



## THE EVIDENCE BASE FOR CULTURAL AND LINGUISTIC COMPETENCY IN HEALTH CARE

Tawara D. Goode, M. Clare Dunne, and Suzanne M. Bronheim  
National Center for Cultural Competence  
Center for Child and Human Development, Georgetown University

October 2006

**ABSTRACT:** This report reviews the evidence base for the impact of cultural and linguistic competence in health and mental health care on health outcomes and well-being and the costs and benefits to the system. The authors conducted a structured search of Medline from January 1995 to March 2006 to identify primary research articles on health outcomes and well-being. An exploratory search of multiple databases was performed to identify evidence related to the business case. The review of the health outcomes literature indicated that the field is in the early stages of development, with the preponderance of literature defining the concepts and identifying research questions. Some promising studies support the efficacy of cultural and linguistic competence affecting health and mental health outcomes. Evidence of decreased systems costs is not currently present in the literature. The authors identify key gaps in the current literature and specific methodological and funding limitations to be addressed.

Support for this research was provided by The Commonwealth Fund. The views presented here are those of the authors and not necessarily those of The Commonwealth Fund or its directors, officers, or staff. This report and other Fund publications are available online at [www.cmwf.org](http://www.cmwf.org). To learn more about new publications when they become available, visit the Fund's Web site and [register to receive e-mail alerts](#). Commonwealth Fund pub. no. 962.



## CONTENTS

List of Figures, Charts, and Tables.....	iv
About the Authors.....	v
Acknowledgments.....	vi
Executive Summary.....	vii
Introduction.....	1
Conceptual Frameworks and Definitions.....	2
Hypothesis.....	5
Methodology.....	6
I. Health Outcomes and Well-Being: The Evidence and the Gaps.....	7
The Overall State of the Evidence.....	7
Evidence from Experimental Design Studies.....	7
Studies Focusing on the Practice or Service Delivery Level.....	8
Organization- or Policy-Level Studies.....	16
Trends and Future Directions.....	18
II. The Evidence and the Gaps in System Costs.....	20
Costs and Benefits of Cultural and Linguistic Competence:	
The Business Case.....	20
Summary.....	29
III. Critical Reflections on the Evidence.....	31
No Consistent Framework, Logic Model, or Definition	
of Cultural Competence.....	31
Narrow Scope of Current Studies.....	31
Involving Diverse Patients and Communities.....	32
Impact of Funding on the Evidence.....	32
The Complexity of Collecting and Analyzing Data on Race,	
Ethnicity, and Culture.....	32
Public Policy to Support Future Research.....	33
Conclusion.....	34
Appendix.....	35
Methodology.....	35
The Overall State of the Evidence for Health Outcomes and Well-Being.....	36
Evidence from Experimental Design Studies.....	37
Notes.....	39

## LIST OF FIGURES, CHARTS, AND TABLES

Figure 1	Cultural Competence Conceptual Framework.....	3
Figure 2	Cultural and Linguistic Competence Benefits Patients, Their Families and Communities, Health and Mental Health Care Providers, and Systems .....	5
Chart 1	Design Methodology of Reviewed Articles at Practice/Service Delivery Levels.....	9
Table 1	Summary of Selected Research.....	9
Chart 2	Percentage of Women Who Had Cancer Screening Tests in Culturally Competent Interventions Compared to Control Groups at Two Sites .....	12
Chart 3	Percentage of Respondents Reporting Seven Days Smoking Abstinence at 12 Months.....	13
Chart 4	HbA1c Percentages for Intervention Group Compared to Control Group...	14
Chart 5	Changes in HbA1c Percentages Among Project Dulce Participants Compared to Control Group After One Year .....	15
Table 2	Cultural Competence Policies .....	16
Chart 6	Association Between Cultural Competence Policies and Underuse of Preventive Medication .....	17
Table 3	Future Directions for Research in Health Outcomes .....	19
Table 4	Estimated Costs of LEP Services.....	21
Table 5	Benefits Model: System Costs—The Business Case.....	29
Chart A-1	Categories of Research Yielded in the Search Strategy.....	36

## ABOUT THE AUTHORS

**Tawara D. Goode, M.A.**, is a research instructor in the department of pediatrics at the Georgetown University Medical Center in Washington, D.C. She is director of the National Center for Cultural Competence and associate director of the University Center for Excellence in Developmental Disabilities, within the Georgetown University Center for Child and Human Development. Ms. Goode has been actively involved in the development and implementation of programs and initiatives in the area of cultural and linguistic competence at local, national, and international levels. Ms. Goode has a M.A. in human development and special education from George Washington University, Washington, D.C.

**M. Clare Dunne, M.S.W.**, is a research instructor in the department of pediatrics at the Georgetown University Medical Center. She is a research and policy associate for the National Center for Cultural Competence. Ms. Dunne's primary areas of focus are: developing curricula for incorporating cultural and linguistic competence into maternal and child health interdisciplinary leadership training programs; data analysis; and research and writing on cultural and linguistic competence in the health and mental health care system. Ms. Dunne has clinical experience providing mental health services to adult populations with serious mental illness. She also provided therapeutic interventions to children and adolescents with developmental disabilities. She received a B.A. in psychology from the College of William and Mary, and a M.S.W. in social work planning and administration at Virginia Commonwealth University.

**Suzanne M. Bronheim, Ph.D.**, is associate research professor in the department of pediatrics and a senior policy analyst within the Center for Child Health and Mental Health Policy of the Georgetown University Center for Child and Human Development. She is currently the director of a project on sudden infant death at the National Center for Cultural Competence and co-principle investigator of the Maryland Family Access Initiative, a grant from the Maternal and Child Health Bureau to support greater access for children and youth with special health care needs through managed care. She has provided training and technical assistance to state Title V programs, non-profit organizations, health care providers, and public health workers on addressing cultural and linguistic competence in systems, services, and supports; changing pediatric practice to serve diverse children and their families; and addressing health disparities. Dr. Bronheim has written about the role of cultural and linguistic competence in infant mortality disparities, approaches to implementing cultural and linguistic competence in health promotion, and providing culturally and linguistically competent services and supports to families. She earned a B.A.

in psychology from Brandeis University, an M.A. in educational psychology from the University of Chicago, and a Ph.D. in clinical psychology from The Catholic University of America.

### **The National Center for Cultural Competence**

The mission of the National Center for Cultural Competence (NCCC) is to increase the capacity of health care and mental health care programs to design, implement, and evaluate culturally and linguistically competent service delivery systems. The NCCC provides national leadership and contributes to the body of knowledge on cultural and linguistic competency within systems and organizations. The NCCC has been in existence since 1995, is a component of the Georgetown University Center for Child and Human Development, and is housed within the department of pediatrics of the Georgetown University Medical Center. The NCCC is funded in part from the Maternal and Child Health Bureau, Health Resources and Services Administration, U.S. Department of Health and Human Services, and through contracts with governmental and non-governmental organizations for specific scopes of work at the local, state and national levels.

### **ACKNOWLEDGMENTS**

The authors acknowledge and commend Anne Beal of The Commonwealth Fund for the guidance and support she provided in developing this report and for the leadership and insight to create a series of reports that critically examine the emergence of cultural and linguistic competence and its impact on health care. We also gratefully acknowledge Laurin Mayeno of Organizational Change and Community Health for her guidance and feedback on earlier drafts. In addition, the authors thank the panel of experts that participated in a peer-review round table for this report and others in the series, as well as the faculty of the National Center for Cultural Competence, Georgetown University Center for Child and Human Development, who offered enthusiastic support and reviewed multiple drafts of the report.

---

*Editorial support was provided by Deborah Lorber.*

## EXECUTIVE SUMMARY

Cultural and linguistic competence are widely recognized as fundamental aspects of quality in health care and mental health care—particularly for diverse patient populations—and as essential strategies for reducing disparities by improving access, utilization, and quality of care. However, it is not clear if evidence exists to support the assertion that cultural and linguistic competence improve health outcomes and well-being. Advocates of culturally and linguistically competent care state that the costs of providing such care are offset by potential benefits, but, again, there is limited evidence to support this assertion. This report assesses the current evidence base for the impact and benefits of cultural and linguistic competence in health care and mental health care.

The authors used two approaches to identify the evidence and gaps in research related to health outcomes and well-being, as well as the costs and benefits to the system, or the “business case,” for cultural and linguistic competence. They conducted a structured search of Medline from January 1995 to March 2006 to identify primary research articles for review on health outcomes and well-being. They also performed an exploratory search of multiple databases to identify evidence related to the business case, including primary sources, selected reviews, technical reports, and conceptual papers.

A review of the health outcomes literature indicated that the field is in the early stages of development, with a preponderance of the literature exploring and defining the concepts and issues and identifying important research questions. There is now some movement toward pilot and controlled studies to test the impact of cultural and linguistic competence on quality and effectiveness of care. While the Medline search methodology yielded 365 studies that addressed cultural and linguistic competence and health outcomes and well-being, only 25 studies met the criteria for final review. (For more information, [see the full methodology in the Appendix.](#)) The current evidence provides information about intermediate outcomes of short-term interventions, but none directly address the ultimate outcome of decreased incidence of a disease for a population, or a decrease in morbidity or mortality as a result of the intervention used. Instead, intermediate outcomes such as increased rates of cancer screening or improved HbA1c levels were measured. Most focused on treatment and only two addressed cultural and linguistic competence at the organizational or policy level. Two areas—cancer prevention and early detection and diabetes care and management—predominated the current literature on health outcomes and well-being. None of the studies in these areas defined cultural or linguistic competence, but all met some key criteria (as defined by the National Center for Cultural Competence) in their descriptions of the interventions used.

### **Current Evidence on Outcomes and Well-Being**

The current evidence shows great promise, but better-designed studies are needed to advance the evidence base. Nine studies addressed cancer prevention and early detection. Three used comparison or control groups and found that utilizing patient education approaches—designed with and for the intended audience and consistent with the audience’s values, beliefs, and preferred ways of getting information—demonstrated significantly increased behavior changes compared with either no intervention or interventions that were not culturally competent. In addition, eight studies reported findings on interventions and outcomes related to diabetes treatment. Of these, three that had pre- and post-intervention data on the effects of culturally competent interventions reported significantly improved outcomes in terms of physiologic measures associated with better long-term outcomes in diabetes. Only two studies addressed cultural and linguistic competence at the organizational level, with only one reporting on health outcomes. This latter study showed a significant positive relationship between cultural competence policies at sites caring for children with asthma and improved quality care associated with appropriate use of preventive asthma medications and parent satisfaction with care.

While the evidence shows great promise for the impact of culturally and linguistically competent interventions on health outcomes and well-being, significant gaps remain, due largely to methodological issues. Current studies fall short in many areas, including: lack of definition and measurement of cultural and linguistic competence; designs that isolate effects of cultural and linguistic competence; and studies that address ultimate health outcomes of decreased incidence of disease, morbidity and mortality. In addition, few studies examined cultural and linguistic competence at the organizational and policy levels. Future directions for research include: use of validated and shared definitions of cultural and linguistic competence; refined population definitions to include cultural variables other than race, ethnicity or language; use of designs that test the specific effects of cultural and linguistic competence; implementation of longitudinal and large sample studies to investigate ultimate health outcomes; and use of methods and measures that examine the relationship among organizational policies, structures and practices, quality and effectiveness of care, and health outcomes and well-being.

### **Current Evidence on the Costs and Benefits of Cultural and Linguistic Competence: The Business Case**

The authors examined the literature for health and mental health care costs and benefits of cultural and linguistic competence, and the evidence related to specific aspects of the business case for cultural and linguistic competence including market share, cost-benefits, reducing liability, and staff turnover.



Evidence to support the hypothesis proposed—that cultural and linguistic competence would result in decreased system costs—is not currently present in the literature. The research to support the business case for cultural and linguistic competence is still a work in progress. There is a noticeable absence of a broadly defined framework that includes the cost-benefits of cultural and linguistic competence to families, communities, employers, and society. Analysis of costs and benefits of culturally and linguistically competent care is complex and not yet well documented. The literature documents specific costs for services associated with linguistic competence but few studies document the cost of cultural competence.

Most of the literature on cost-benefits center around linguistic competence, specifically the provision of language access services such as interpretation and translation, and to a large extent, the papers are conceptual and inconclusive. The two studies reviewed differ in their findings and reflect the complexity of measuring costs to the system. One study reported increased costs associated with the provision of language access services and justified such costs by describing potential cost-benefits associated with factors like increased access to primary and preventive care and fewer follow-up appointments and complications. The other study reported that the use of trained medical interpreters in the emergency room was cost neutral and that such services reduced emergency department return rates while simultaneously increasing clinic utilization, a less-costly service.

The literature on the cost-benefits of cultural competence almost exclusively focuses on the reduction of racial and ethnic health disparities. However, it does not directly link cultural competence and cost-benefits, nor does it quantify the projected or estimated cost savings of providing culturally competent care by racial or ethnic group, specific diseases or chronic conditions, and types of intervention. Two studies addressed cost-benefits for culturally competent care models. In one, with a very small sample, researchers reported a 50 percent return on investment, with decreased costs due to fewer visits to the emergency room by children with asthma. A second study reported results of a specific diabetes management program, which led to higher first-year costs attributed to increased use of medication and diabetes supplies. At this time, insufficient evidence exists to draw any definitive conclusion on the cost-benefits of cultural competency in health care.

The authors also explored cost-benefits to the system in relation to market share gains or losses. However, no primary sources were found to document this issue and it is ripe for future research. They also reviewed studies related to staff turnover as a system cost, but none examined the relationship between the cultural competence of providers or organizations and retention.

The concept of liability—and specifically, of decreasing the liability of providers or organizations through cultural and linguistic competency—is showing some strong preliminary evidence. The authors cite two documented and costly judgments against health care entities for failure to provide language access services mandated by Title VI of the Civil Rights Act. In addition, the broader literature on physician communication documents this factor as key in avoiding malpractice suits and managing risk. Two studies develop the evidence for language access as a variable related to risk. Patients with limited English proficiency had significantly more adverse events, such as inaccurate or incomplete information, questionable advice, questionable tracking and follow-up, incorrect diagnosis, and questionable intervention. Hospitalized children of families with language barriers were more likely to experience medical errors than those from families without language barriers.

There is a paucity of research that examines organizational capacity, specifically the existence of culturally and linguistically competent policies, structures, and practices and their impact on increasing market share, cost-benefits, and reducing staff turnover and liability. Little in the literature focuses on the cost-benefits of cultural and linguistic competence to patients, families and communities. Lastly, an essential element of cultural competence is the capacity of an organization to involve patients, families, and their communities systematically in designing, implementing, and evaluating services and supports. None of the methodological approaches used participatory action research models, and patient, community, or key stakeholders were involved only as subjects.

### **Critical Reflections on the Evidence**

The current evidence related to the impact of cultural and linguistic competence on health outcomes and well-being, as well as on cost-benefits to the system, is promising, but is only in the preliminary stages of development. Overall, to move the field forward, the following current limitations must be addressed:

- no consistent framework, logic model or definition for cultural competence that moves the field beyond race or ethnic specific interventions;
- the very narrow scope of current studies in terms of populations, sample size, and length of study periods;
- the impact of funding cycles and priorities that limit the kinds of large size, longitudinal, and broad-based studies that will be needed to establish the evidence base;

- the relative lack of involvement of diverse patients and communities in determining study issues, questions, designs, analysis, and dissemination of results;
- challenges in the complexity of collecting and analyzing data on race, ethnicity, and particularly culture; and
- the political will and public policy needed to support future research on the evidence base for cultural and linguistic competence.



