CULTURAL FRAMING OF DIABETES FROM A PUBLIC HEALTH PERSPECTIVE: A COMPARATIVE CONTENT ANALYSIS

A Thesis presented to the Faculty of the Graduate School

at the University of Missouri-Columbia

In Partial Fulfillment of the Requirements for the Degree

Master of Arts

By
NATALIE FIELEKE

Shelly Rodgers, Ph. D., Thesis Supervisor

AUGUST 2007

The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

CULTURAL FRAMING OF DIABETES FROM A PUBLIC HEALTH PERSPECTIVE: A COMPARATIVE CONTENT ANALYSIS

presented by Natalie Fieleke,

a candidate for the degree of master of arts in journalism,

and hereby certify that, in their opinion, it is worthy of acceptance.

_____

Professor Shelly Rodgers

_____

Professor Michael Grinfeld

_____

Professor María Len-Rios

_____

Professor Kristofer Hagglund

ACKNOWLEDGEMENTS

I would like to thank my thesis chair, Professor Shelly Rodgers, for inspiring me to investigate a practical problem and for allowing me to apply a communication theory she has helped to develop to my investigation. The year and a half of academic guidance as well as encouragement that she has contributed to this project has been invaluable. I would also like to thank the other members of my committee, Michael Grinfeld, María Len-Ríos, and Kristofer Hagglund for contributing their unique perspectives to this thesis.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

CULTURAL FRAMING OF DIABETES FROM A PUBLIC HEALTH PERSPECTIVE: A COMPARATIVE CONTENT ANALYSIS

Dr. Shelly Rodgers, Thesis Supervisor

ABSTRACT

This content analysis of 161 newspaper articles identified public health facts and socio-cultural schema within two Los Angeles County newspapers, *La Opinión* and the *Daily News of Los Angeles*. It extended Rodgers and Thorson's (2001) crime and violence-focused "public health model of reporting" by applying it to stories about diabetes in Latino and mainstream media. A two-tailed independent samples t-test showed a significant difference in the following public health facts at the .05 level: diabetes disparities, risk factors, prevention, and narrative consequences. The Spanish-language paper surpassed the mainstream paper in its inclusion of all public health facts. A two-tailed independent samples t-test showed the Spanish paper more frequently included socio-cultural schemata relating to social self as well as stress as a disease instigator. *La Opinión's* inclusion of few socio-cultural schema is consistent with previous research suggesting that Latino newspapers seldom tailor health content to their specific audience (Vargas & dePyssler, 1999; Mercado-Martinez, Robles-Silva, Moreno-Leal & Franco-Almazan, 2001; Subervi-Veléz, 1999). *La Opinión's* inclusion of a larger number of public health facts as compared to the mainstream paper reinforces previous researchers' (Stryker, Emmons and Viswanath, 2007) findings of ethnic news media as educators as well as advocates (Porter, 2003) for their audience's health.

The Media's Role in Communicating About Diabetes

U.S. Latinos' perceptions of diabetes and the information they receive from the media about their disease have a potentially great impact on their health. Diabetes among Latino communities is a public health concern, but no previous studies have focused on the coverage of this chronic disease in the U.S. Hispanic print media, which has a potential audience of 47,756 thousand U.S. Hispanics by 2010 (U.S. Census Bureau, 2004).

According to the 2005 National Healthcare Disparities Report, diabetes has become an epidemic regardless of ethnicity and class. However, Hispanics are the most likely to have or die from the chronic disease in which the body does not properly produce or use insulin, a hormone needed to convert sugar, starches and food to energy (U.S. Department of Health and Human Services, 2005). Mexican-Americans, a subset of the U.S. Hispanic ethnicity, were twice as likely to be diagnosed with diabetes between 1999-2000 and lost 41 percent more potential years of life between 1999-2000 as non-Hispanic whites (CDC, 2004; Office of Minority Health, 2004). Stopping the rise of diabetes cases has become a national public health goal. According to "Healthy People 2010," the U.S. government aims to both eliminate racial health care disparities and reduce the cases of diabetes diagnosed by 2010 (U.S. Department of Health and Human Services, 2002). Health care officials and providers working to achieve that goal also recognize that Latinos are more accepting of information about diabetes when health care providers culturally tailor their educational approach and intervention (Brown, Garcia, Kouzekanani, & Hanis, 2002; Coronado, Thompson, Tejeda & Godina, 2004; Thackeray

& Nieger, 2003; Vincent, Clark, Marquez-Zimmer & Sanchez, 2006; Zaldivar & Smolowitz, 1994).

But cultural intervention and communication need not stop at the level of health care policymakers and providers. Now more than ever, news media are a source of information for patients, the medical community and policymakers on a range of topics from cancer screening to preventing heart disease (Stryker, Emmons, Viswanath, 2007; Campion, 2004). Although Hispanics are less likely to have access to recommended services when it comes to diagnosis and treatment of diabetes (2005 National Healthcare Disparities Report), 90 percent of Latino households reported having access to Spanish-language network television (Subervi-Veléz, 1999) and nearly 70 percent of Hispanics report reading Spanish-language newspapers at least occasionally (Acevedo-Franco, 2005). Vargas and dePyssler's (1999) report on U.S. Latino newspapers as health communication resources identifies these print media as a "powerful outreach tool" for health professionals (p. 190). Additionally, staff at ethnic newspapers might view themselves as more accountable for their readers' health. Stryker, Emmons and Viswanath's (2007) comparison of ethnic and mainstream media's coverage of cancer-related stories concluded that ethnic news media displayed a greater commitment to publishing messages of prevention and education than their mainstream counterparts.

