First and foremost, continuing the VA policy to consistently collect race and ethnicity information for all Veterans is to be encouraged. The ongoing concerted effort to populate race/ethnicity in the VA data records is a critical step to chronicling progress in reducing disparities for minority Veterans. In addition, there are practical and operational considerations to implementing promising interventions. Identifying optimal characteristics for these interventions is necessary for effective implementation. For example, the use of community health workers was frequently identified as a strategy that holds promise for reaching minority populations. However there is substantial heterogeneity in the composition, training, monitoring, frequency of contact and setting for peer health workers. Identifying optimal characteristics (e.g., training protocols, forms, software) for these interventions is necessary for effective implementation. Documentation and implementation details (including unanticipated challenges and solutions) should be encouraged.

In sum, in order to translate promising directions posed in this review into future research and implementation efforts in the VA, it is necessary to consider the following issues:

- Describe interventions in more detail in order to allow for determination of effective components of interventions. For example, in interventions involving

community health workers and care managers, there was poor specification of the training of those personnel.

- Integrate the use of community health workers into VA settings. This could involve Veteran peer advisors coming from communities where Veterans reside.
- Examine the potential for ongoing large VA demonstration projects in care coordination/care management to improve the health of minority Veterans and reduce disparities.
- Enhance the capacity to tailor patient educational materials to address the specific needs of minority Veterans.
- Consider funding studies explicitly designed to measure pre-post changes in disparities between minority and white Veterans.
- Encourage the inclusion of less well studied minority Veteran groups (i.e., Asian/Pacific Islander and American Indian) in the design and implementation of disparities studies.

Few disparities interventions have been implemented in the VA, and although a few race-specific intervention studies are underway, much more work is needed in this area. The barriers to implementing disparities intervention research in VA care settings are not entirely clear. Future steps emanating from this review will include conducting a survey and interviews of key VA informants to identify barriers to dissemination of interventions, in an effort to provide a better understanding of the obstructions in the VA disparities research pipeline.