# **THE EVIDENCE BASE FOR CULTURAL AND LINGUISTIC COMPETENCY IN HEALTH CARE**

## **INTRODUCTION**

Cultural and linguistic competence are widely recognized as fundamental aspects of quality in health care and mental health care—particularly for diverse patient populations—and as essential strategies for reducing disparities by improving access, utilization, and quality of care. However, it is not clear if evidence exists to support the assertion that cultural and linguistic competence improves health outcomes and well-being. Advocates of culturally and linguistically competent care state that the costs of providing such care are offset by potential benefits, but, again, there is limited evidence to support this assertion. This report assesses the current evidence base for the impact and benefits of cultural and linguistic competence in health care and mental health care.

This report will focus on two benefits that may be viewed as the “bottom line” for individuals for the system: improved health and well-being for patients and costs and benefits to the system. Benefits such as increased satisfaction among patients and providers, mutual respect and shared decision-making, and effectiveness of patient-provider communication are all critical steps in the pathway, but the ultimate goal is improved health and well-being for patients. An additional bottom-line goal concerns the costs and benefits to the system to support the wide-ranging changes needed to implement cultural and linguistic competence. This report will review and analyze the current evidence related to each of these bottom-line issues.

The authors critically analyzed the literature in cultural and linguistic competence within the frameworks and model presented in this report. Section I of this report discusses the level of evidence for cultural and linguistic competence in health outcomes and well-being research, summarizes trends, and delineates future directions in research. In Section II, the authors present a discussion on system costs and address the business case for cultural and linguistic competence. This includes exploration of significant increases in culturally and linguistically diverse populations throughout the United States, market share, cost-benefits, staff turnover, and reducing liability. Section III presents critical reflections on the literature and provides recommendations on public policy to support future research.

---

*In general, cultural diversities in health, illness, and caring behaviors have existed since the beginning of mankind, but nursing and other health professions have only recently begun to study these areas of cultural differences.<sup>1</sup>*

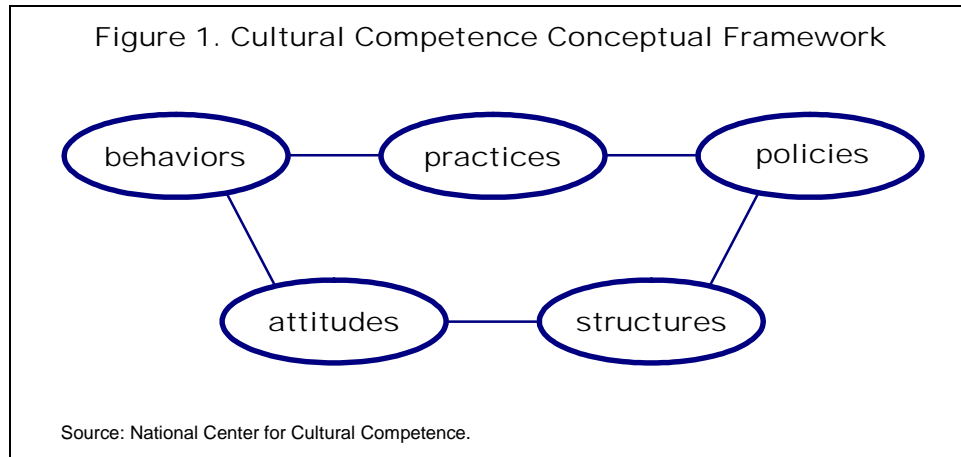
---

The basic tenets of cultural competence are not new. The relationship between culture and health has been acknowledged and studied in a range of disciplines, including anthropology, nursing, social work, and medicine. The prevalence of the term “cultural competence” in the literature has grown exponentially over the past 15 years. A search of PubMed, the online database from the National Library of Medicine, yielded one article in 1990, 132 articles between 1990 and 2000; and 303 articles from 2000 to 2005. Much of the growth can be attributed to the increasing diversity in the United States; the groundbreaking Institute of Medicine (IOM) report, *Unequal Treatment*, published in 2002; the development and dissemination of the National Standards for Culturally and Linguistically Appropriate Services in Health Care (CLAS standards), and public policy focusing on the elimination of health and mental health disparities.

### **Conceptual Frameworks and Definitions**

*Cultural Competence.* In 1989, a work group under the auspices of the Georgetown University Child Development Center published *Toward a Culturally Competent System of Care, Volume 1.*<sup>2</sup> This work, by Cross, Bazron, Dennis and Isaacs, created a conceptual framework and a definition of cultural competence that established a foundation for the field. This framework made a new contribution to the field, as it extended the scope of cultural competence far beyond the provider level. It proffered a comprehensive view that encompassed an organization’s or system’s capacity to integrate principles and values of cultural competence into its policy, structures, attitudes, behaviors, and practices. The core concepts and principles espoused in this framework remain highly relevant today and are perceived as universally applicable across multiple systems. Many of the definitions that have emerged in the past 15 years have their roots in this work, but have been adapted for specific disciplines, professional societies, or fields.<sup>3,4,5,6,7,8,9,10,11,12,13</sup>

There is no single definition of cultural competence. Definitions have evolved from diverse perspectives, interests, and needs and are incorporated in state legislation, federal statutes and programs, health and mental health organizations, and academic settings. The National Center for Cultural Competence (NCCC) embraces a conceptual framework and model for achieving cultural competence adapted from the definitions developed by Cross et al. For the purpose of this report, the following model (Figure 1) and definition will be used.



Cultural competence requires that organizations:

- Have a defined, congruent set of values and principles, and demonstrate behaviors, attitudes, policies, and structures that enable them and their personnel to work effectively cross-culturally.
- Have the capacity to value diversity, conduct self-assessment, manage the dynamics of difference, acquire and institutionalize cultural knowledge, and adapt to diversity and the cultural contexts of the communities they serve.
- Incorporate the above in all aspects of policymaking, administration, practice, and service delivery, and systematically involve patients, families, and their communities.

Cultural competence is a developmental process that evolves over an extended period. Individuals and organizations can be various levels of awareness, knowledge, and skills along the cultural competence continuum.

*Linguistic Competence.* Historically, the term “linguistic competence” has been associated with the scientific study of language. More recently, the term has made its debut within the health and mental health care arenas and it is often used in tandem with cultural competence, but it is important to distinguish between them. In the United States, linguistic competence has traditionally been used solely in reference to people who speak a language other than English, and it is commonly associated with legislation and standards for language access. Goode and Jones (2004) developed a definition of linguistic competence, which will be used for the purposes of this report, that encompasses a broad range of language needs and preferences and structural supports necessary to ensure optimal communication in health and mental health care systems, as follows:<sup>14</sup>

---

## Linguistic Competence

The capacity of an organization and its personnel to communicate effectively, and convey information in a manner that is easily understood by diverse audiences, including persons of limited English proficiency, those who have low literacy skills or are not literate, and individuals with disabilities. Linguistic competency requires organizational and provider capacity to respond effectively to the health literacy needs of populations served. The organization must have policy, structures, practices, procedures, and dedicated resources to support this capacity. This may include, but is not limited to, the use of:

- bilingual/bicultural or multilingual/multicultural staff;
- cross-cultural communication approaches;
- cultural brokers;
- foreign language interpretation services including distance technologies;
- sign language interpretation services;
- multilingual telecommunication systems;
- videoconferencing and telehealth technologies;
- TTY and other assistive technology devices;
- computer assisted real time translation (CART) or viable real time transcriptions (VRT);
- print materials in easy to read, low literacy, picture and symbol formats;
- materials in alternative formats (e.g., audiotape, Braille, enlarged print);
- varied approaches to share information with individuals who experience cognitive disabilities;
- materials developed and tested for specific cultural, ethnic and linguistic groups;
- translation services including those of:
  - legally binding documents (e.g., consent forms, confidentiality and patient rights statements, release of information, applications)
  - signage
  - health education materials
  - public awareness materials and campaigns; and
- ethnic media in languages other than English (e.g., television, radio, Internet, newspapers, periodicals).

---

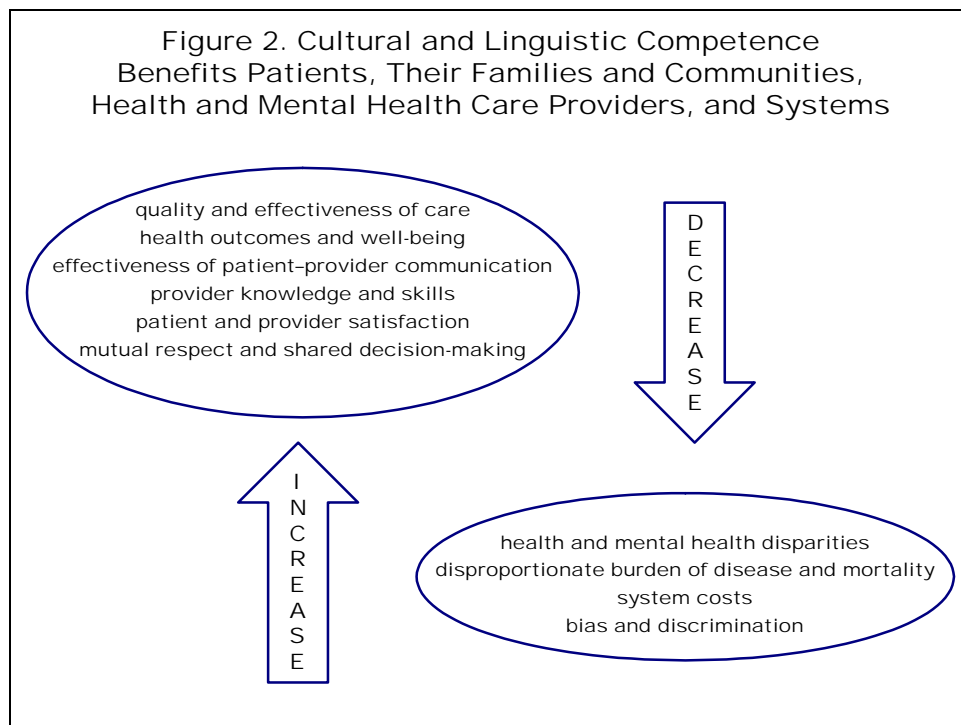
*Mental Health.* The NCCC views mental health as an integral and inseparable part of health. Additionally, the 2001 IOM report, *Health and Behavior: The Interplay of Biological, Behavioral and Societal Influences*, also defines health broadly to include the positive aspect of emotional well-being.<sup>15</sup> According to the IOM, almost half of the deaths in the United States are linked to behavioral and social factors. Indeed, many cultural



groups around the world believe physical, emotional, and spiritual well-being are integrated, and hold that all three are necessary for overall health and well-being.<sup>16</sup> Therefore, the NCCC will draw upon the literature in the fields of both health care and mental health care in this report.

### Hypothesis

Goode developed a conceptual model, modified for this report, which depicts the benefits of cultural and linguistic competence for patients, their families, and communities, and for health and mental health care providers and systems (Figure 2).<sup>17</sup> The authors hypothesize that an organization or system that embodies cultural and linguistic competence according to the frameworks described in this report, will see the following benefits: an improvement in quality and effectiveness of care, health outcomes and well-being; effectiveness of patient-provider communication, provider knowledge and skills; and patient and provider satisfaction; as well as a decrease in health and mental health disparities and in disproportionate burden of disease and mortality, system costs, and bias and discrimination. This model presupposes an understanding of the social, cultural, political, and economic contexts in which health and mental health care systems operate. This report tests the hypothesis of cultural and linguistic competence as critical components of quality and effective care in relation to health outcomes and well-being and system costs.



## **Methodology**

This report utilized two approaches to identify evidence and gaps in research for cultural and linguistic competence. Section I presents the findings of a search of Medline from January 1995 to March 2006 of primary research articles, using the keywords “culturally appropriate,” “culturally sensitive,” “cultural belief,” “cultural competence,” and “culturally competent AND outcome OR effectiveness OR evidence.” Inclusion criteria were studies that reported outcomes in health or well-being. For additional information on methodology, [see the Appendix](#).

Section II presents the findings of an exploratory search of Medline through Pubmed, Academic Search Premier, and Health Business Elite databases through EBSCO, LexisNexis, and the Internet based on the cultural competence framework and the conceptual model of expected benefits. Articles and other references were identified using a range of keywords related to cultural and linguistic competence, including but not limited to: “culture,” “cultural competence,” “race,” “outcome,” “evidence,” “language access,” “policy,” “policies,” “organization,” “ethnicity,” “socioeconomic,” “language,” “Spanish,” “staff turnover,” “business case,” “workforce diversity,” “cost effective,” “language concordance,” and “racial concordance.” Due to the importance of establishing a business case for cultural and linguistic competence in system costs, the authors used not only primary sources, but also selected reviews, technical reports, and conceptual papers.

## I. HEALTH OUTCOMES AND WELL-BEING: THE EVIDENCE AND THE GAPS

---

*Cultural competence is not a panacea that will single-handedly improve health outcomes and eliminate disparities, but a necessary set of skills for physicians who wish to deliver high-quality care to all patients.*<sup>18</sup>

---

### **The Overall State of the Evidence**

New areas of research, particularly in complex subjects like cultural and linguistic competence, experience a certain developmental trajectory. Initial entries in the professional literature may focus on reviews to identify issues for investigation and to better define the core concepts, with early studies largely qualitative in nature. In medical research, case reports are accepted as evidence to advance knowledge in a particular area. Next, researchers focus on determining valid ways to describe and measure the core concepts and variables and describe key study populations. There may also be epidemiologic studies that suggest correlations that require further examination. It is only at this point that carefully controlled intervention studies may be possible. For an area as complex as cultural and linguistic competence, it may be difficult to complete controlled studies—the “gold standard” of research studies.

The field of cultural and linguistic competence is clearly in the early stages, with a preponderance of the literature exploring and defining the concepts and issues and identifying important research questions ([see Chart A-1 in the Appendix](#)). It is now moving toward pilot and controlled studies to test the impact of cultural and linguistic competence on quality and effective care in relation to health outcomes and well-being.

### **Evidence from Experimental Design Studies**

Most of the studies reviewed focused on some aspect of health prevention or promotion, including enhancing adherence with lifestyle changes related to disease treatment, increasing cancer prevention behaviors, and enhancing diabetes self-management. In reviewing these studies, the authors used a set of criteria to assess whether the researchers were employing culturally and linguistically competent approaches in their interventions. These criteria are based on the cultural and linguistic competence framework and definitions described in this report and others espoused by Bronheim and Sockalingam,<sup>19</sup> and assess whether reviewed studies implemented any or all of the following:

- identify and engage key partners from the community for which interventions were intended in the design, implementation, and analysis;

- determine and define the intended recipients in terms of cultural variables;
- choose health messages, materials, and approaches that address audience beliefs, values, practices, trusted sources of information, and preferred ways of receiving information;
- choose delivery models that address audience preferred formats, language, sources of health information, and modes of interacting;
- take into account the social, geographic, economic, and political context of the community; and
- test approaches with a sample of the intended audience and use feedback to improve approach before going to scale.