Although researchers recognize the news media's capability and desire to help audiences make sense of health information, only recently have they begun to investigate exactly how reporters might systematically include facts in their stories to more effectively promote readers' increased understanding of public health issues. Rodgers and

Thorson's (2001) research, which suggests that newspaper reporters systematically include public health facts in their stories to better place an event or disease in context, is a foundational theory for the deeper analysis of story content. This theory, the public health model of reporting, suggests that facts of perspective, monetary costs and consequences helps give readers a sense of the disease and take action against it.

Given the danger that diabetes poses especially for ethnic populations such as Hispanics and the potential role the media can play in informing and educating citizens about this disease, exploring how this chronic disease is framed could benefit both journalists and their audiences. For journalists whose job it is to inform readers of the facts, including health facts, this could possibly provide a model for more systematic, better coverage that is also more understandable and tailored to readers. The purpose of this research is to examine how the media represent diabetes in Hispanic newspapers. The method is a content analysis. Specifically, the present study examines how diabetes is framed as a public health concern and how frequently Latinos' perceptions of diabetes, identified in public health literature, are included in newspaper articles. For this study, the researcher uses the descriptors "Hispanic" and "Latino" interchangeably when referring to people of Latin American decent.

Literature Review

Framing Health for Increased Understanding

Public health officials are making progress in identifying ways to make diabetes management easier for different ethnic groups, but it is unclear whether public health facts or culturally relevant information is being incorporated into U.S. Latino

newspapers' reporting about the disease. Research indicates that the key to making information understandable and actionable is to make the issue relevant to the audience. Kickbush and Nutbeam (1998) suggest that the root of motivating people to health literacy or to "gain access to, understand, and use information in ways that promote and maintain good health" lies in framing issues in ways most easily understood and acted on by the target audience (p.10). To conceptualize framing in this context, this study uses Entman's (1993) foundational definition:

> To frame is to select some aspects of a perceived reality and make them more salient in communicating text, in such a ways as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation (p. 51).

But framing theory is a large concept, and for the purpose of this study, greater specificity and immediacy is needed.

Further clarifying what comprises a frame, Scheufele (2004) disagreed with those who suggest schema and frames are identical (Entman, 1993; Gitlin, 1980; Valkenburg et al., 1999) by distinguishing between the two components and then uniting them in a conceptual definition. While a schema "refers to an object or to a relation between objects" (p. 404) a frame is a "configuration of schema-knots, repeatedly activated and therefore strongly connected" that "stresses certain objects and relations" (p. 405). Similarly, Dahinden updated the concept of framing and the terminology in which framing can be discussed in the (2005) paper presentation at the International Communication Association. This definition suggests that frames are "patterns of interpretation … that can be applied to any issue" (Dahinden, 2005, pp. 1-2). Within

journalistic writing, frames are not the issues themselves but rather frames help to organize information about issues in a simple way by identifying the problem, interpreting its cause and making an evaluation or recommendation (Dahinden, 2005).

Researchers have used framing theory to both quantify and describe how the news media cover public health issues such as chronic and epidemic diseases. Clarke and Everest (2006) used an analysis of frames in their study of articles about cancer in Canadian print media, determining that the frame of allopathic medicine, (traditional medical care performed by a medical doctor), and within that medical treatment/detection and research, dominated the articles. Luther and Zhou (2005) used already established frames from previous studies of health and disease to discuss ways in which the SARS epidemic was covered by a Chinese as compared to a U.S. newspaper. Likewise, Saguy and Riley (2005) applied framing theory to their study of obesity as an epidemic within consumer publications.

Journalists may select different frames to use in their news stories, which in turn can be interpreted in different ways by their audiences. Clausen (2003) questioned whether journalists from different countries 'domesticated' news to fit into their audiences' cultural framework (p. 106). She found that U.S., European, Asian, and Arab broadcast networks all shaped an their coverage of the September 11 attack to include the personal stories of their own victims and worded news stories to be compatible with home viewers' emotional and cognitive framework.

Shen (2004) noted that audiences are more impacted by media frames consistent with their own ways of making sense of the world. When testing the framing effects of

political ads on experiment participants' thought processes, Shen found that those who already had a framework for interpreting political information responded more strongly to the character and issue frames in the ads by listing more thoughts. Although the present study attempts to identify the *presence* of frames rather than understanding their *effects* on audiences, the theory is important because research suggests framing may influence audiences' responses to matters of social and political interest (Zaller, 1992; Kahneman, Tversky, 1984; Iyengar, 1991).

The Public Health Model of Reporting

While previous research has developed many possible frames that were present in health news stories, little attention has been given to framing from a public health perspective, the perspective of the present research. Thorson et al. (2003) define a public health model of news in terms of the central feature being "death and injury are seen as preventable rather than inevitable" (p. 53). Rodgers and Thorson's (2001) content analysis of frames of crime and violence in the *Los Angeles Times* provides a conceptual foundation for a public health perspective of reporting, which is also useful for categorizing facts in a content analysis of newspaper stories. Researchers developed five categories to examine whether crime stories contained public health facts, including: solutions; economic impact and monetary costs; psychological impact; causes and risk factors; and consequences (Rodgers and Thorson, 2001). Although Thorson et al. (2003) investigate the use of the public health model of reporting on stories about crime and violence the public health model of reporting (PHMR) has been extended to study the communication of disease such as cancer (see Rodgers et al., 2007). In Rodgers et al.

(2006) study, public health facts are defined as "health related information that is disseminated to the public with the intent to inform and/or influence health behaviors" (p. 6-7). In this study, key public health facts are perspective, monetary costs, and consequences. This study will further the application of this theory within the realm of reporting on issues of health and disease, specifically diabetes, which is a public health issue for Latino communities.