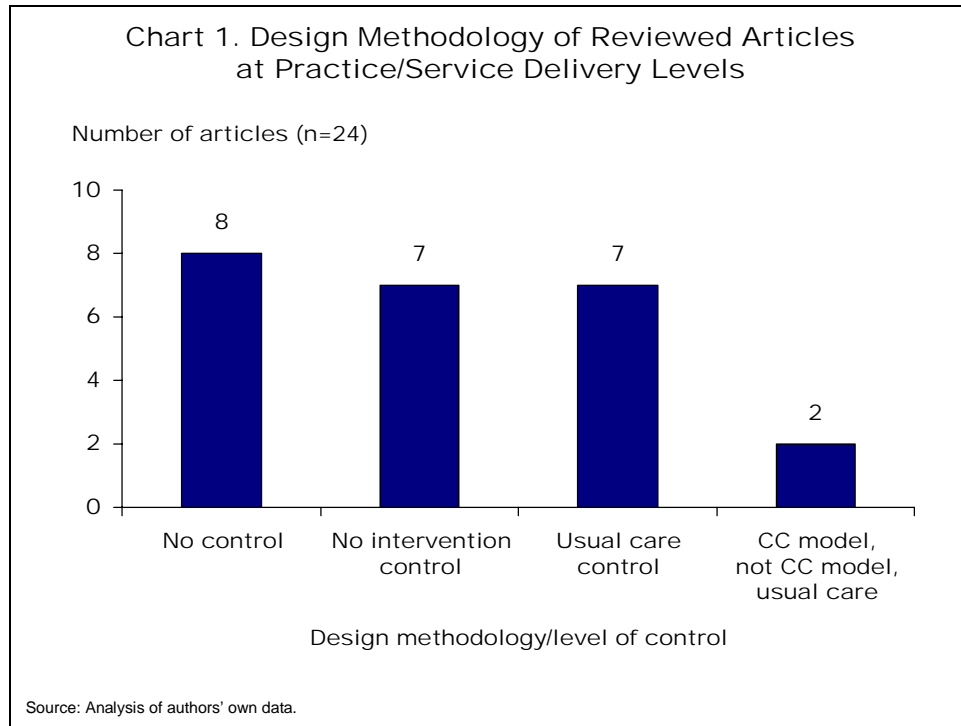
The studies reviewed for this section can be grouped into two categories: the practice or service delivery level and organizational or policy level. All but two studies focused on practice or service delivery and involved “culturally competent,” “culturally appropriate,” or “culturally sensitive” interventions to realize health-related behaviors and outcomes. The other two addressed the impact on health outcomes of culturally competent policies, structures, and practices at the organizational level.

### **Studies Focusing on the Practice or Service Delivery Level**

The current evidence provides information about intermediate outcomes. None of the studies reviewed directly addressed the issues of decreased incidence of a disease for a population, or a decrease in morbidity or mortality as a result of the intervention used. Instead, two types of intermediate outcomes were measured—selected by researchers as factors that contribute to morbidity and mortality for the study population. The studies measured improved outcomes in terms of increased use of screening or improved adherence with treatment or recommended life style changes.

An array of studies was reviewed (see Chart 1), including:

- eight with no control group,
- seven with a control group that received no intervention,
- seven with a control group that received the usual-care model,
- two that compared a culturally competent model with a model not designed to be culturally competent and with a usual-care model.



Because of the design differences, the level of validity of the evidence across the studies differs, but there is a growing case to support the effectiveness of culturally competent health promotion and education models in improving outcomes. Of these 24 studies, all but two found improved outcomes in terms of increased rates of screening, improved adherence to treatment regimens, or better physiologically based measures.<sup>20,21</sup> (See Table 1 for a summary of selected research articles reviewed for this report.)

Table 1. Summary of Selected Research

Author and Date	Population	Intervention Groups	Outcomes
<b>Organization/policy level</b>			
Lieu et al., 2004 <sup>22</sup>	Taken from five managed Medicaid health plans in three states, diverse children with asthma (parents = 1663) and practice sites (n=83) and clinicians (n=446)	Cohort study with one-year follow-up	Children served at practice sites with highest scores on a scale of cultural competence policies were less likely to underuse preventive medication; these sites also had better parental ratings of care. Practice-site policies to promote cultural competence, among other variables, predicted higher quality of care for children with asthma.

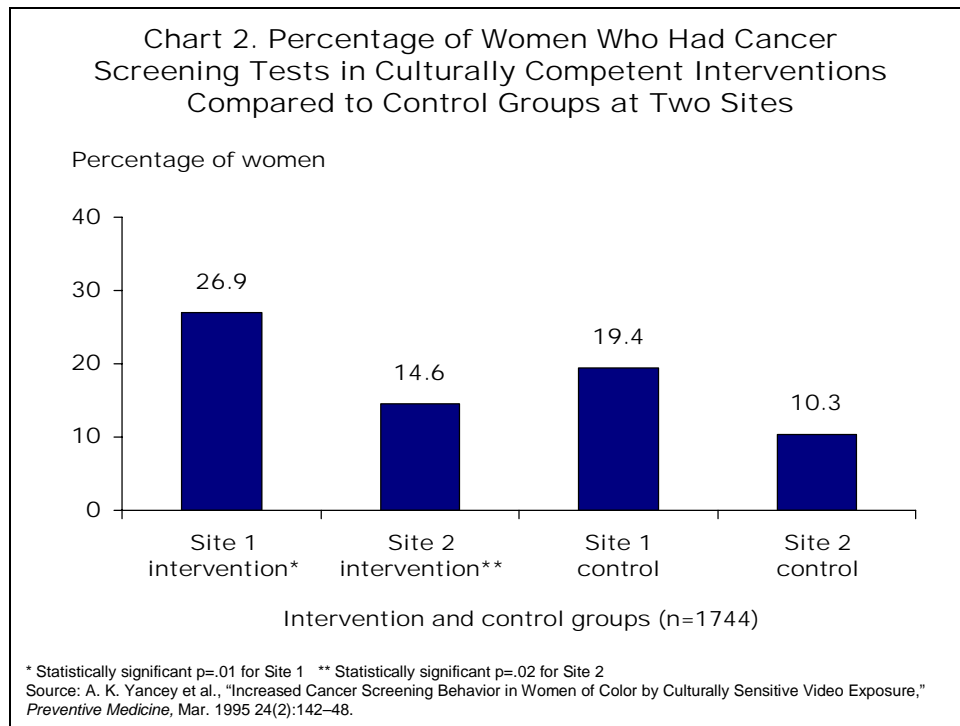
Author and Date	Population	Intervention Groups	Outcomes
<b>Practice/service delivery level with control group</b>			
Brown, Garcia, Kouzekanani & Hanis, 2002 <sup>23</sup>	Mexican Americans with Type 2 diabetes (n = 256)	Diabetes self-management program adapted to culture of study population compared with control group receiving usual care	Intervention group had significantly lower HbA1c, fasting blood glucose, at six and 12 months and higher diabetes knowledge at three and 12 months than the control group
Davis et al., 1998 <sup>24</sup>	Diverse women over age 40 in Louisiana, predominantly low income and low literacy skills (n=445)	Two standard interventions compared to intervention using a health promotion video developed in collaboration with women from target population, in addition to standard care	The adapted intervention yielded significant increase in mammography utilization compared with other groups at six months. However, at two years after the intervention, the differences in the groups were no longer statistically significant.
Erwin, Spatz, Stotts & Hollenbert, 1999 <sup>25</sup>	African American women in the Mississippi River Delta region of Arkansas (n=410)	Intervention group conducted at sites in two counties; control group received no intervention	Intervention group reported significantly higher prevention behavior and cancer screening rates from baseline to post intervention interview (completed six to 12 months after baseline)
Gilmer, Philis-Tsimikas & Walker, 2005 <sup>26</sup>	Diverse adults with Type 2 diabetes (n=348)	Diabetes self-management program adapted to culture of study population compared with historical control (one year before start of program)	From pre-enrollment to 12 months ( $\pm$ six months) post-enrollment, intervention group showed a significant decrease in HbA1c, blood pressure, and low-density-lipoprotein cholesterol compared with historical control group (with two test values approximately 12 months apart ( $\pm$ six months))
La Roche, Koinis-Mitchell & Gualdron, 2006 <sup>27</sup>	African American and Hispanic families with children with asthma (n=24)	Standard intervention compared with treatment adapted to study populations; control group received no intervention	The adapted intervention was 50 percent more effective in reducing emergency department visits than the standard intervention and almost twice as effective as the control group during the year after the interventions. Both adapted and standard interventions resulted in increase in asthma management scale score from baseline to one year after the intervention, but parental asthma knowledge score improved significantly in the adapted group compared with the standard intervention.
Orleans et al., 1998 <sup>28</sup>	African Americans calling a cancer information service about quitting smoking (n=1422)	Standard counseling compared with counseling adapted to study population	Adapted intervention group had significantly more quit attempts and greater use of pre-quit strategies from baseline to six months compared with standard group. At 12 months, adapted intervention group had significantly higher quit rate than the standard group.
Yancey, Tanjasiri, Klein & Tunder, 1995 <sup>29</sup>	Low-income African American and Latino women (n=1744) at two health care clinics, in New York City and Los Angeles	Intervention group was exposed to culturally adapted health information; control group not exposed	A significantly higher proportion of women who were exposed to the intervention subsequently obtained Pap smears compared with women not exposed to the intervention, from pre-intervention to three to five months post-intervention at the clinic sites.
<b>Practice/service delivery level with no control group</b>			
Anderson-Lofin et al., 2005 <sup>30</sup>	Convenience sample of African Americans with Type 2 diabetes in rural area (n=23)	Diabetes self-management program adapted to culture of study population; no control group	From baseline to five months post-intervention, significant decrease in acute care visits; significant decrease in HbA1c and fasting blood glucose; and reported improvement in fat-related dietary habits.
D'Eramo-Melkus et al., 2004 <sup>31</sup>	African American women with Type 2 diabetes (n=25)	Convenience sample; no control group	Significant decrease in weight, body mass index, HbA1c and fasting blood glucose from baseline to three months.

Source: Authors' analysis.

The studies reviewed primarily related to two areas: cancer prevention and early detection, and diabetes care and management. Other articles included studies on asthma, HIV prevention or treatment, weight loss, and fitness and nutrition.<sup>32,33,34,35,36,37,38</sup>

*Cancer Prevention and Early Detection.* Nine studies addressed cancer prevention and early detection in high-risk populations. These populations included: Native American women in Montana,<sup>39</sup> Spanish-speaking farm workers in California,<sup>40</sup> low-income African American and Latina women in New York City and Los Angeles,<sup>41</sup> African American women in the Mississippi River Delta region of Arkansas,<sup>42</sup> Latina women in San Diego,<sup>43</sup> native Hawaiians in Hawaii,<sup>44</sup> an ethnically diverse sample of low-income women in Rochester, N.Y.,<sup>45</sup> low-income women with low literacy in Louisiana,<sup>46</sup> and African Americans calling a cancer information service about smoking cessation.<sup>47</sup> While all described their interventions as tailored for the cultural and linguistic groups, none formally defined cultural and linguistic competence. There was no consistent model used as the benchmark for developing or characterizing the intervention models. Features of intervention design included: using input from the community, use of community members or other trusted voices to deliver health information, tailoring the manner and modality of delivery, ensuring language access (e.g., use of bilingual or bicultural individuals, materials in preferred languages, customized approaches for low literacy), addressing contextual issues such as transportation and insurance, and aligning messages and approaches with cultural values, beliefs, and health practices.

In their study of low-income African American and Latina women in New York City and Los Angeles, Yancey et al. found that playing videos—developed using input from the study population—in the waiting rooms of medical clinics in patients’ preferred languages resulted in an increase in Pap smears in the women exposed to the videos compared with those who were not exposed to the videos (Chart 2).

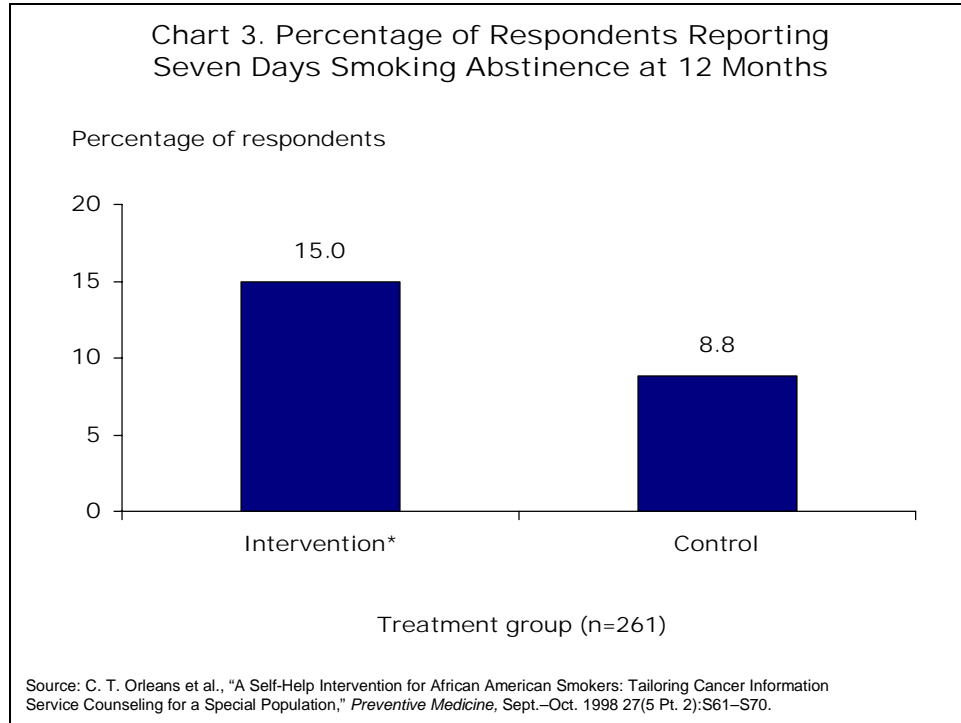


In a study by Davis et al., researchers found that exposure to a video developed by and for women with low literacy and low income was more effective than a low-literacy brochure and a personal recommendation from health care providers to have a mammogram in increasing confirmed use of mammography at a six-month follow-up visit. Other reported successful culturally competent approaches included using community health workers to deliver training; one-on-one education; outreach designed with input from the intended audience; and a case management model. While all tested the effectiveness of culturally competent health promotion approaches, none compared this approach with a similar model that did not incorporate cultural competence. The failure to use control groups to test the hypothesis that specific, culturally competent aspects of the interventions resulted in improved outcomes is a critical gap in the current research.

A study by Orleans et al. provided culturally competent smoking cessation support via telephone to African Americans. This study did make a comparison with an intervention that provided the same information in a different way. The culturally competent approach was crafted using data from previous studies with African American smokers about motivations for quitting (e.g., deterring one's children from smoking), preferred ways of incorporating health information (e.g., interactive, personalized conversation vs. standard information delivery), specific smoking patterns (e.g., low daily smoking rates, use of menthol or high tar/high nicotine products), and contextual factors (e.g., dealing with strong smoking norms and stress). In this direct test of a culturally



competent approach, there was significantly increased self-reported use of pre-quit strategies and attempts at quitting by the group that received the tailored intervention at six months, as well as a higher rate of quitting smoking at 12 months (Chart 3).

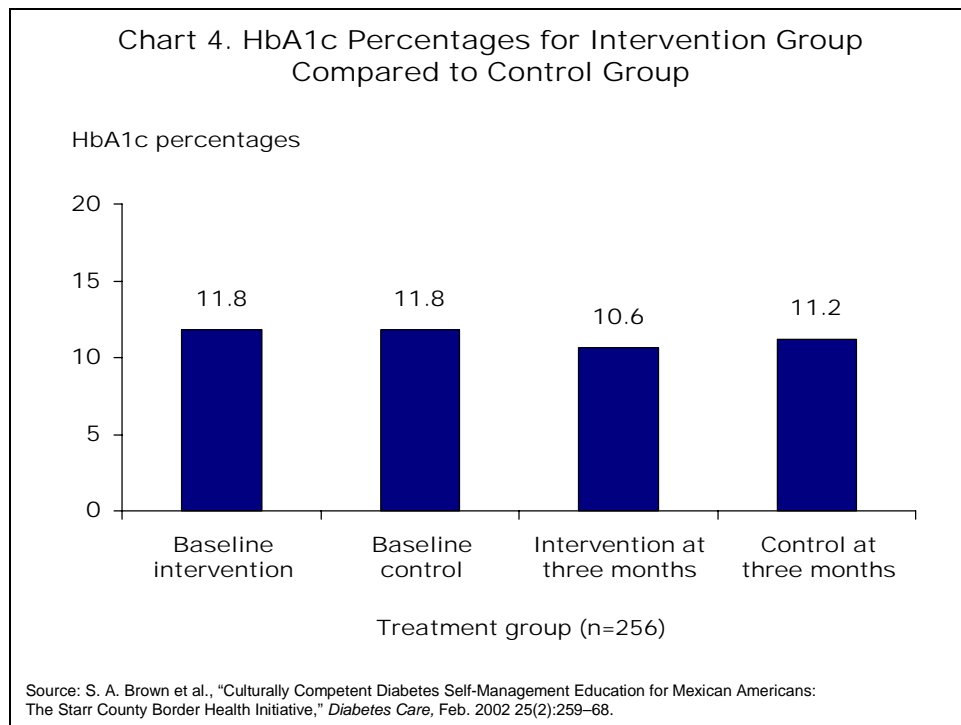


*Diabetes Care and Management.* A total of eight articles on diabetes were reviewed for this report.<sup>48,49,50,51,52,53,54,55</sup> Results show a range of reductions in body mass index, blood pressure, cholesterol, fasting blood glucose, and HbA1c (glycosylated hemoglobin), as well as improvements in quality of life, knowledge of diabetes, and reported nutritional intake.

According to the American College of Endocrinology Guidelines for Glycemic Control, the HbA1c test is recommended as the primary method of assessing glycemic control. A 1 percent reduction in HbA1c readings results in a 30 percent to 35 percent reduction in microvascular complications and a 14 percent reduction in macrovascular complications. Although patients in large, randomized intervention trials often fail to achieve target HbA1c values (less than 6.5 percent), any reduction in HbA1c significantly decreases risk for diabetes complications.<sup>56</sup> Although none of the studies reviewed measured a reduction in these diabetes complications for participants, previous research has connected reductions in HbA1c to reduced morbidity associated with diabetes. The following is a selection of articles that report HbA1c outcomes.

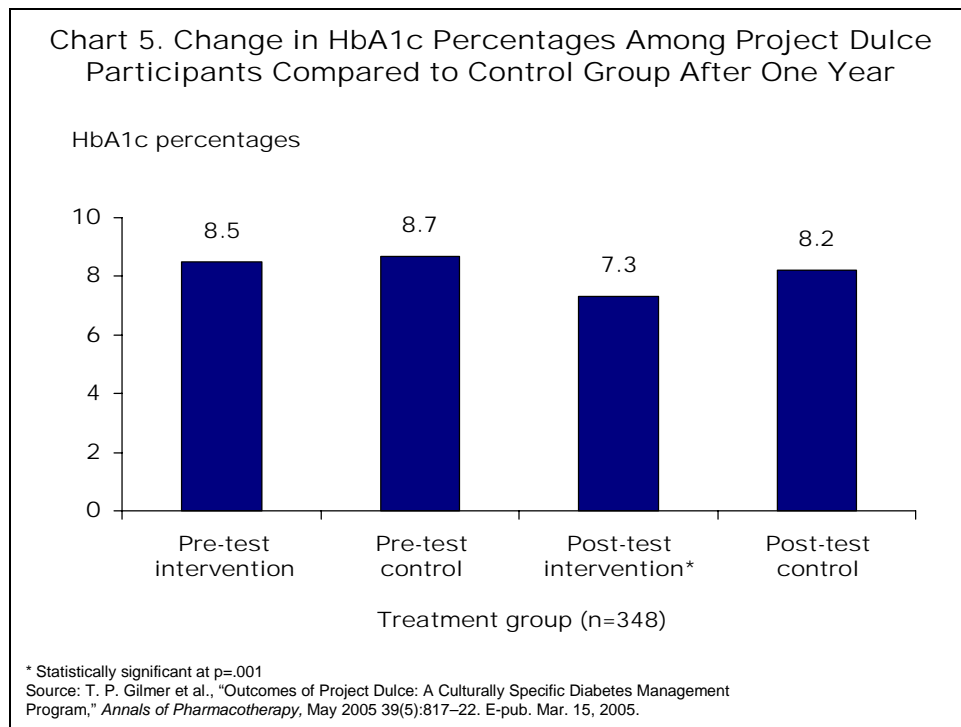
Using pre-test and post-tests with one group, D'Eramo-Melkus et al. implemented a six-week intervention with 25 black American women with diabetes. Demographic, psychosocial, and physiological measures were taken at baseline and three months post-intervention. The elements of the intervention described as culturally competent included the curriculum used to guide the training, the inclusion of race-concordant providers, and the use of culturally specific videos. "These culturally specific videos featuring black American women served as another form of peer-modeling in an effort to increase diabetes self-efficacy," the authors conclude.<sup>57</sup> They also report statistically significant results in the reduction of weight, body mass index, HbA1c levels, and fasting blood glucose. The study used a culturally competent intervention and showed statistically significant change in health measurement outcomes over a three-month period. However, the sample size was small and there was no comparison group.

Brown et al. conducted a randomized control study of 256 Mexican Americans with Type 2 diabetes. The year-long intervention was described as culturally competent and included the following elements: employed bilingual Mexican American providers from the community, used videotapes showing community leaders describing their experiences, included Mexican American diet preferences, offered the intervention in Spanish, and took place in accessible community settings. The control group was assigned to a wait list and received no intervention. Chart 4 shows the HbA1c readings at three months.



The researchers reported a statistically significant difference between the control and intervention groups over time in HbA1c, as well as reductions in other measures.

Lastly, Gilmer, Philis-Tsimikas, and Walker conducted a study of 348 ethnically diverse individuals with diabetes receiving care at community health centers in San Diego, Calif., including 160 in a historical control group. The intervention group received the culturally specific diabetes management intervention, called Project Dulce, which included bilingual and bicultural providers, peer educators from the same cultural and ethnic group as the participants, and collaborative classes where enrollees discussed personal experiences and beliefs about diabetes. HbA1c readings were taken at one year and compared with those of the historical control group. The intervention group showed a statistically significant reduction in HbA1c readings (Chart 5).



This study was one of the few to use an ethnically and linguistically diverse sample, and the only diabetes study among those reviewed to do so. Researchers were able to show statistically significant improvement in measurable health outcomes using a model that offered culturally specific interventions to Latinos, non-Latino whites, Asians, African Americans, and other groups. More research is needed to encompass diverse samples using models of cultural and linguistic competence that can be adapted to participants' culture, preferences, and needs. The culturally specific aspects of the intervention were not

analyzed separately, as the historical control group did not receive any intervention. This limits the interpretation of the positive results.

**Organization- or Policy-Level Studies**

Only two studies addressed cultural competence at the organizational and policy level. One study, by Campbell and Alexander, attempts to define and measure cultural competence at the organizational level, but outcomes are measured in terms of service utilization, not specific health outcomes.<sup>58</sup> The researchers assessed the association between culturally competent treatment practices and utilization of ancillary services in a national sample of 618 substance abuse treatment organizations. Culturally competent treatment practices were defined as racial or ethnic matching of staff with clients (e.g., percent of African American staff, same-race therapist, single-race therapy groups); language concordance (e.g., percent of bilingual staff); and cultural competency training for staff (e.g., percent of staff trained). Measured outcomes included use of physical exams, mental health care, financial counseling, and transportation. A 10 percent increase in the number of African American full-time staff was associated with a 12 percent increase in the odds of clients receiving a physical exam. In units that offered single-race therapy groups, the odds of receiving financial counseling was two times as high and there was a 43 percent increase in the odds of receiving mental health care. While this study sheds light on cultural competence at the organizational level, the definitions of cultural and linguistic competence are very narrow, based on the frameworks presented in this report.

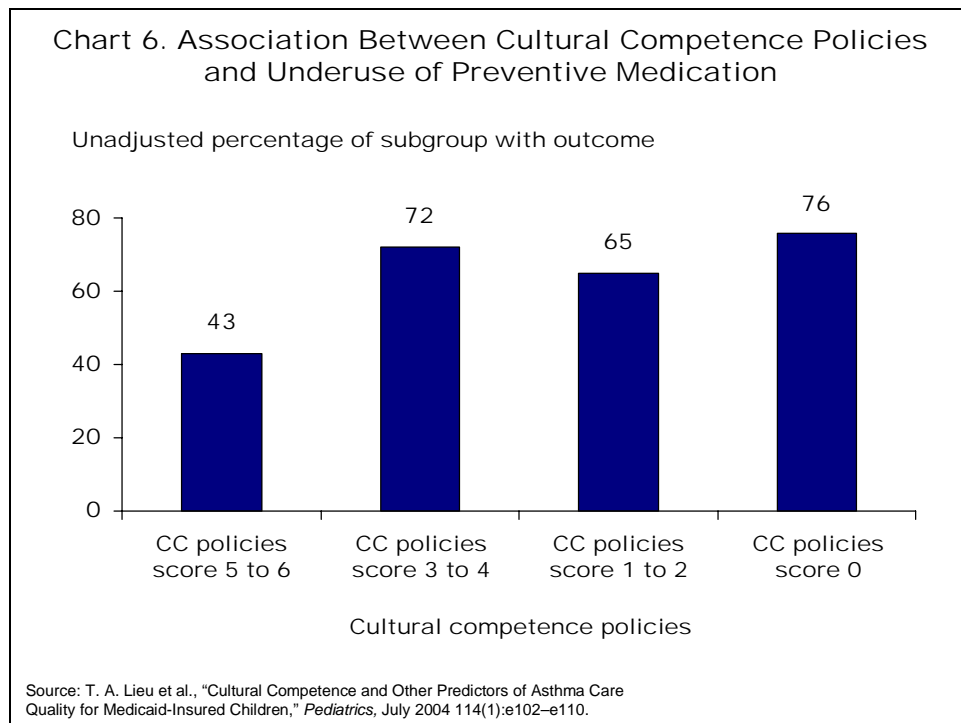
A study by Lieu et al. analyzed the impact of cultural competence on quality of care, including service utilization outcomes for children with asthma and Medicaid insurance. A survey was used to assess practice sites’ policies and organizational practices. Six policies were chosen to assess cultural competence at the organizational level, with scores reflecting whether sites reported incorporating the cultural competency policies. Table 2 shows the six policies assessed to score cultural competence.

Table 2. Cultural Competence Policies

<b>Cultural competence policies (used for summary score), n = 83</b>	<b>Sites reporting policies</b>
Recruits ethnically diverse nurses and providers	49
Recruits bilingual nurses and providers	40
Attempts to minimize cultural barriers through printed materials	34
Offers cross-cultural or diversity training	26
Offers training to providers to develop communication skills	16
Evaluates the level of cultural competence among providers	9

Source: T. A. Lieu et al., “Cultural Competence and Other Predictors of Asthma Care Quality for Medicaid-Insured Children.” *Pediatrics*, July 2004 114(1):e102–e110.

Cultural competence policies were an independent predictor of quality in the care of children with asthma, as measured by the rate of underuse of preventive medications (associated with severe episodes and higher hospitalization rates) and parents' rating of care. When compared with sites with the lowest rating of cultural competence, sites with the highest ratings had an odds ratio of 0.15, reflecting a significant decrease in underuse of preventive medications, based on parent report. (See Chart 6.) There was approximately a 7 percent increase (based on mean) of parents' ratings of asthma care among sites with the highest cultural competency scores (i.e., five to six policies present) and lowest cultural competence scores (no policies present).



It should also be noted that three policies measured for communication-related practices—offering access to interpreters, providing interpreter services via telephone, and providing low literacy health education materials—are commensurate with the definition of linguistic competence, as described in this report. The researchers indicate that these findings strongly support the importance of continued study of the culturally and linguistically competent characteristics of health care organizations in order to assess the impact of that care. This study is among the first to link organizational policy, practice, and quality of care in the cultural competence literature. Its significance cannot be understated, as it provides fertile ground for additional research exploring the relationship between organizational capacity for cultural and linguistic competence (i.e., the presence of policy, structures, practices, and procedures) and quality of care.

## **Trends and Future Directions**

The studies reflect the following research gaps:

- initiating an intervention with a sample from only one diverse racial or ethnic group (racial-, ethnic-, or language-specific approaches);
- calling the intervention culturally competent or a related term, but often without fully describing or defining the culturally competent terms or elements;
- not isolating cultural competency as an independent variable in the design and not measuring its sole effects;
- not having a control group (including wait-listed control groups);
- comparing the intervention to groups that received a different intervention, thereby creating barriers in the interpretation of the results;
- reporting results of the intervention as a whole, making the results difficult to interpret.

In summary, the reviewed literature reflects promise and illustrates the positive benefits of cultural and linguistic competence as critical components of quality and effective care in relation to health outcomes and well-being. The study of cultural and linguistic competence is moving from defining the issues and identifying potential areas for analysis to studies that attempt to examine the issues empirically. As in most fields, the first attempts are limited in scope and may have methodological issues. The current literature is weighted toward the role of practitioners in the provision of culturally and linguistically competent health and mental health care and addresses only the intermediate outcomes of targeted, short-term interventions. Table 3 summarizes the current evidence and outlines future directions for research.

Table 3. Future Directions for Research in Health Outcomes

	<b>Evidence Presented and Gaps</b>	<b>Future Directions for Research</b>
Prevention and promotion service delivery models and their impact on intermediate health outcomes	<p>Studies that found improved intermediate outcomes in:</p> <ul style="list-style-type: none"> <li>▪ HBA1C percentages and blood glucose levels</li> <li>▪ Cancer screening</li> <li>▪ Reduction in smoking</li> <li>▪ Reduction in blood pressure, cholesterol level, BMI</li> <li>▪ Reduction in emergency department visits</li> <li>▪ Improved nutrition</li> </ul>	<p>Studies that:</p> <ul style="list-style-type: none"> <li>▪ Validate the elements that comprise a culturally and linguistically competent intervention</li> <li>▪ Examine the relationship between cultural and linguistic competence and quality of care</li> <li>▪ Utilize articulated and shared definitions of cultural and linguistic competence</li> <li>▪ Refine population definitions to include cultural variables other than race, ethnicity, or language</li> <li>▪ Use appropriate controls to test for the specific effects of the culturally and linguistically competent intervention</li> </ul>
	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>▪ Lack of definition and measurement of cultural and linguistic competence</li> <li>▪ Lack of designs that isolate effects of cultural and linguistic competence</li> </ul>	
Prevention and promotion models that affect incidence, morbidity and mortality	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>▪ No studies were identified that addressed ultimate health and mental health outcomes</li> </ul>	<p>Studies that:</p> <ul style="list-style-type: none"> <li>▪ Are longitudinal and have sufficient sample size to discern impacts in ultimate health and mental health outcomes</li> </ul>
Organization policy, practices, and structures and their impact on patient health outcomes	<ul style="list-style-type: none"> <li>▪ For the few studies that examined cultural competence at the organizational level, current evidence is limited to impact on service utilization, satisfaction with care, and use of preventive medication.</li> </ul>	<p>Studies that:</p> <ul style="list-style-type: none"> <li>▪ Develop validated and psychometrically sound measures of organizational cultural and linguistic competence</li> <li>▪ Examine the relationship between organizational policies, practices and structures; quality and effectiveness of care; and health and mental health outcomes for individuals and groups served</li> </ul>
	<p><b>Gaps</b></p> <ul style="list-style-type: none"> <li>▪ No standardized measures of cultural and linguistic competence at the organizational level used</li> </ul>	

Source: Authors' analysis.