Understanding Diabetes

Framing theory suggests writers' consideration of culture and public health news frames may have an influence on story formation, but readers' cultural backgrounds can also greatly affect the way they view and use health information (Brown, Kouzekanani, Garcia & Hanis, 2002; Coronado, Thompson, Tejeda & Godina, 2004; Murguía, Zea, Reisen & Peterson 2000; Vincent, Clark, Marquez-Zimmer, & Sanchez, 2006; Zaldívar & Smolowitz, 1994).

Health care providers have expressed frustration over non-compliant Mexican American patients' lack of diabetes self-management, which can lead to these patients' disease progressing more quickly than other racial groups (Brown, 2002; Vincent et al., 2006). But it has taken public health officials time to research and successfully apply culturally sensitive explanations of disease backed by personally relevant ways for patients to manage their disease (Brown et al., 2002; Vincent et al., 2006). By the 1990s, public health officials recognized proclaimed diabetes as a serious problem within Latino communities and began researching how to communicate information about the disease in culturally appropriate ways (Coronado et al., 2004; Vincent et al., 2006; Murguía et al.,

2000; Loewe & Freeman, 2000; Brown et al., 2002; Zaldivar & Smolowitz, 1994). Coronado (2004) suggested that Hispanics of Mexican origin think about and experience disease differently from other population subgroups. As a basis for examining how diabetes is presented in the media, first it is helpful to understand Mexican Americans' perceptions of the chronic disease.

Brown et al. (2002) defined culturally competent interventions as those that appeal to Mexican American audiences in terms of language, diet, social emphasis, family participation, and incorporation of cultural health beliefs. Vincent advised that culturally competent diabetes interventions would incorporate the themes identified by Mexican Americans themselves as most important: stress management techniques, family, and diet modification (2006). Others (e.g., Loewe & Freeman, 2000) noted the importance of recognizing patients' social person, or how patients view their disease within the context of their cultural community. Coronado et al. (2004) discussed the importance of accepting that differing worldviews coexist for more successful diabetes management. In Coronado et al.'s (2004) qualitative study of themes related to Mexican Americans' diabetes beliefs, praying or going to church was seen as a treatment for extreme fright, a perceived instigator of the disease. These definitions of cultural competency emphasize the need for health care providers and communicators to understand their audiences' perspective of the disease to execute the most effective communication and disease intervention.

In effect, explanatory models that physicians have used to clinically describe the disease often are not the models that seem most significant to African Americans, Latinos

and Caucasians (Loewe & Freeman, 2000) and specifically Mexican Americans (Vincent et al., 2006). For instance, researchers used in-depth interviews with diabetic patients and health care professionals to highlight the groups' differences in understanding five categories: disease origin, symptoms/signs, factors influencing blood sugar, ideal blood sugar and patients' future outcomes (Loewe & Freeman, 2000). The findings showed that physicians were concerned by the larger underlying processes accompanying their diagnosis of diabetes, whereas patients were more concerned with outward evidence of the disease that related to their appearance, independence and social existence. According to the research, doctors tried to emphasize the chronic and genetic nature of the disease and felt discouraged at the cognitive disconnect when patients reported being able to identify a specific moment in time their diabetes began, such as taking a certain type of medication or being in an intense emotional state (Loewe & Freeman, 2000; Coronado et al., 2004; Jezewski & Poss, 2002).

While some research shows a disconnect between Hispanics and health care professionals' understanding of diabetes, research also shows that culture, specifically, strong folk belief systems, can parallel and sometimes coexist with Mexican Americans' understanding of diabetes (Jezewski & Poss, 2002; Coronado, 2004; Zaldivar & Smolowitz, 1994). Both Jezewski and Coronado's interviews with focus group participants concluded that Mexican Americans "move easily between two health systems," using aloe vera and prickly pear cactus as remedies for lowering blood sugar levels while following healthcare professionals' recommendations. Similarly, Brown et al. (2002) and Najm, Reinsch and Hoehler (2003) noted that about 58 percent of Mexican

Americans use natural therapies. Researchers recognize danger in the fact that the majority of Mexican American patients with diabetes do not tell their physicians about these extra therapies (Najm et al., 2003) but also note that intervention programs should recognize and build on aspects of each belief system. This study extends these findings to suggest that newspaper reporters' communication of health issues also potentially acknowledges co-existing worldviews in articles about diabetes.

Health Coverage

Patients have the tendency not to comply with diabetes self-management because the information does not relate to their experience and the steps needed for self-management are often difficult to take within their cultural environment (Brown et al., 2002; Coronado et al., 2004; Loewe & Freeman, 2000; Jezewski & Poss, 2002). Recognizing this, health professionals are making an effort to increase the relevance of health information presented to patients by making it more personally significant from the patient's perspective (Brown et al., 2002; Coronado, 2004; Murguía, 2000; Vincent et al., 2006;). This approach is key, because as Entman defines it, message saliency, or how noticeable and meaningful as message is, determines if people remember the information, change their way of thinking or use the information in their lives (1989). Translating the concept to this present study, Vargas and dePyssler (1999) investigated the saliency of health information in newspapers from six major Latino news markets, as compared to the same newspapers' coverage of crime, immigration and education. Researchers collected data through quantitative content analysis which included: amount of coverage devoted to health, amount of coverage devoted to ethnic/folk health beliefs, frequency in