## II. THE EVIDENCE AND THE GAPS IN SYSTEM COSTS

---

*We see the benefits of being culturally competent as: improving efficiency in service delivery, enhancing patient and customer satisfaction, maintaining a competitive business advantage, improving community of health and quality of life, being viewed as an employer that values an inclusive workplace.<sup>59</sup>*

---

### **Costs and Benefits of Cultural and Linguistic Competence: The Business Case**

It is estimated that by 2015, one of every five U.S. dollars, or more than \$4 trillion annually, will be spent on health care.<sup>60</sup> Given the enormity of health care costs, it is no surprise that any discussion of culturally and linguistically competent care must include a case for costs and affordability. Cost-benefits analysis is the process of evaluating the expected costs in relation to benefits to determine a course of action. The business case for cultural and linguistic competence includes understanding the potential costs and benefits for patients, families, communities, health and mental health care providers and systems, and producing the evidence to evaluate the fiscal implications.

*Significant Increases in Culturally and Linguistically Diverse Populations.* The current focus on culturally and linguistically competent care is an urgent matter—because of the persistence of racial and ethnic health and mental health disparities and because of nation’s increasingly diverse population. Current and emerging demographic trends from the U.S. Census Bureau indicate that almost one-third of the U.S. population is from racially and ethnically diverse groups, an increase from one-fourth of the population in 1990. Census data also indicate that more than 47 million individuals speak a language other than English at home, and of these, more than 21 million speak English less than very well. An estimated 25 percent of the foreign-born population, or approximately 12 million people, live in “linguistic isolation,” defined by the Census Bureau as households in which no person older than 14 speaks English at least very well. This trend is expected to continue. The Census Bureau projects that by the year 2030, 60 percent of the U.S. population will self-identify as white, non-Hispanic and 40 percent will self-identify as members of other diverse racial and ethnic groups.<sup>61,62</sup> These demographic trends have significant implications—not only for the patient population but the health and mental health care workforce, as well.<sup>63,64,65,66</sup> Given this reality, health and mental health care systems must consider the issues of cost, benefits, and affordability in their efforts to respond effectively to the preferences and needs of their increasingly diverse patient populations.

*What Are the Costs?* Most of the literature on cost centers around linguistic competence, specifically the provision of language access services such as interpretation



and translation. While much of the research is conceptual and inconclusive, there are data on the costs of providing language access services. For example, it is estimated that it would cost \$268 million per year to provide interpretation services in a variety of health care settings (including emergency rooms, outpatient visits at community health centers, hospitals, private providers, and inpatient hospital stays) for people with limited English proficiency, according to a report from the U.S. Office of Management and Budget (OMB).<sup>67</sup> The OMB also documented that costs for interpretation services range from \$20 per hour to \$26 per hour for professional interpreters; \$20 per hour for services provided by language banks (usually nonprofit, community-based organizations that employ interpreters for various programs and agencies); and \$132 per hour for language line services (contracted, multilingual medical interpretation services provided via telephone). These estimates are consistent with others found in the literature (Table 4).<sup>68,69,70,71</sup>

Table 4. Estimated Costs of LEP Services

<b>Visit</b>	<b>Explanation of Cost</b>	<b>Cost</b>
ER visits	704,000 hours of interactions with limited English proficient patients in the ER	\$8.6 million for hospitals
Inpatient hospital visits	6.41 million hours of interactions with limited English proficient patients in the inpatient units	\$78.2 million for hospitals
Outpatient visits (office-based)	1.3 million hours of interactions with limited English proficient patients in community health centers	\$11.5 million for community health centers
	0.95 million hours of interactions with limited English proficient patients in outpatient visits to hospitals	\$12.4 million cost for hospitals
	4.1 million hours of interactions with limited English proficient patients in visits to private providers	\$156.9 million for providers

Source: OMB Report, 2002.

*What Are the Benefits?* The authors identified only two research studies that examined the cost of providing interpreter services using sample and comparison patient groups. The first study compared the cost of providing preventive, primary, and emergency care in a large HMO to a group of patients that required interpretation services with groups that did not require such services.<sup>72</sup> The study took place at four health centers serving more than 122,000 patients in Massachusetts from 1995 to 1997. Researchers Jacobs, Shepard, Suaya, and Stone found that providing interpreter services increased costs in the delivery of preventive services and in primary care. Results from the study also cited that interpreter services decreased costs for emergency room visits. However, this finding was not statistically significant when contrasted with the comparison group.

The study reported that: “The cost of providing one year of interpreter services for Spanish- and Portuguese-speaking patients was \$245,363 and 3,089 documented interpretations were performed in the second year of the study with an average cost of \$79 per documented interpretation”.<sup>73</sup> The estimated total cost per person for the provision of interpreter services for one year was \$279. Jacobs et al. postulate that \$279 is a reasonable increase in cost, and cost-benefits can be derived from patients accessing additional preventive and primary care services that may potentially reduce costly complications in follow-up visits, medications, and other conditions. However, the study failed to quantify these specific cost savings and benefits.

The second study, conducted in a large urban academic teaching hospital, examined the impact of interpreter services on the intensity of emergency department (ED) services, utilization of services in a subsequent 90-day period, and cost or charges for said services.<sup>74</sup> Bernstein et al. reviewed 26,573 ED records for a five-month period from July 1999 through November 1999, and selected 500 that met inclusion criteria. The researchers then divided the records into an interpreted group (IP), consisting of all non-English speaking patients who received trained medical interpreter services; a non-interpreted group (NIP), consisting of all non-English speaking patients who did not receive interpreter services; and a comparison group, consisting of English-speaking patients (ESPs) from the same racial and ethnic background as the first two groups. The study was limited to four languages: Spanish, Haitian Creole, Portuguese Creole, and English. The researchers found the “ESPs stayed in the ED longer than did NIPs and received significantly greater intensity and volume of services than did either the IPs or NIPs. Average charge for ESPs was \$988 vs. \$878 for IPs and \$710 for NIPs.”<sup>75</sup> Follow-up clinic utilization was lowest for patients who did not receive interpreter services. Return visits to the ED and associated charges were lowest for the patients receiving interpreter services. The researchers conclude that “use of trained interpreters was associated with increased intensity of ED services, reduced ED return rate, increased clinic utilization, and lower 30-day charges, without any simultaneous increase in length of stay or cost of visit.”<sup>76</sup>

In the literature review conducted for this report, only two studies reported costs of culturally competent and culturally specific interventions for chronic diseases. La Roche et al. examined the efficacy of a multifamily asthma group treatment (MFAGT) in 24 African American and Hispanic families with children with asthma.<sup>77</sup> This randomized, control-pilot study was designed to investigate the effectiveness of MFAGT in asthma management and reduced ED visits. The total cost of conducting the MFAGT was \$2,295 per child and family, including staff time for pre- and post-assessment and

three one-hour module units. Economic savings in reduced visits to the ED was \$4,675 per child, and return on investment was more than 50 percent. While the study is significantly limited by its very small sample size, the findings on efficacy and cost-effectiveness are promising and merit additional study. A study by Gilmer et al. studied the pre- and post-clinical outcomes and cost-analysis of a culturally specific diabetes management program. Findings indicate that the intervention group “experienced higher total costs in the first year of the intervention and these costs were almost completely attributed to the increased use of medication and diabetes testing supplies.”<sup>78</sup> Reduced hospitalization and ED costs were not found to be statistically significant.

Determining costs for culturally competent care or interventions is far more complex than identifying costs for language access, which encompasses a specific set of services, technologies, and associated resources. At present, investigating the costs of culturally competent policies is more difficult. Moreover, there are many potential indirect costs of implementing and sustaining cultural competence within organizations and systems. These costs include the time required to plan, implement, and evaluate effective practices; support and mentor providers as they change behaviors, attitudes, and practice; conduct community engagement activities; conduct staff training and professional development activities; and routinely review research findings to assess their relevance for policy development and clinical protocols and practice. Future research must determine effective methodologies for addressing the complexity of cost issues surrounding cultural competence.

Costs as described in the literature on cultural and linguistic competence are narrowly defined. With few exceptions, costs are viewed and defined only as those incurred by the health care organization or system, whereas the cost burden to patients, their families, and communities are neither explored nor quantified.

*Cost-Benefits.* In the current social and political climate, issues of skyrocketing health care costs, quality of care, and effectiveness of service delivery are of utmost concern. However, few studies have focused on the cost-benefits of cultural and linguistic competence and these have yielded differing results.

The literature reviewed on the cost-benefits of cultural competence almost exclusively focus on the reduction of racial and ethnic health disparities. Proponents of culturally and linguistically competent care argue it will reduce overall health costs by: shifting the site of care and decreasing use of expensive ED services; enhancing use of health care services and thus decreasing delay in treatment until intervention is more

costly; and increasing the use of preventive care and improving treatment adherence, resulting in a reduction in health and mental health disparities and the costs of excess morbidity and mortality. For example, the Washington Business Group on Health (WBGH) made a rigorous business case for addressing racial and ethnic disparities.<sup>79</sup> The WBGH cited the use of culturally competent interventions and compliance with the Culturally and Linguistically Appropriate Services Standards, and described the cost burden of health disparities for employers. In 2002, “large employers assumed over \$325 billion—nearly \$200 billion of which were direct costs—in health expenditures for coronary health disease among their workforces.”<sup>80</sup>

However, the literature reviewed for this report does not directly link cultural competence and cost-benefits, nor does it quantify the projected or estimated savings of providing culturally competent care. At this time, insufficient evidence exists to draw any definitive conclusion on the cost-benefits of cultural competency in health care. There is a gap in the current literature of research that examines the impact of cultural competence and cost-benefits to patients, health care organizations, employers, and the federal government. More research is needed to examine the relationship between culturally competent care, reducing disparities and associated cost savings or benefits within health care practices, organizations and systems; among specific population groups; for specific diseases and conditions; and regarding diagnostic testing, interventions, and treatment.

Most of the literature on cost benefits centers on linguistic competence, specifically the provision of language access services such as interpretation and translation, and to a large extent it is conceptual and non-conclusive. Some promising evidence related to linguistic competence is emerging from preliminary findings on the business case from the 10 demonstration sites of *Hablamos Juntos*, a project funded by the Robert Wood Johnson Foundation to improve patient-provider communication for Latinos. This data, not yet published in peer-reviewed sources, was presented in Washington, D.C. at a conference in September 2005 and is available on the organization’s [Web site](#).

A shared finding among the *Hablamos Juntos* demonstration sites was that the two-year project period was too short to document cost-benefits of effectively providing language access for Spanish-speaking populations with limited English proficiency. Despite this problem, two demonstration sites reported several salient findings. Temple University Hospital developed a methodology for a return-on-investment model for language services.<sup>81</sup> Project *TeleSalud*, of Molina Healthcare of California, reported data for seven months on follow-up calls to users of a 24-hour bilingual language advice line staffed by nurses. The data revealed that 65 percent of callers who indicated they initially intended to

go to the ED instead had their needs met through advice from the nurse or an office visit to a physician.<sup>82</sup> No data about changes in costs of care were provided. These preliminary findings suggest the importance of further research to explore potential cost-benefits.

*Market Share.* Another proposed positive fiscal impact of cultural and linguistic competence is enhancing the revenues of providers and health plans. Health and mental health care organizations that embrace the values of cultural and linguistic competence—and incorporate them into their policies, structures, and practices—are well positioned in the current marketplace, and for the future, as the diversity of the U.S. population continues to increase. There are few studies within the current literature regarding the challenges and opportunities health care organizations must undertake to reach changing markets and provide services in an effective and culturally and linguistically competent manner.<sup>83,84</sup> In a conceptual paper, Brach and Fraser document four financial incentives: appeal to minority consumers, competition for private purchaser business, responding to public purchaser demands, and improving cost-effectiveness.<sup>85</sup>

A study by Humphreys projects that “in 2010 the combined buying power of African Americans, Asians, and Native Americans will be \$1.7 trillion—more than triple its 1990 level . . . and that these markets will grow much faster than the white market.”<sup>86</sup> Humphreys provides a statistical analysis of the buying power of these diverse groups, illustrating they represent a critical and attractive market. The authors did not find primary sources documenting market share gains or losses as a result of providing health and mental health care to culturally and linguistically diverse groups. While there is anecdotal evidence that some health care organizations are successfully building market share by targeting diverse groups, this is an area that is ripe for additional research.

*Staff Turnover.* The business case for cultural and linguistic competency involves the benefits associated with cost savings, as well as those derived from increased revenues. One area that could benefit from potential savings is staff turnover, which has significant cost implications for health and mental health care systems. Waldman, Key, Arora, and Smith conducted a study of the cost of turnover in an academic medical center comprised of a university hospital, medical school, and clinical practice sections.<sup>87</sup> The researchers found that “the average costs to hire varied from \$276 for administrative assistants to \$36,743 for attending physicians.”<sup>88</sup> They calculated the annual cost of turnover (i.e., recruitment, hiring, training, working, and termination) represented 3.4 percent to 5.8 percent of the annual operating budget, or \$17 million to \$29 million on a \$500 million base across the medical center.

Selected findings from an examination of the literature on staff turnover in the health care industry largely focus on provider dissatisfaction.<sup>89,90,91,92,93</sup> Most studies reviewed focused on provider retention in underserved communities (e.g., rural and urban settings) and those delivering care to underserved populations (i.e., culturally and linguistically diverse, poor, and uninsured) and suggest it is more difficult to recruit and retain providers for vulnerable populations and communities. No studies examined the relationship between the cultural competence of the providers or organizations and retention. One study suggests the need for a closer examination of these issues. Pathman et al.<sup>94</sup> found that relative dissatisfaction with pay and relationships with communities (measured through questions about feeling at home, a sense of belonging, being respected and strongly connected) was associated with plans to resign in nearly all physician groups. Community engagement and the knowledge, skills, and attitudes needed for effective cross-cultural interactions are key aspects of cultural competence. These findings support pursuing research on the relationship of staff turnover and cultural competence, particularly for providers serving diverse populations.

Research should attempt to link provider turnover and dissatisfaction with cultural and linguistic factors within their practices and the community as a whole. Cultural competence requires organizations have the capacity to: manage the dynamics of difference, acquire and institutionalize cultural knowledge, and adapt to the diversity and cultural contexts of communities served. Further, organizations must support their staff to acquire knowledge and skill sets and demonstrate values and attitudes that will enable them to work effectively cross-culturally.

Gaps in this literature that merit additional research include issues related to lack of provider or organizational experience in serving racially and ethnically diverse patient populations; lack of provider or organizational awareness or knowledge of the cultural beliefs and practices within a community; presence of organizational policy, structures and linkages that advance community engagement; and language and cultural barriers between providers and patients.

*Liability.* Reduced exposure to penalties and litigation is another area for potential fiscal savings. Most of the literature reviewed focuses on risk factors associated with liability regarding patient-provider communication, insuring informed consent, and failure to comply with provisions of Title VI of the Civil Rights Act 1964. An emerging set of studies is focusing on the relationship between adverse medical events and limited English speaking populations.

Failure to provide interpretation and translation services may result in liability under tort principles in several ways. For example, providers and health and mental health care organizations may discover they are liable for damages as a result of treatment in the absence of informed consent. Additionally, in some states the failure to convey treatment instructions accurately may raise the presumption of negligence on the part of the providers. Linguistic competency, as defined in this report, requires that organizations demonstrate the capacity to convey information in a manner that is easily understood. This may include the provision of interpretation services and translation of legally binding documents such as consent forms. Documented cases of litigation bear this out:

- The Office of Civil Rights negotiated a resolution agreement in 2000 with a Maine hospital, following allegations the hospital was failing to provide limited English proficiency patients with needed interpretation services.<sup>95</sup>
- A resolution agreement was reached in February 2003 in a discrimination suit filed on behalf of limited English speakers against Wyckoff Heights Medical Center and Woodhull Medical and Mental Health Center in Brooklyn, N.Y., for violation of Title VI of the Civil Rights Act and New York state statutes.<sup>96</sup>
- In a December 2000 decision, the U.S. Court of Appeals for the Second Circuit confirmed the plaintiff had a right to Russian sign language interpreter services if necessary to communicate effectively with her health care providers.<sup>97</sup>
- Carter-Pokras et al.<sup>70</sup> report a case in which \$71 million dollars was awarded to a plaintiff due to the misinterpretation of a single word.

While most malpractice suits do not result in such enormous awards, the provision of high quality interpretation services averages from \$12 to \$15 per hour for contract staff, and to \$132 per encounter for language line services, and are far less costly than the expense of litigation.

The ability to communicate well with patients has been shown to reduce the likelihood of malpractice claims. Studies document that the patients of physicians who are frequently sued had numerous complaints about communication. Physicians who had never been sued were likely to be described as concerned, accessible, and willing to communicate.<sup>98,99,100</sup> The literature continues to identify effective communication as an essential element of risk management and in avoiding malpractice suits.<sup>101,102,103,104</sup> The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) developed a database to collect and analyze root causes of serious adverse events. According to JCAHO, of the 3,548 entries in the database between January 1995 and July 2005,

communication was identified as the leading cause of harm, with 65 percent of the cases listing communication as a root cause.<sup>105</sup>

Loeb, Chang, and Divi investigated the epidemiology of adverse events attributed to problems in communication between providers and patients with limited English proficiency.<sup>106</sup> The study used retrospective and prospective data collection processes and random sampling of incident reports for English-speaking and limited-English-speaking patients. The study was conducted in three phases: review of the literature and patient safety reporting data model, collection of incident reports with identities removed, and identification of causative and contributing factors. A patient safety event taxonomy was used to classify incident reports by impact (i.e., what), type (i.e., how), domain (i.e., where, who, when), cause (i.e., why) and prevention and mitigation (i.e., corrective action). In the type category, the researchers cited significant differences between the English-speaking and limited-English-speaking patients in areas such as inaccurate or incomplete information, questionable advice or interpretation, questionable tracking and follow-up, and correct diagnosis or questionable intervention. Noted limitations include underreporting of adverse events, incident reporting systems that capture limited information on patient demographics, and a small sample size due to under-identification of patients with limited English proficiency and incident reports that cite limited English proficiency as a variable. Other researchers report similar findings. Cohen et al. conducted a case-control study in a large, academic, regional children's hospital in the Pacific Northwest from January 1, 1998 to December 31, 2003 and found that hospitalized pediatric patients with families with language barriers are more likely to experience serious medical errors than families without language barriers.<sup>107</sup>

Notwithstanding the limitations cited by the Loeb and Cohen studies, these studies provide evidence that linguistic competence within a health care organization can have a direct impact on mitigating adverse events for patients with limited English proficiency, and consequently in reducing exposure for liability associated with such events.

The literature describes cross-cultural communication as an essential area of knowledge of culturally competent providers, and a necessary skill given the diversity of the patient population within the United States.<sup>2,108,109,110</sup> Providers' ability to communicate with individuals from different cultural and social contexts requires support from health care organizations and the health care system. More research is needed to identify cultural variables that promote effective communication among patients, their families, and providers, as well as studies that make the case for reduced liability.



## Summary

Evidence to support the hypothesis proposed—that cultural and linguistic competence would result in decreased system costs—is not currently present in the literature. The research to support the business case for cultural and linguistic competence is still a work in progress. There is a noticeable absence of a broadly defined framework that includes the cost-benefits of cultural and linguistic competence to families, communities, employers, and society. Using decreased costs as one of the primary justifications for cultural and linguistic competence—without linking it to the cost-benefits for patients, health and mental health care organizations, and society over time—may indeed be misguided. Table 5 summarizes the evidence presented in this report and delineates future directions for research to strengthen the business case.

Table 5. Benefits Model: System Costs—The Business Case

	<b>Evidence Presented</b>	<b>Future Directions for Research</b>
Market share	<ul style="list-style-type: none"> <li>Few studies examine the link between cultural and linguistic competence and market share</li> </ul>	Studies that: <ul style="list-style-type: none"> <li>Quantify the fiscal impact of increasing market share of diverse populations</li> <li>Explore the impact of culturally and linguistically competent practice on market share</li> </ul>
Cost-benefits	<ul style="list-style-type: none"> <li>Most studies concentrate on cultural and linguistic competence and reducing health disparities with no evidence of impact on costs</li> </ul>	Studies that: <ul style="list-style-type: none"> <li>Quantify cost-benefits or costs savings based on actual or projected expenditures for specific ethnic/racial groups, diseases, interventions, and need for diagnostic tests</li> <li>Quantify projected cost-benefits of cultural and linguistic competence to patient, their families, and communities</li> </ul>
Reducing liability	<ul style="list-style-type: none"> <li>Most studies focus on risk factors associated with liability within the contexts of patient-provider communication, informed consent, and failure to comply with provision of Title VI of the Civil Rights Act</li> </ul>	Studies that: <ul style="list-style-type: none"> <li>Identify cultural and language variables that promote effective patient-provider communication and the relationship to reduced liability and quality of care</li> </ul>
Staff turnover	<ul style="list-style-type: none"> <li>Few studies examine cultural and linguistic factors that can be attributed to staff turnover</li> </ul>	Studies that: <ul style="list-style-type: none"> <li>Examine the relationship of cultural and linguistic competence to staff turnover and retention, and associated costs to recruit and maintain a diverse workforce</li> </ul>

Source: Authors' analysis.

There are significant gaps in the evidence for studies that describe the system costs or make the “business case” for cultural and linguistic competence. There is also a paucity of research that examines organizational capacity, specifically the existence of culturally and linguistically competent policies, structures, and practices and their impact on increasing market share and cost-benefits and reducing staff turnover and liability. Lastly, an essential element of cultural competence is the capacity of an organization to involve patients, families, and their communities in designing, implementing, and evaluating services and supports on an ongoing and systematic basis. Regrettably, none of the methodological approaches referenced patient, community, or key stakeholder participation in the research other than as subjects.

### III. CRITICAL REFLECTIONS ON THE EVIDENCE

#### **No Consistent Framework, Logic Model, or Definition of Cultural Competence**

While the term “cultural competence” may not be used in the full array of literature reviewed in this report, many articles describe its values, principles, policies, structures, and practices commensurate with those espoused in the Cross et al. definition.<sup>2</sup>

Researchers, however, do not consistently present a conceptual framework, logic model, or definition for what constitutes cultural competence. This presents a challenge when reviewing and analyzing this literature as it is difficult to discern common elements. For example, terms such as “cultural humility,” “culturally effective,” “culturally appropriate,” “culturally sensitive,” “culturally relevant,” “cross-cultural care,” and “multicultural health care” all appear in the literature and may or may not espouse conceptual frameworks, models, and practices that mirror those defined in this report.

#### **Narrow Scope of Current Studies**

While the studies reviewed for this report show promise for measuring the impact of cultural and linguistic competence on health and mental health outcomes, they represent a very narrow scope. The studies primarily focus on the service delivery level and are short-term interventions to address intermediate outcomes, such as use of screening or adherence to treatment or health promotion recommendations, and in some cases, physiological measures. None address the relationship of cultural and linguistic competence with decreased incidence of disease or decreased morbidity and mortality. The authors identify several reasons for the narrow scope:

1. Addressing the broader set of outcomes requires long-term, longitudinal studies with large samples to deal with the many complex covariates that affect outcomes;
2. Funders tend to focus on one disease or one population and are interested in immediate changes in behaviors that are likely to yield long-term positive outcomes (e.g., increases in cancer screening rates).
3. Measuring the cultural competence of the intervention is difficult, as there are no agreed-upon definitions or measures, as is measuring decreased incidence or morbidity/mortality in a defined population over time; and
4. Describing, measuring, implementing, and controlling the cultural competence of a narrowly focused and short-term intervention is far easier than studying the impact of the broader health delivery organization or system over the long term.

### **Involving Diverse Patients and Communities**

The majority of studies reviewed included patients, families, and communities in various aspects of the research process (e.g., design, sampling, instrumentation, data collection, analysis, and dissemination). However, none of the literature on system costs or business case described methodological approaches that referenced patient, community, or key stakeholder involvement. The cultural competence framework as delineated in this report requires that patients, families, and communities be systematically involved in policymaking, administration, practice, and service delivery. Research must make consistent efforts to include members of diverse populations as equal partners in designing, implementing, and evaluating health and mental health interventions that affect them and their communities. A major benefit of this research approach is informed patients and communities prepared to affect and sustain change for improved health and well-being.

### **Impact of Funding on the Evidence**

The narrow scope of the research may be a result of funding practices. Funding cycles tend to be short, particularly in comparison to the time needed to study health and mental health outcomes. Grant cycles of two to four years are not sufficient to support the kind of complex, longitudinal research needed to study these effects. As previously noted, funders tend to prefer studies that address specific, limited issues and provide results that can be translated to practice and replicated in the short-term. In addition, funding tends to be siloed by disease, limiting the kinds of collaborative efforts needed to examine the impact of organizational cultural and linguistic competence on a population of patients served across diagnoses. At the same time, the focus on topics like cancer screening reflects the special interests of funders. For example, several cancer screening studies were funded through the Susan G. Komen Breast Cancer Foundation. The funding community should consider effective approaches to financing research that will create an evidence base on health outcomes and well-being in a broad-based, collaborative, and large-scale manner.

### **The Complexity of Collecting and Analyzing Data on Race, Ethnicity, and Culture**

There are many different beliefs about the definition of race and ethnicity and its meaning within social, political, and biological contexts. In 1993, the Centers for Disease Control and Prevention (CDC) noted the lack of a conceptual model for race and ethnicity in public health research and reporting as a major obstacle to effective collection of data, and consequently, to interventions that address health disparities.<sup>111</sup> Current research largely fails to reflect the recommendations made by the CDC, specifically that researchers establish definitions of race and ethnicity; allow study populations to self-identify race and ethnicity; indicate reasons for analyzing data on race and ethnicity; and document the effects of racism.

Furthermore, the authors document the following challenges in cultural and linguistic competence research:

- Data on race and ethnicity may not be collected due to policy, legislation, or omission.
- Definition and methodology are inconsistent across data sets.
- Increasing complexity of collecting data for populations that self-identify as multi-racial or multi-ethnic.

Race and ethnicity are not the same as culture, yet are used as proxies, because there are not well-designed methodologies in the literature for measuring culture. The current state of the data undermines the ability to interpret and apply research results and document the efficacy of culturally and linguistically competence.

### **Public Policy to Support Future Research**

There are signs of progress in public policy supporting research in cultural and linguistic competency in the health and mental health care education and systems. For example, the Minority Health and Health Disparities and Education Act, enacted by the 106th Congress in 2000, established a national center on minority health and health disparities at the National Institutes of Health, which has made new funding available for research. However, more must be done to better integrate cultural and linguistic competency into minority health and health disparities research initiatives. In addition, the authors make the following policy recommendations:

1. Create dedicated funding streams within the private sector and federal, state, tribal, and territorial governments for research on cultural and linguistic competency in health and mental health care. Funders should make longer-term investments to gain the maximum benefits of outcomes over time.
2. Continue to create and adequately fund programs that will cultivate and support researchers from culturally and linguistically diverse groups.
3. Develop and implement policies that require research institutions to use participatory designs and to include culturally and linguistically diverse communities as equal partners with researchers.
4. Create public-private partnerships that can sustain the level of resources needed to support collaborative, large-scale, longitudinal studies that advance the research agenda.

5. Create dissemination strategies and forums designed to: encourage open debate within the field, provide research results in formats that are accessible and useful to diverse audiences, and engage culturally and linguistically diverse patients and communities in a meaningful manner.

## **Conclusion**

The evidence base for cultural and linguistic competence in health and mental health care is in an early developmental phase. Myriad conceptual, advocacy, and review articles are represented in the literature, including those that define issues and identify important research questions. There is also a clear emergence of empirical studies, although their numbers are far fewer. The volume and level of evidence to support the authors' hypothesis—that cultural and linguistic competence are critical components of quality and effective care in relation to health outcomes and well-being, as well as system costs—vary significantly. The literature reviewed provides numerous examples of benefits derived from the impact of cultural and linguistic competence on quality and effectiveness of care in relation to health outcomes and well-being. Evidence that cultural and linguistic competence results in decreased system costs is inconclusive and not well studied in the literature. Early results hold great promise, however, and warrant continued investment of intellectual and fiscal capital to support and sustain a robust research agenda on cultural and linguistic competence in health and mental health care.

## APPENDIX

### Methodology

This report utilized two approaches to identify the evidence and the gaps in research for cultural and linguistic competence:

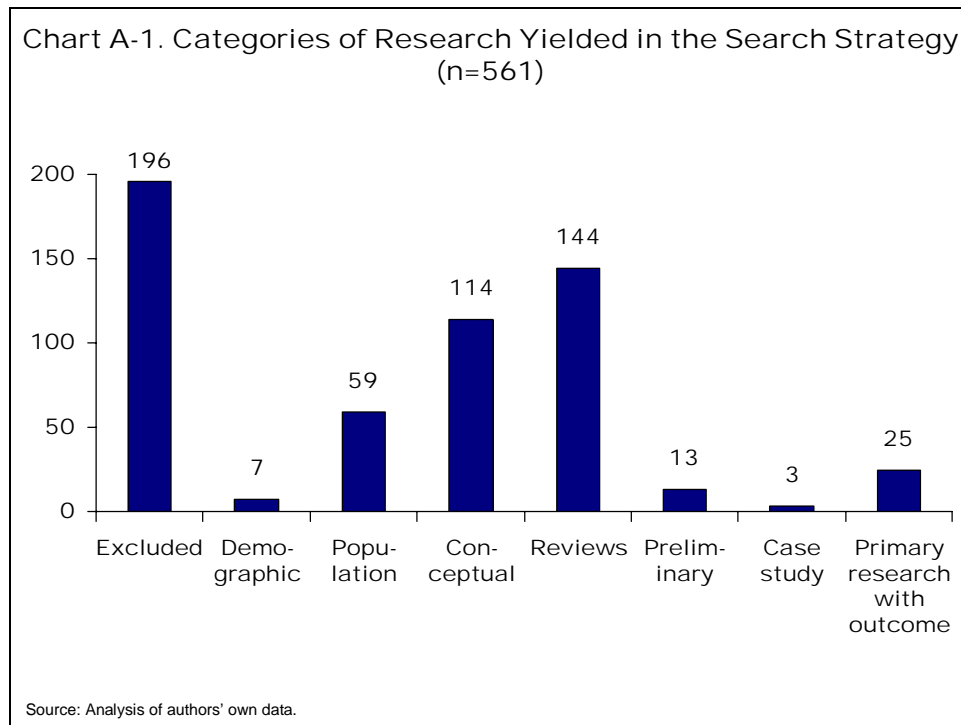
In Section I, the authors conducted a search of Medline through Pubmed from January 1995 to March 2006, limited to English and human studies, linking keyword terms to outcome-related terms: culturally appropriate, culturally sensitive, cultural belief, cultural competence, and culturally competent AND outcome OR effectiveness OR evidence. This yielded 561 articles. Exclusion criteria included the following categories: reviews, concept papers, issue briefs, policy papers, articles regarding training or preparation of workforce, population or demographic studies. Sources outside the United States and articles in fields other than health or mental health were also excluded. Twenty-five papers met the inclusion criteria and were reviewed. Inclusion criteria were studies that reported outcomes in health or well-being—not including articles that measured gains in knowledge or other intermediate outcomes that were not specifically health and mental health outcomes. For example, one of the excluded studies examined the effect of an intervention to increase parent–child communication as a way to decrease substance abuse risk among youth.