which Latino newsmakers appeared in stories and frequency in which Latino papers' staffs addressed "Latino concerns" compared to stories from other sources (p. 194). Keeping in mind the qualities specific to Spanish language newspapers, researchers have noted the important, but under-recognized, opportunity media outlets possess for informing readers of health issues (Vargas & dePyssler, 1999; Brodie, 1999). Despite the opportunity that Latino media have to function as a health information resource, researchers agree it could better serve ethnic communities with information that is relevant to their lives and their health (Vargas & dePyssler, 1999; Mercado-Martinez, Robles-Silva, Moreno-Leal & Franco-Almazan, 2001; Subervi-Veléz, 1999). Brodie et al.'s (1999) national telephone survey observed that Latinos rely heavily on mainstream English media for information about health and health care, rather than media tailored for them. However, interviewees also indicated English-language media was not meeting their needs. Among varied ethnicity participants, Latinos were most likely to say the media did not present enough information for parents about how to discuss hard-to-approach topics such as AIDS, violence or drugs with their children. This disparity is an important consideration if journalists are sincerely seeking to provide readership with useful information and if Latino newspapers are to continue their historical role of aiding newcomers and advocating for their wellbeing.

Although Brodie et al. (1999) directly asked Latinos what they thought about media health coverage, researchers more commonly relied on content analysis to first determine the quantity and nature of health coverage in the Latino press (Vargas & dePyssler, 1999; Mercado-Martinez et al., 2001). Vargas and dePyssler (1999) evaluated

health news coverage in six major markets, finding that health stories focused most frequently on symptoms and treatments, and less on issues of disease prevention and public health. Many stories lacked bylines and included sources from the health industry or scientific medical community, leading researchers to hypothesize that newsrooms operating on limited budgets often used industry press releases. More specific to this study, only 10 out of 1,111 stories contained Latinos featured anecdotally or as spokespersons and the majority of stories referred to readers "as consumers of health care services and products, rather than as citizens" (p. 201). Health information found in Latino publications was tailored *for* the target readership and "directly relevant to the Latino experience" in about only 10 percent of the stories. Mercado-Martinez et al.'s (2001) findings from a content analysis of chronic disease coverage in the Mexican press reinforced those of Vargas and dePyssler (1999). The findings showed that articles more frequently focused on policy statements from official sources and medical breakthroughs. Fatalities associated with violence and injuries were more frequently reported, rather than deaths due to chronic disease, which accounted for 80 percent of all deaths at the time. Again, articles failed to include the perspectives of patients and their families.

While previous research provides general information about the health and medical content of U.S. Hispanic publications, no study has attempted to analyze how one major public health issue, like diabetes, has been presented. Based on this review of the literature, which suggests that Latinos may have a unique framework for interpreting information about diabetes and that writers may frame public health issues to enhance their audiences' understanding of disease, the following research questions were posed:

RQ1: How often do public health facts, specifically perspective, costs and consequences appear in newspaper articles about diabetes?

RQ2: How often do socio-cultural frames specifically schema related to social self, lifestyle modification, religious beliefs, natural therapies and the interplay of stress and disease appear in articles about diabetes?

U.S. Hispanic/Latino Newspapers

Although English-language newspapers have reported steady declines in circulation over the years, Spanish-language publications' readership has continued to rise. In 2004, the big names in the newspaper business, Tribune Co., Knight Ridder Co., Pulitzer and E.W. Scripps Co. all had Spanish-language publications or were working on developing one to stimulate growth in their English language product (Wentz, 2004). But large media conglomerates do not appear to be seeking to capitalize on a recently developed market. Since the first Spanish language newspapers were published in the U.S. in the 19th century, the Latino press has provided local and international news, helped promote ethnic identity and cultural expression and offered social critique (Cortéz, 1993). The number of Spanish-language publications continues to grow, providing more than just a translation from English to Spanish but building news content on a mix of "homeland news, community advocacy and practical information needed to survive in a new world" (Porter, 2003, p. 53).

In the future, Hispanic publications will find ways to accommodate a "pan-ethnic" demographic whose readership is becoming less united by a now-preferred native language of Spanish (Acevedo-Franco, 2005) and a heterogeneous cultural heritage

(Padín, 2005). While 70 percent of U.S. Latinos are Mexican, assuming one cultural heritage risks overlooking those from other Latin American backgrounds (Jordan, 2005). Likewise, population trends indicate the language of choice in the future may not be Spanish. Current Pew Hispanic Center reports show 63 percent of Hispanics to be born abroad, but by 2020, this number is expected to decline to 34 percent (Wentz, 2005). The newspaper industry's increased awareness of framing of public health issues could help build trust with an ever-changing Hispanic population, thus leading to greater readership and influence, resulting in an advantage for all parties involved (Meyer, 2004). Spanish-language newspapers that contain audience-specific health information are doing a public service in providing their audience with information they can rely on for their wellbeing. Conversely, if health information in news articles does not include both useful and culturally specific health information, one may question what advantage Hispanic publications offer their readers over mainstream (English) media. In effect, specifically identifying the ways in which a Spanish newspaper and an English newspaper relate to the health concerns of their readership by providing useful and culturally-sensitive information could serve two functions by 1) providing insights as to how newspapers are attempting to maintain relevance to their communities and 2) revealing ways in which newspapers could improve upon their content.

This thinking leads to the third and final research question:

RQ3: What is the comparison of public health facts and socio-cultural frames between Latino versus mainstream newspapers?