In Section II, the authors conducted an exploratory search of Medline through Pubmed, Academic Search Premier, and Health Business Elite databases through EBSCO, LexisNexis, and the Internet, based on the framework of cultural competence and the conceptual model of expected benefits. Articles and other references were identified using a range of keywords related to cultural and linguistic competence including but not limited to: culture, cultural competence, race, outcome, evidence, language access, policy, policies, organization, ethnicity, socioeconomic, language, Spanish, staff turnover, business case, workforce diversity, cost effective, language concordance, and racial concordance. Articles were also identified by using related links. This approach was used for the system costs and business case section. Due to the importance of establishing a business case, the authors used not only primary sources, but also selected reviews, technical reports, and conceptual papers.

## The Overall State of the Evidence for Health Outcomes and Well-Being

New areas of research, particularly in complex subjects like cultural and linguistic competence, experience a certain developmental trajectory. Initial entries in the professional literature may focus on reviews to identify issues for investigation and to better define the core concepts, with early studies largely qualitative in nature. In medical research, case reports are accepted as evidence to advance knowledge in a particular area. Next, researchers focus on determining valid ways to describe and measure the core concepts and variables and describe key study populations. There may also be epidemiologic studies that suggest correlations that require further examination. It is only at this point that carefully controlled intervention studies may be possible. For an area as complex as cultural and linguistic competence, it may be difficult to complete controlled studies—the “gold standard” of research studies.

The field of cultural and linguistic competence is clearly in the early stages, with a preponderance of the literature exploring and defining the concepts and issues and identifying important research questions. (See Chart A-1) It is now moving toward pilot and controlled studies to test the impact of cultural and linguistic competence on quality and effective care in relation to health outcomes and well being.



The 144 citations identified as reviews in the search results reviewed such topics as health disparities, health beliefs and behaviors of diverse populations, professional training



and development, development of modules of culturally competent interventions, health care delivery, and areas for future research. Another 114 citations were deemed to be conceptual papers. These articles included papers on the importance of cultural and linguistic competence, advocacy and position papers calling for changes in health care delivery and professional training, and discussions about cultural differences in health beliefs and behaviors and their impact on effective health care delivery. Only three of the 561 were case studies—all in the area of mental health describing adaptations of therapy approaches to address cultural and linguistic issues for a patient or small series of patients. Fifty-nine of the 561 citations were characterized as population studies, descriptive studies that identified characteristics of specific populations deemed related to health outcomes, including health beliefs and attitudes, knowledge and beliefs about specific treatment or screening procedures, rates of positive health behaviors such as use of screening or adherence with treatment, or health status of specific populations. These studies, however, did not measure the impact of culturally competent intervention on screening behaviors. Finally, seven demographic studies were identified, including studies of prevalence of disease or condition in a broadly defined group. Chart A-1 illustrates the research categories yielded in the search strategy.

### **Evidence from Experimental Design Studies**

Most studies reviewed focused on some aspect of health prevention or promotion, including enhancing adherence with lifestyle changes related to disease treatment, increasing cancer prevention behaviors, and enhancing diabetes self-management. In reviewing these studies, the authors used a set of criteria to assess whether the researchers were employing culturally and linguistically competent approaches in their interventions. These criteria are based on the cultural and linguistic competence framework and definitions described in this report and others, espoused by Bronheim and Sockalingam,<sup>112</sup> and assess whether reviewed studies implemented any or all of the following:

- identify and engage key partners from the community for which interventions were intended in design, implementation, and analysis;
- determine and define the intended recipients in terms of cultural variables;
- choose health messages, materials, and approaches that addressed audience beliefs, values, practices, trusted sources of information, and preferred ways of receiving information;
- choose delivery models that address audience preferred formats, language, sources of health information, and modes of interacting;

- take into account the social, geographic, economic and political context of the community; and
- test approaches with a sample of the intended audience and use feedback to improve approach before going to scale.

Thirteen of the reviewed studies were deemed to be preliminary reports. These were published reports of the process and outcomes of methods, such as focus groups used to build content validity for interventions, partnership-building to create culturally competent interventions, or pilot-testing the feasibility and appropriateness of interventions. These studies addressed education about cancer screening, genetic testing, organ donation, diabetes, weight control and HIV/AIDS prevention.<sup>113,114,115,116,117,118,119,120,121,122,123,124,125</sup>

## NOTES

<sup>1</sup> Leininger M. "Cultural diversities of health and nursing care." In *The Nursing Clinics of North America*. Edited by D. L. Sexton. 1977 Vol. 12, No. 1 (Philadelphia: W.B. Saunders Co.), p. 11.

<sup>2</sup> Cross T, Bazron B, Dennis K, and Isaacs M. *Towards a culturally competent system of care, A Monograph on Effective Services for Minority Children Who Are Severely Emotionally Disturbed*, 1989 Vol. I. Washington, DC: Georgetown University Child Development Center.

<sup>3</sup> Betancourt J, Green A, and Carrillo, E. [Cultural Competence in Health Care: Emerging Frameworks and Practical Approaches](#) (New York: The Commonwealth Fund, 2002).

<sup>4</sup> Lavizzo-Mourey R and Mackenzie ER. "Cultural competence: Essential measurement of quality for managed care organizations." *Annals of Internal Medicine*, May 15, 1996 124(10):919-21.

<sup>5</sup> Tervalon M and Murray-Garcia J. "Cultural humility versus cultural competence: a critical discussion in defining physician training outcomes in multicultural education." *Journal of Health Care for the Poor and Underserved*, May 1998 9(2):117-25.

<sup>6</sup> American Association for Health Education. *Definition of cultural competence*, downloaded from <http://www.aahperd.org/aahe>.

<sup>7</sup> National Alliance for Hispanic Health. *A primer for cultural proficiency: towards quality health care services for Hispanics* (Washington, D.C.: NAHH, 2001).

<sup>8</sup> National Medical Association. *National Medical Association cultural competence primer*, retrieved from <http://www.askme3.org/PFCHC/download.asp> on April 2, 2004.

<sup>9</sup> U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Development Disabilities (1989, 2000). *Amendments to P.L. 106-402—The Developmental Disabilities Assistance and Bill of Rights Act of 2000*.

<sup>10</sup> Agency for Healthcare Research and Quality. *Definition of cultural competence*, retrieved from web site <http://www.ahrq.gov/research/cultural.htm> on March 22, 2006.

<sup>11</sup> U.S. Department of Health and Human Services, Health Resources and Services Administration, Maternal and Child Health Bureau, Division of State and Community Health (2003). Maternal and Child Health Services Title V Block Grant Program, retrieved from <ftp://ftp.hrsa.gov/mchb/blockgrant/bgguidiforms.pdf> on April 13, 2004.

<sup>12</sup> U.S. Department of Health and Human Services, Office of Minority Health (2001). *National standards for culturally and linguistically appropriate services in health care: final report*, retrieved from <http://www.omhrc.gov/clas/> on April 15, 2004.

<sup>13</sup> U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration, Center for Mental Services, retrieved from <http://www.bhpr.hrsa.gov/diversity/cultcomp.htm> on April 2, 2004.

<sup>14</sup> Goode T and Jones W. *Definition of linguistic competence* (Washington, D.C.: National Center for Cultural Competence, Georgetown University Center for Child and Human Development, 2004).

<sup>15</sup> Institute of Medicine. *Health and behavior: the interplay of biological, behavioral, and societal influence* (Washington, D.C.: National Academies Press, 2001).

<sup>16</sup> Goode T and Dunne C. *Policy Brief 1: Rationale for cultural competence in primary care*, revised from Cohen & Goode (Washington, D.C.: National Center for Cultural Competence, Georgetown University Center for Child and Human Development, 1999, 2003).

<sup>17</sup> Goode T. *Cultural and linguistic competence benefits patients, their families and communities, health and mental health care providers, and systems: a conceptual model* (Washington, D.C.: National Center for Cultural Competence, Georgetown University Center for Child and Human Development, 2004).

<sup>18</sup> Betancourt JR. “Cultural competence—marginal or mainstream movement?” *New England Journal of Medicine*, Sept. 2, 2004 351(10):953-55, p. 954.

<sup>19</sup> Bronheim S and Sockalingam S. *A guide to choosing and adapting culturally and linguistically competent health promotion materials* (Washington, D.C.: National Center for Cultural Competence, Georgetown University Center for Child and Human Development, 2003).

<sup>20</sup> Dushay RA, Singer M, Weeks MR et al. “Lowering HIV risk among ethnic minority drug users: comparing culturally targeted intervention to a standard intervention.” *American Journal of Drug and Alcohol Abuse*, Aug. 2001 27(3):501-24.

<sup>21</sup> Poston WS 2nd, Haddock CK, Olvera NE et al. “Evaluation of a culturally appropriate intervention to increase physical activity.” *American Journal of Health Behavior*, July-Aug. 2001 25(4):396-406.

<sup>22</sup> Lieu TA, Finkelstein JA, Lozano P et al. “Cultural competence policies and other predictors of asthma care quality for Medicaid-insured children.” *Pediatrics*, July 2004 114(1):e102-e110.

<sup>23</sup> Brown SA, Garcia AA, Kouzekanani K et al. “Culturally competent diabetes self-management education for Mexican Americans: the Starr County border health initiative.” *Diabetes Care*, Feb. 2002 25(2):259-68.

<sup>24</sup> Davis TC, Berkel HJ, Arnold CL et al. “Intervention to increase mammography utilization in a public hospital.” *Journal of General Internal Medicine*, Apr. 1998 13(4):230-33.

<sup>25</sup> Erwin DO, Spatz TS, Stotts RC et al. “Increasing mammography practice by African American women.” *Cancer Practice*, Mar.-Apr. 1999 7(2):78-85.

<sup>26</sup> Gilmer TP, Philis-Tsimikas A, and Walker C. “Outcomes of Project Dulce: a culturally specific diabetes management program.” *Annals of Pharmacotherapy*, May 2005 39(5):817-22. E-pub. Mar 15, 2005.

<sup>27</sup> La Roche MJ, Koinis-Mitchell D, and Gualdrón L. “A culturally competent asthma management intervention: a randomized controlled pilot study.” *Annals of Allergy, Asthma & Immunology*, Jan. 2006 96(1):80-85.

<sup>28</sup> Orleans CT, Boyd NR, Bingler R et al. “A self-help intervention for African American smokers: tailoring cancer information service counseling for a special population.” *Preventive Medicine*, Sept.-Oct. 1998 27(5 Pt. 2):S61-S70.

<sup>29</sup> Yancey AK, Tanjasiri SP, Klein M et al. “Increased cancer screening behavior in women of color by culturally sensitive video exposure.” *Preventive Medicine*, Mar. 1995 24(2):142-48.

<sup>30</sup> Anderson-Loftin W, Barnett S, Bunn P et al. “Soul food light: culturally competent diabetes education.” *Diabetes Educator*, July-Aug. 2005 31(4):555-63.

<sup>31</sup> D’Eramo-Melkus G, Spollett G, Jefferson V et al. “A culturally competent intervention of education and care for black women with type 2 diabetes.” *Applied Nursing Research*, Feb. 2004 17(1):10-20.

<sup>32</sup> Ard JD, Rosati R, and Oddone EZ. “Culturally-sensitive weight loss program produces significant reduction in weight, blood pressure, and cholesterol in eight weeks.” *Journal of the National Medical Association*, Nov. 2000 92(11):515-23.

<sup>33</sup> Dushay et al. “Lowering HIV risk.” 2001.

- <sup>34</sup> Hughes CK. "Uli'eo Koa—warrior preparedness." *Pacific Health Dialog*, Sept. 2001 8(2):393-400.
- <sup>35</sup> Ikeda JP, Pham L, Nguyen KP et al. "Culturally relevant nutrition education improves dietary quality among WIC-eligible Vietnamese immigrants." *Journal of Nutrition Education and Behavior*, May-June 2002 34(3):151-58.
- <sup>36</sup> La Roche et al. "Culturally competent asthma management." 2006.
- <sup>37</sup> Newton RL Jr and Perri MG. "A randomized pilot trial of exercise promotion in sedentary African-American adults." *Ethnicity & Disease*, Autumn 2004 14(4):548-57.
- <sup>38</sup> Poston WS et al. "Evaluation of a culturally appropriate." 2001.
- <sup>39</sup> Brant JM, Fallsdown D, and Iverson ML. "The evolution of a breast health program for Plains Indian women." *Oncology Nursing Forum*, May 1999 26(4):731-39.
- <sup>40</sup> Goldsmith DF and Sisneros GC. "Cancer prevention strategies among California farmworkers: preliminary findings." *Journal of Rural Health*, 1996;12(4 Suppl):343-48.
- <sup>41</sup> Yancey et al. "Increased cancer screening." 1995.
- <sup>42</sup> Erwin et al. "Increasing mammography practice," 1999.
- <sup>43</sup> Navarro AM, Senn KL, McNicholas LJ et al. "Por La Vida model intervention enhances use of cancer screening tests among Latinas." *American Journal of Preventive Medicine*, July 1998 15(1):32-41.
- <sup>44</sup> Braun KL, Fong M, Kaanoi ME et al. "Testing a culturally appropriate, theory-based intervention to improve colorectal cancer screening among Native Hawaiians." *Preventive Medicine*, June 2005 40(6):619-27.
- <sup>45</sup> Weber BE and Reilly BM. "Enhancing mammography use in the inner city. A randomized trial of intensive case management." *Archives of Internal Medicine*, Nov. 10, 1997 157(20):2345-49.
- <sup>46</sup> Davis et al. "Intervention to increase mammography." 1998.
- <sup>47</sup> Orleans et al. "A self-help intervention." 1998.
- <sup>48</sup> Anderson-Loftin et al. "Soul food light." 2005.
- <sup>49</sup> Anderson-Loftin W, Barnett S, Sullivan P et al. "Culturally competent dietary education for southern rural African Americans with diabetes." *Diabetes Educator*, Mar-Apr. 2002 28(2):245-57.
- <sup>50</sup> Brown SA, Blozis SA, Kouzekanani K et al. "Dosage effects of diabetes self-management education for Mexican Americans: the Starr County border health initiative." *Diabetes Care*, Mar. 2005 28(3):527-32.
- <sup>51</sup> Brown et al. "Culturally competent diabetes." 2002.
- <sup>52</sup> D'Eramo-Melkus et al. "Culturally competent intervention." 2004.
- <sup>53</sup> Gilmer et al. "Outcomes of Project Dulce." 2005.
- <sup>54</sup> Vazquez IM, Millen B, Bissett L et al. "Buena Alimentacion, Buena Salud: a preventive nutrition intervention in Caribbean Latinos with type 2 diabetes." *American Journal of Health Promotion*, Nov.-Dec. 1998 13(2):116-19.
- <sup>55</sup> Wang CY and Chan SM. "Culturally tailored diabetes education program for Chinese Americans: a pilot study." *Nursing Research*, Sept.-Oct. 2005 54(5):347-53.
- <sup>56</sup> "American College of Endocrinology Consensus Statement on Guidelines for Glycemic Control." *Endocrine Practice*, Jan./Feb. 2002 8(Suppl 1):6-11.