Identifying Health Facts and Socio-Cultural Schema

Content Analysis

Quantitative content analysis was used to determine how often public health facts and socio-cultural frames appeared in mainstream and Latino newspaper articles about diabetes. Although the concept of frame analysis has become more common over the years, there is no one appropriate method for an analysis of frames (Dahinden, 2005). Content analysis is a method that allows for the systematic analysis of communication in an objective and quantitative way (Kerlinger, 2000; Riffe et al., 2005). It is often applied to archived publications, which can be examined for the presence of various frames (Riffe et al., 2005; Kinsicki, 2004). Riffe et al. (2005) noted that a majority of published content analyses were applied to the early stages of researching a variety of topics because this method provides a "descriptive profile" of the thing being studied (p. 33). Few studies of U.S. Latino newspapers' coverage of healthcare exist, making content analysis an appropriate beginning step (Vargas & dePyssler, 1999).

Unit of Analysis

Because this study is concerned with the presence of public health facts and socio-cultural schema, the unit of analysis is an individual sentence containing public health facts and individual sentences that denote socio-cultural schema. This is consistent with Rodgers et al. (2007).

Coding Instrument

Researchers most commonly identify story frames for analysis by starting with pre-existing frames or by coming up with their own. By using the "deductive" approach, the researcher pre-identifies frames using already existing frames defined in related theory, culture or media studies (Dahinden, 2005, p. 3) An example of deductive methodology is Luther and Zhou's (2005) content analysis of U.S. and Chinese newspapers coverage of SARS, which began by applying four news frames – economic consequences, responsibility, human interest and conflict – already identified in previous research to the SARS stories. By using the "inductive" approach, the researcher qualitatively identifies general frames by looking at the actual thing studied (Dahinden, 2005, p. 3). Rock's (2005) mixed-method study that examined the framing of diabetes in U.S. magazines and Canadian newspapers is an example of how a researcher may inductively identify frames. Rock gathered articles about diabetes but only included articles with at least one of three common frames in her final analysis to qualitatively illustrate how media portrayed diabetes.

Although using already existing frames risks the exclusion of potential new material, it allows researchers to analyze a larger amount of data and to be straightforward from the beginning about exactly what they seek to accomplish (Dahinden, 2005). Thus, the researcher used the deductive approach for this analysis, creating a codebook of potential items that apply to the public health perspective and to socio-cultural frames identified in public health literature prior to her review of the newspaper articles (see Appendix A). A version of Rodgers and Thorson's (2001) content

analysis was modified to focus on public health related to disease as well as socio-cultural schema. Categories for public health facts and socio-cultural schema were operationalized as follows.

Defining Public Health Facts

This study draws on Rodgers and Thorson's (2001) public health facts that were used to identify those facts present in news stories about crime and violence. However, since the present study is focused on a health topic, it was necessary to modify the original definitions of public health facts to include facts that are relevant to diabetes that may not otherwise be relevant to crime or violence. For instance, Rodgers and Thorson (2001) included facts about whether a gun or drugs were present in crime news stories, defined in terms of perspective facts. These facts are obviously not relevant to diabetes. However, the overall definition of perspective will be retained for current purposes but the public health facts will be made relevant to the present topic. Consistent with Rodgers' (2007) study of cancer portrayals in African American newspapers, the researcher identified three types of public health facts: perspective, monetary costs, and consequences.

Perspective, also referred to as "context," helps readers to "view and interpret public health issues within a broader social setting" (Rodgers, 2007, p. 12). This assumes that readers need some type of comparison to gain "perspective." Consistent with Rodgers (2007), four categories of perspective facts were counted: those that discuss disease rates and incidence of disease, those that discuss disease disparities, those that discuss risk factors, and those that discuss disease prevention. A disease/incidence rate

fact gives a number of people affected by a disease but does not discuss specific ethnic groups affected. For example: “Diabetes affects 20 million people in the United States,” (Rico, 2006). Like an incidence rate fact, a disease disparity fact discusses the number of people affected by a disease, but it goes one step further to compare the rate of diabetes among one subgroup to another. For example: “Latinos have more than twice the chance of developing diabetes than white non-Hispanic people …” (“Médicos Hispanos contra la obesidad,” 2006).” A risk factor fact tells how or why people get disease. For example: “The doctor highlighted that the Latino community has a certain tendency to suffer from diabetes for hereditary reasons,” (Durán, 2006).

A disease prevention fact tells how people can prevent disease through things such as diet, exercise and diabetes screening. For example: “It is essential that parents think about nutrition, and get their children used to outdoor activities instead of TV and videogames,” (Urge actuar contra la obesidad, 2006).

Monetary costs are defined in terms of “economic expenses incurred by public health problems” (Rodgers et al., 2007, p. 7). These costs can appear at any individual, community, city, state, national, or international levels. Consistent with Rodgers et al., no comparison is needed to “count” a public health fact as a monetary cost. Although no comparison is needed, a specific dollar amount, percentage, or frequency is necessary. For example, the fact that someone is paying more for their insulin does not count, unless the sentence specifies how much more. Two categories of monetary facts were counted: those that describe the costs of testing or screening and those that tell how much it costs to receive a prescribed treatment. A screening/treatment monetary fact discusses the cost

of getting tested for diabetes, or it might indicate that testing is free. Alternately, it could tell how much an insurance plan would pay toward the cost of a doctor's visit for health problems. For example: "Those that don't have medical insurance that covers this service can attend centers that offer it free or at low cost," (Morandi, 2005). The second category of monetary facts, those that tell how much it costs to receive a prescribed treatment, discussed how much treatment costs at the individual, community and state level. For example: "Already, the disease (diabetes) accounts for $1 of every $10 spent on health care," (Uranga, 2005).

Consequences are defined in terms of the outcome or impact of diabetes "prevention, treatment or screening on local, state, national and international communities, as well as the psychological and social impact of diabetes on individuals' perceptions, attitudes and behavioral outcomes" (Rodgers, 2007, p. 7). In the case of diabetes, consequences refer to the prevention, treatment and long-term effects of the disease such as diet, weight-loss, control of glucose levels with medication and associated conditions such as diabetic neuropathy and heart disease. Three categories of consequence facts were counted: those that discuss mortality rates, those that discuss mortality disparities and those that tell of the consequences of treatment. A mortality rate fact tells of the incidence of death due to disease, including rates of survival. For example: "It (diabetes) is the seventh-leading cause of death in California, and sixth in the nation," (Anderson, 2005).

Likewise, a mortality disparity fact tells the death or survival rate due to disease, but it also compares mortality rates between two or more subgroups of people. For

example: “The diabetes death rate in the county – about 25 deaths per 100,000 – is also higher than the statewide average of 21,” (Anderson, 2004).

A fact discussing the consequence of disease treatments, might tell of the consequences of controlling glucose levels with medication, diet or weight-loss. This type of fact need not contain statistics or numerical information. Rather, it could appear in a more narrative form, such as: “I feel very proud of what I’ve achieved … I drink a lot of water, exercise and eat small meals,” (Amador, 2005).

The researcher read the entire story and counted the total number of public health facts for each category. Where the same fact was stated twice in a news story, it was counted only once. It was possible to have multiple public facts in each category. For example, if a story says the annual rate of newly diagnosed patients with diabetes increased by 37% from 1994 to 2001, but also says that Hispanics had the greatest increase at 55% of newly diagnosed cases, these pieces of information would be counted as two instances of perspective (McBean et al., 2004).

Defining Socio-cultural Schema

Socio-cultural schema included elements that Mexican-Americans have reported in medical and public health literature as most important to their perspective as a patient, including: social self, lifestyle modification, religious beliefs, natural therapies and the interplay of stress and emotion with disease (Brown et al., 2002; Coronado et al, 2004; Vincent et al., 2006; Zaldívar & Smolowitz, 1994). In addition, this study identified elements of cultural relevance Vargas and dePyssler (1999) reported in their study of

U.S. Latino news media: the presence of Latino newsmakers as story sources (both individuals and organizations).

Social self is defined as a person's existence within a family, community and society. In the context of this study, the researcher is interested in the point at which a person's diabetic condition becomes visible and begins to affect relationships (Loewe & Freeman, 2000). Are caregivers or family members included as a part of the individual's diabetes management? Is there a support group where a person can talk about diabetes with patients and their family members (Brown et al., 2002)?

Lifestyle modification is defined as purposeful changes people make in day-to-day life for medical intervention that allow them to maintain their cultural heritage and belief system. A doctor prescribing diet and exercise alone is not a cultural theme – the important element is how culture is interwoven into treatment. Does a dietician suggest adaptations of Mexican-American recipes (Brown et al., 2006)? Does a patient talk about difficulties with forgoing a traditional carbohydrate-heavy diet of rice, beans and tortillas (Vincent et al., 2006)? Are low-cost, familiar exercises like walking and salsa dancing suggested as exercise?

Religious beliefs are defined as the confidence people place in a higher power with respect to their life and their disease. Does a patient believe that having diabetes is inevitable or that it's God's will? Does she pray or seek the help of a religious leader? (Zaldívar & Smolowitz, 1994).

Natural therapies are defined as remedies outside of those medically prescribed such as plant derivatives and herbs. For example, does a patient drink cactus juice, aloe

vera juice or violet water with the belief that it has some curative properties? (Coronado et al., 2004) Are over-the-counter herbal remedies considered as treatment options alongside traditional medical ones? (Zaldívar & Smolowitz, 1994).

Interplay of stress and emotion with disease is defined as a patients' strong feeling accompanied by mental and physical change, possibly perceived as the onset of diabetes. Does a patient in the story mention intense fright, sadness or fear as the instigator of diabetes? Is a fearful event, such as a car crash, thought to have brought on the diabetic condition? Does a patient mention emotional struggle over a many years as something that could have led up to his diabetic condition?

Sampling

Researchers studying the framing of health and disease within news media often use an academic database such as Lexis-Nexis to systematically access a large sample of articles across several publications (Kensicki, 2004; Luther & Zhou, 2005; Rock, 2005). Because there is no equivalent database of U.S. Latino publications, a different type of sample is required. Riffe et al. (2005) suggested that a census sample, one which identifies all articles related to a given subject over a period of time, is often most valid for researchers wanting to look at a large number of articles related to a particular issue or event.

The Latino newspaper examined here is *La Opinión*, a Los Angeles Spanish-language newspaper published by Impremedia, which publishes Spanish-language newspapers in one of the largest U.S. media markets. This market is also representative of the national demographic in terms of diabetes incidence. The 6.6% of Californians

with diabetes is similar to the national average, and the 7.5% of Mexican-American Californians with diabetes is reflective of the higher incidence of the disease nationally within this population subset (Diamant, Babey, Brown, & Hastert, 2005).

According to *La Opinión's* Web site, the Lozanos, a Mexican-American family, founded the newspaper in 1926. In the early days, the paper's news content consisted primarily of stories about Mexico, since most families had recently immigrated to California from Mexico. Today, the paper with a daily circulation of 127,648 covers city, national and world news for a Southern California Hispanic audience composed of 75% Mexicans.

The *Daily News of Los Angeles* was selected as the comparison English-language "mainstream" newspaper against which to compare diabetes stories found in *La Opinión*. This daily newspaper, published by Media News Group, Inc. is Los Angeles County's largest regional newspaper, covering a similar geographic area as *La Opinión* with a slightly higher daily circulation of 204,000. It carries, local, city, county, regional, state, national and international news. The *Daily News of Los Angeles* is a member of the Los Angeles Newspaper Group, which describes the majority of its readers as "white collar, college educated" with an average household income of more than $84,000. According to the Los Angeles Newspaper Group's demographic profile of its readers, 84% of daily readers are Caucasian.