- <sup>57</sup> D'Eramo-Melkus et al. "Culturally competent intervention." 2004, p. 12.
- <sup>58</sup> Campbell CI and Alexander JA. "Culturally competent treatment practices and ancillary service use in outpatient substance abuse treatment." *Journal of Substance Abuse Treatment*, Apr. 2002 22(3):109-19.
- <sup>59</sup> Henry Ford Health Systems, *Profiles in Diversity Journal*, retrieved March 22, 2006, from [http://www.diversityatwork.com/news/jan01/dot\\_coms\\_sa1.html](http://www.diversityatwork.com/news/jan01/dot_coms_sa1.html).
- <sup>60</sup> Borger C, Smith S, Truffer C et al. "Health spending projections through 2015: changes on the horizon." *Health Affairs*, Mar.-Apr. 2006 25(2):w61-w73. Epub Feb. 22, 2006.
- <sup>61</sup> U.S. Census Bureau, Race and Hispanic Origin, available at <http://www.census.gov>.
- <sup>62</sup> U.S. Census Bureau, Census 2000, Summary File 3, Tables P 19, PCT 14 and PCT 14, available at <http://www.census.gov>.
- <sup>63</sup> Bennett JA, Fleming ML, Mackin L et al. "Recruiting ethnically diverse nurses to graduate education in gerontological nursing. Lessons from a successful program." *Journal of Gerontological Nursing*, Mar. 2003 29(3):17-22.
- <sup>64</sup> Guhde JA. "English-as-a-second language (ESL) nursing students: strategies for building verbal and written language skills." *Journal of Cultural Diversity*, Winter 2003 10(4):113-17.
- <sup>65</sup> Martin-Holland J, Bello-Jones T, Shuman A et al. "Ensuring cultural diversity among California nurses." *Journal of Nursing Education*, June 2003 42(6):245-48.
- <sup>66</sup> Stanhope V, Solomon P, Pernell-Arnold A et al. "Evaluating cultural competence among behavioral health professionals." *Psychiatric Rehabilitation Journal*, Winter 2005 28(3):225-33.
- <sup>67</sup> Office of Management and Budget. *Report to Congress. Assessment of the total benefits and costs of implementing Executive Order No. 13166: Improving access to services for persons with limited English proficiency*. (Washington, D.C.: OMB, 2002). Downloaded from <http://www.usdoj.gov/crt/cor/lep/omb-lepreport.pdf> on Mar. 22, 2006.
- <sup>68</sup> Chang PH and Fortier JP. "Language barriers to health care: an overview." *Journal of Health Care for the Poor and Underserved*, 1998 9(Suppl):S5-S20.
- <sup>69</sup> Ku L and Flores G. "Pay now or pay later: providing interpreter services in health care." *Health Affairs*, Mar.-Apr. 2005 24(2):435-44.
- <sup>70</sup> Carter-Pokras O, O'Neill MJF, Cheanvechai V et al. "Providing linguistically appropriate services to persons with limited English proficiency: a needs and resources investigation." *American Journal of Managed Care*, Sept. 2004 10 (Spec. Iss.):SP29-SP36.
- <sup>71</sup> Brach C, Fraser I, and Paez K. "Crossing the language chasm." *Health Affairs*, Mar.-Apr. 2005 24(2):424-34.
- <sup>72</sup> Jacobs EA, Shepard DS, Suaya JA et al. "Overcoming language barriers in health care: costs and benefits of interpreter services." *American Journal of Public Health*, May 2004 94(5):866-69.
- <sup>73</sup> *Ibid*, p. 867.
- <sup>74</sup> Bernstein J, Bernstein E, Dave A et al., "Trained medical interpreters in the emergency department: effects on services, subsequent charges, and follow-up." *Journal of Immigrant Health*, Oct. 2002 4(4):171-76.
- <sup>75</sup> *Ibid.*, p. 173.
- <sup>76</sup> *Ibid.*, p. 171.
- <sup>77</sup> La Roche et al. "Culturally competent asthma management." 2006.

<sup>78</sup> Gilmer et al. "Outcomes of Project Dulce." 2005, p. 820.

<sup>79</sup> National Business Group on Health. *Why companies are making health disparities their business: the business case and practical strategies* (Washington, D.C.: NBGH, 2003). Prepared for the Office of Minority Health, Office of Public Health and Science. Downloaded on Mar. 22, 2006, from [http://www.wbgh.com/prevention/et\\_reducingdisparities.cfm](http://www.wbgh.com/prevention/et_reducingdisparities.cfm).

<sup>80</sup> Ibid., p. 11.

<sup>81</sup> Soltoff C. *Temple University health and hospital system: business case analysis. financial outcomes progress summary*. Retrieved from <http://www.hablamosjuntos.org> (lessons learned) on Mar. 22, 2006.

<sup>82</sup> Bernadett M. Molina Healthcare, Inc. *Telesalud: a direct access to language services model, business case considerations. Financial outcomes progress summary*. Retrieved from <http://www.hablamosjuntos.org> (lessons learned) on Mar. 22, 2006.

<sup>83</sup> Stevenson PB, Elzey TJ, and Romagoza J. "Building market share in the Latino community." *Healthcare Financial Management*, May 2002 56(5):68-72.

<sup>84</sup> Brach C and Fraser I. "Reducing disparities through culturally competent health care: an analysis of the business case." *Quality Management in Health Care*, Summer 2002 10(4):15-28.

<sup>85</sup> Ibid.

<sup>86</sup> Humphreys JM. "The multicultural economy 2005: America's minority buying power." *Georgia Business and Economic Conditions*, 3rd Quarter 2005 65(3), p. 2. The Selig Center for Economic Growth, Terry College of Business, The University of Georgia.

<sup>87</sup> Waldman JD, Kelly F, Arora S et al. "The shocking cost of turnover in health care." *Health Care Management Review*, Jan.-Mar. 2004 29(1):2-7.

<sup>88</sup> Ibid., p. 4.

<sup>89</sup> Ellenbecker CH. "A theoretical model of job retention for home health care nurses." *Journal of Advanced Nursing*, Aug. 2004 47(3):303-10.

<sup>90</sup> Pathman DE, Williams ES, and Konrad TR. "Rural physician satisfaction: its sources and relationship to retention." *Journal of Rural Health*, Fall 1996 12(5):366-77.

<sup>91</sup> Pathman DE, Konrad TR, Williams ES et al. "Physician job satisfaction, dissatisfaction, and turnover." *Journal of Family Practice*, July 2002 51(7):593.

<sup>92</sup> Weil TP. "Attracting physicians to underserved communities: the role of health networks." *Frontiers of Health Services Management*, Winter 1998 15(2):3-26.

<sup>93</sup> Williams ES, Linzer M, Pathman DE et al. "What do physicians want in their ideal job?" *Journal of Medical Practice Management*, Jan-Feb 2003 18(4):179-83.

<sup>94</sup> Pathman et al. "Physician job satisfaction," 2002.

<sup>95</sup> Office of Civil Rights. *Resolution Agreement between the Office for Civil Rights (HHS) and Maine Medical Center (January 2001)*. Retrieved from the National Health Law program website at <http://www.healthlaw.org>. Language Access Resources, on Mar. 22, 2006.

<sup>96</sup> Villazor RC. "Community lawyering: an approach to addressing inequalities in access to health care for poor, of color, and immigrant communities." *New York University Journal of Legislation and Public Policy*, Fall 2005 8(1):32-65.

<sup>97</sup> *Freydel v. New York Hospital*, U.S. Court of Appeals for the Second Circuit, 2000. Printed from LexisNexis Mar. 8, 2006.

<sup>98</sup> \_\_\_\_\_. "Poor communication with patients can get you sued". *Physicians Risk Management Update*, 1995 1(1):1.

<sup>99</sup> Clements B. "Talk is cheaper than three extra office visits. Good communication can save time and money in managed care." *American Medical News*, Jan. 1996 39(4):17.

<sup>100</sup> Virshup BB, Oppenberg AA, and Coleman MM. "Strategic risk management: reducing malpractice claims through more effective patient-doctor communication." *American Journal of Medical Quality*, July-Aug. 1999 14(4):153-59.

<sup>101</sup> Nye LG. "Office staff savvy: quality staff-patient communications as a loss prevention strategy." *Journal of Medical Practice Management*, July-Aug. 2001 17(1):21-24.

<sup>102</sup> Weiss R. "Physicians' office staff influence patient choice and satisfaction." *Health Progress*, Sept.-Oct. 2001 82(5):10.

<sup>103</sup> Clarke JR, Marella W, Johnston J et al. "A surgeon who CARES can be safer." *American Journal of Surgery*, Sept. 2005 190(3):356-58.

<sup>104</sup> Vukmir RB. "Medical malpractice: managing the risk." *Medicine and Law*, 2004 23(3):495-513.

<sup>105</sup> See Joint Commission on Accreditation of Healthcare Organizations, "Sentinel Event Statistics, June 30, 2006," available at <http://www.jointcommission.org/SentinelEvents/Statistics/>.

<sup>106</sup> Loeb JM, Chang A, and Divi C. "Understanding adverse events in patients with limited English proficiency." Center for Patient Safety Research, Joint Commission on Accreditation of Healthcare Organizations. Presentation at AcademyHealth's 2005 Annual Research Meeting, Boston, Mass. Retrieved Mar. 8, 2006, from <http://www.academyhealth.org/2005/ppt/divi.ppt>.

<sup>107</sup> Cohen AL, Rivara F, Marcuse EK et al. "Are language barriers associated with serious medical events in hospitalized pediatric patients?" *Pediatrics*, Sept. 2005 116(3):575-79.

<sup>108</sup> Ackerman S, Tresolini C, Mutha S et al. *Culture and communication in health care: a curriculum for teaching culturally appropriate care to health professionals* (Chapel Hill, N.C.: University of North Carolina at Chapel Hill, 2000).

<sup>109</sup> Carrese JA and Rhodes LA. "Bridging cultural differences in medical practice. The case of discussing negative information with Navajo patients." *Journal of General Internal Medicine*, Feb. 2000 15(2):92-96.

<sup>110</sup> Napoles-Springer AM, Santoyo J, Houston K et al. "Patients' perceptions of cultural factors affecting the quality of their medical encounters." *Health Expectations*, Mar. 2005 8(1):4-17.

<sup>111</sup> Centers for Disease Control and Prevention. "Use of race and ethnicity in public health surveillance: summary of the CDC/ATSDR workshop." *Morbidity and Mortality Weekly Report*, 1993 142(RR-10):1-17.

<sup>112</sup> Bronheim and Sockalingam. *A guide to choosing*. 2003.

<sup>113</sup> Baty BJ, Kinney AY, and Ellis SM. "Developing culturally sensitive cancer genetics communication aids for African Americans." *American Journal of Medical Genetics, Part A*, Apr 15, 2003 118(2):146-55.

<sup>114</sup> Bouey PD and Druan BE. "The Ahalaya case-management program for HIV-infected American Indians, Alaska Natives, and Native Hawaiians: quantitative and qualitative evaluation of impacts." *American Indian and Alaska Native Mental Health Research*, 2000 9(2):36-52.

<sup>115</sup> Brown SA and Hanis CL. "Culturally competent diabetes education for Mexican Americans: the Starr County study." *Diabetes Educator*, Mar.-Apr. 1999 25(2):226-36.



- <sup>116</sup> Callender CO, Miles PV, and Hall MB. “National MOTTEP: educating to prevent the need for transplantation. Minority Organ Tissue Transplant Education Program.” *Ethnicity & Disease*, Winter 2002 12(1):S1-34–S1-37.
- <sup>117</sup> Callender CO, Hall MB, and Branch D. “An assessment of the effectiveness of the MOTTEP model for increasing donation rates and preventing the need for transplantation—adult findings: program years 1998 and 1999.” *Seminars in Nephrology*, July 2001 21(4):419-28.
- <sup>118</sup> Cardemil EV, Kim S, Pinedo TM et al. “Developing a culturally appropriate depression prevention program: the family coping skills program.” *Cultural Diversity & Ethnic Minority Psychology*, May 2005 11(2):99-112.
- <sup>119</sup> Cervantes RC, Duenas N, Valdez A et al. “Measuring violence risk and outcomes among Mexican American adolescent females.” *Journal of Interpersonal Violence*, Jan. 2006 21(1):24-41.
- <sup>120</sup> Chan EC, Haynes MC, O’Donnell FT et al. “Cultural sensitivity and informed decision making about prostate cancer screening.” *Journal of Community Health*, Dec. 2003 28(6): 393-405.
- <sup>121</sup> Conner RF, Takahashi L, Ortiz E et al. “The Solaar HIV prevention program for gay and bisexual Latino men: using social marketing to build capacity for service provision and evaluation.” *AIDS Education and Prevention*, Aug. 2005 17(4):361-74.
- <sup>122</sup> Dannelly JM, Kicklighter JR, Hopkins BL et al. “Recommendations for nutrition interventions with overweight African-American adolescents and young adults at the Atlanta Job Corps Center.” *Journal of Health Care for the Poor and Underserved*, Feb. 2005 16(1):111-26.
- <sup>123</sup> Erwin DO, Johnson VA, Feliciano-Libid L et al. “Incorporating cultural constructs and demographic diversity in the research and development of a Latina breast and cervical cancer education program”. *Journal of Cancer Education*, Spring 2005 20(1):39-44.
- <sup>124</sup> McKenzie SB, O’Connell J, Smith LA et al. “A primary intervention program (pilot study) for Mexican American children at risk for type 2 diabetes.” *Diabetes Educator*, Mar.-Apr. 1998 24(2):180-87.
- <sup>125</sup> Resnicow K, Wallace DC, Jackson A et al. “Dietary change through African American churches: baseline results and program description of the eat for life trial.” *Journal of Cancer Education*, Fall 2000 15(3):156-63.

## RELATED PUBLICATIONS

Publications listed below can be found on The Commonwealth Fund's Web site at [www.cmwf.org](http://www.cmwf.org).

---

[\*The Role and Relationship of Cultural Competence and Patient-Centeredness in Health Care Quality\*](#) (October 2006). Mary Catherine Beach, Somnath Saha, and Lisa A. Cooper.

[\*Improving Quality and Achieving Equity: The Role of Cultural Competence in Reducing Racial and Ethnic Disparities in Health Care\*](#) (October 2006). Joseph R. Betancourt.

[\*Cultural Competency and Quality of Care: Obtaining the Patient's Perspective\*](#) (October 2006). Quyen Ngo-Metzger, Joseph Telfair, Dara Sorkin, Beverly Weidmer, Robert Weech-Maldonado, Margarita Hurtado, and Ron D. Hays.

[\*Taking Cultural Competency from Theory to Action\*](#) (October 2006). Ellen Wu and Martin Martinez.

[\*Obtaining Data on Patient Race, Ethnicity, and Primary Language in Health Care Organizations: Current Challenges and Proposed Solutions\*](#) (August 2006). Romana Hasnain-Wynia and David W. Baker. *Health Services Research*, vol. 41, no. 4, pt. 1 (*In the Literature* summary).

[\*Promising Practices for Patient-Centered Communication with Vulnerable Populations: Examples from Eight Hospitals\*](#) (August 2006). Matthew Wynia and Jennifer Matiassek.

[\*Patients' Attitudes Toward Health Care Providers Collecting Information About Their Race and Identity\*](#) (October 2005). David W. Baker, Kenzie A. Cameron, Joseph Feinglass et al. *Journal of General Internal Medicine*, vol. 20, no. 10 (*In the Literature* summary).

[\*Resident Physicians' Preparedness to Provide Cross-Cultural Care\*](#) (September 7, 2005). Joel S. Weissman, Joseph R. Betancourt, Eric G. Campbell et al. *Journal of the American Medical Association*, vol. 294, no. 9 (*In the Literature* summary).

[\*Providing Language Services in Small Health Care Provider Settings: Examples from the Field\*](#) (April 2005). Mara Youdelman and Jane Perkins.

[\*Who, When, and How: The Current State of Race, Ethnicity, and Primary Language Data Collection in Hospitals\*](#) (May 2004). Romana Hasnain-Wynia, Debra Pierce, and Mary A. Pittman.

[\*Insurance, Access, and Quality of Care Among Hispanic Populations\*](#) (October 2003). Michelle M. Doty.

[\*Providing Language Interpretation Services in Health Care Settings: Examples from the Field\*](#) (May 2002). Mara Youdelman and Jane Perkins.