A census sample of all the articles in *La Opinión* and the *Daily News of Los Angeles* from 2004 through 2006 that contained the word "diabetes" was collected. The researcher used *La Opinión's* Web site to gain full access to all Spanish-language stories

because this newspaper isn't archived by an online research database, and she used Lexis-Nexis to gain full access to all English-language articles in the *Daily News of Los Angeles*. Identical articles repeated in the database and calendar items and briefs which were not considered to be articles, were excluded from the census sample. A total of 623 articles made up the census – 401 Spanish-language articles from *La Opinión* and 221 English-language articles from the *Daily News of Los Angeles*. Article titles and dates were entered into a spreadsheet. A second stage of sampling was conducted to retrieve stories primarily about diabetes from within the census sample. Articles in which the word "diabetes" was present in the headline and first two paragraphs were considered to be primarily about diabetes. This second stage of sampling within the census sample resulted in a total of 161 articles – 91 Spanish-language articles from *La Opinión* and 70 English-language articles from the *Daily News of Los Angeles*. Thus, the final sample consisted of 56.5% Spanish-language articles and 43.5% were English-language articles. These articles, whose primary topic was diabetes, were entered into a separate spreadsheet to become the primary sample for content analysis.

Reliability

Since the researcher was also the coder, she followed Riffe, Lacy and Fico's (1998), suggested procedure for reliability testing and completed a pre-test of the survey instrument as well as an ending reliability to test for consistency. First, the researcher coded a random sample of 18 articles, about 11% of the total articles in the sample. Half of the articles coded were English, from the *Daily News of Los Angeles*, and half were

Spanish, from *La Opinión*. Five days later, the researcher again coded the same articles. Using Holsti's (1969) formula, the researcher determined 93% overall agreement.

Two variables, consequence variables one and three, had low individual agreement at 63%. To address this issue of low agreement, the researcher coded and re-coded six articles, determining 86% overall reliability. The reliability of consequence variables improved, this time with a reliability of 66.6% intracoder agreement.

Following the beginning test of reliability, the researcher coded all the articles in the sample, and entered the data into an Excel spreadsheet. A post-sampling reliability was conducted using 17 articles, about 11% of the total sample. The researcher coded the articles just as before, waited nine days, and recoded the same articles. Using Holsti's (1969) formula, the researcher determined 92.7% overall agreement.

Results

Story Focus, Author and Source Ethnicity

Studies that identify public health facts should also define the context in which they appear (Rodgers & Thorson, 2001). In attempt to tailor this suggestion to the study of diabetes in an ethnic and a mainstream newspaper, descriptive statistics compare newspapers' story foci and author, and identify Hispanics as primary sources in articles. Even in a sample of stories determined to be primarily about diabetes, the disease was not central to the focus of the story in the majority of the articles, but rather included as a factor that compounds the effects of another disease (see Table 1). Cross-tab analysis, which allowed the researcher to look at each paper's focus individually, reveals that both newspapers second most commonly included diabetes articles focused on the politics and

policy of diabetes, or the access, quality and cost of care for those affected by the disease (see Table 1). The same analysis shows the least common story focus was the aspects surrounding diabetes diagnosis (see Table 1).

Table 1. Story focus by newspaper

Story Focus	*N (161 total)*	*La Opinión*	*L.A. Daily News*
Prevention	13	8	5
Diagnosis	4	2	2
Risk Factors	19	5	14
Therapeutics	27	18	9
Policy/Politics	28	14	14
Secondary Focus	70	44	26

While describing the story's focus gives some perspective as to what the author chose to emphasize about the disease topic, identifying the author of the story also gives insight as to how a newspaper is getting its news about a disease topic. This variable helps determine tell whether a newspaper assigns a staff reporter to write about health or if the majority of health news comes from a news wire. Cross-tab analysis shows that the *Daily News of Los Angeles* dedicated a staff reporter to health stories twice as frequently as *La Opinión*, while the Spanish daily was more likely to use a non-staff, non-wire reporter to cover such stories (see Table 2).

Table 2. Story author by newspaper

Story Author	*N (161 total)*	*La Opinión*	*L.A. Daily News*
Wire	15	15	0
Newspaper Staff	81	25	56
Both Staff and Wire	19	0	1
Non-affiliated writer	50	41	9
Undetermined	14	10	4

Besides the story's focus and author, the ethnicity of primary story source also reveals the perspective from which the story was reported. Based upon the appearance of name only, the researcher identified primary story sources as Hispanic or non-Hispanic. Articles sampled cited non-Hispanics as primary sources 116 times and Hispanics as primary sources only 44 times. The Spanish-language newspaper cited Hispanics as primary sources 39 times, while the mainstream paper cited only five Hispanics as primary story sources.

The researcher obtained descriptive and inferential statistics using SPSS, the Statistical Package for the Social Sciences. Descriptive statistics show the mean number of public health facts and socio-cultural schema present in each article (see Table 3).

Table 3. Mean number of public health facts and socio-cultural schema per article

Variable	*N*	*Mean*	*Standard Deviation*
PHF disease rate	161	.91	1.622
PHF disparities	161	.22	.680
PHF risk factors	161	.68	1.121
PHF prevention	159	1.47	2.981
PHF monetary1	161	.17	.507
PHF monetary2	160	.31	.861
PHF consequence1	161	.16	.523
PHF consequence2	161	.07	.667
PHF consequence3	161	.70	1.303
SC social self	160	.27	.698
SC lifestyle mod.	161	.14	.553
SC religious beliefs	161	.03	.174
SC natural therapies	161	.04	.190
SC stress/emotion	161	.04	.233

Inclusion of Public Health Facts

Research Question 1 sought to find how often public health facts, specifically perspective, costs and consequences, appeared in newspaper articles about diabetes. To address this, public health facts of perspective were divided into four categories: facts of

disease incidence, facts of disease disparity, facts discussing risk factors and facts of disease prevention.

Out of both Spanish and English-language newspapers, more than a third of the articles contained public health facts discussing the incidence of disease (see Table 3). Although the articles were most likely to include no facts discussing disease incidence, nearly one in five included one disease incidence fact (see Table 3)

The second perspective fact, which concerned disease disparities reported in articles, was present in 22 articles of the 161 articles analyzed. Articles were most likely to contain no facts of disease disparity, but the percentage that of articles that contained facts included as few as one fact but as many as five (see Table 3).

The third category of perspective fact, which pertained to disease risk factors in articles, was present in 61 articles in the sample. One in five articles contained a risk factor perspective public health fact (see Table 3).

Facts of prevention, the fourth category of perspective public health facts, varied widely from article to article, with as few as zero facts to as many as 16 facts in one story. In all, more than 43% of stories included facts of prevention (see Table 3).

Monetary public health facts were divided into two categories – those that discussed the cost of testing and screening, and those that discussed the cost of treatment. Twenty-two articles in the sample contained monetary facts about the cost of testing and/or screening. More articles in the sample contained the second type of monetary fact, which discussed how much individuals, communities, or states were paying for

prescribed treatments. Thirty-one articles, or about one in every five articles in the sample contained monetary facts concerning treatment (see Table 3).

Consequence public health facts, which discussed the consequences of disease and treatment, were divided into three categories – mortality rates, mortality rate disparities, and consequences of treatments.

Nineteen articles contained facts related to mortality rates. The number of facts in articles ranged from one per article to four per article. The majority of articles contained no facts related to mortality rates (see Table 3). Likewise, few articles contained facts related to mortality disparities, comparing death rates between two or more subgroups (see Table 3). Fifty-eight articles, nearly one in every four articles in the sample, contained facts related to the consequence of disease treatments, screenings and prescription drugs (see Table 3).

Inclusion of Socio-cultural Schema

Descriptive statistics also address the second research question, which sought to find how often socio-cultural frames were present in articles about diabetes. Socio-cultural frames were categorized according to schema identified in public health literature, specifically social self, lifestyle modification, religious beliefs, natural therapies, and the interplay of stress and disease.

The first category, social self, was used to count how often a person's existence within a family, community or society was mentioned in news articles. Twenty-nine articles, fewer than one out of every five articles, was found to contain an example of social self.

The second category, lifestyle modification, was intended to count how individuals made purposeful lifestyle changes while maintaining an element of their cultural heritage. Fourteen articles included an element of lifestyle modification, but more than 90% of articles did not include any schema related to cultural maintenance during lifestyle change (see Table 3).

The third category, religious beliefs, was intended to count how frequently individuals were shown placing confidence in a higher power with respect to their life and their disease in articles about diabetes. Five articles included one schema of religious belief while more than 90% of the valid articles for this category did not include any schema related to the relationship between religious beliefs and disease (see Table 3).

The fourth category, natural therapies, was intended to count how frequently remedies outside of those medically prescribed, such as plant derivatives and herbs, were mentioned in articles about diabetes. Six articles included one schema of natural therapy, but more than 90% of articles contained no schema related to the use of natural therapies (see Table 3).

The fifth category, the interplay of stress and emotion with disease, was intended to count how frequently patients' related strong emotions to the onset of disease. Five articles contained one such schema, but more than 96% of articles contained no schema related to stress and the onset of disease (see Table 3).

Comparing Papers' Use of Health Facts and Schema

Beyond the descriptive statistics which reveal how often public health facts and socio-cultural schema are included in Spanish and English-language news articles about diabetes, this study also sought to find how Spanish and English newspapers compared in their inclusion of these two variable types.

Because data varied normally and homogeneously from the mean, a two-tailed independent samples t-test was used to show a significant difference in mean public health facts for five out of nine public health facts tested, based on a .05 level of significance (Wimmer and Dominick, 2003). *La Opinión* contained three times as many public health facts related to disease disparities as the *Daily News of Los Angeles* (t=2.043, df=159, p< .05) (see Table 4). The Spanish-language daily also contained more than twice the public health facts related both to risk factors (t=2.656, df=159, p< .05) and disease prevention (t=2.770, df=157, p<.05) as the English-language paper (Table 4). *La Opinión* also included more than two times the number of public health facts explaining the consequence of disease treatments and screenings (t=2.240, df=159, p< .05) (Table 4). The *Daily News of Los Angeles* only surpassed L.A. Opinion with one borderline significant public health fact – its inclusion of monetary costs public health facts that explain how much a disease costs the individual and society (t= - 1.842, df= 158, p=.067) (see Table 4).

Table 4. A comparison of public health facts between two newspapers

Public health fact	*Newspaper*	*N*	*Mean*	*Std. Deviation*
Disease rate	*La Opinión*	91	1.10	1.739
	L.A. Daily News	70	.67	1.432
Disparities	*La Opinión*	91	.32 **	.801
	L.A. Daily News	70	.10	.455
Risk factors	*La Opinión*	91	.88 **	1.182
	L.A. Daily News	70	.41	.985
Prevention	*La Opinión*	90	2.03 **	3.549
	L.A. Daily News	69	.74	1.788
Monetary1	*La Opinión*	91	.23	.496
	L.A. Daily News	70	.10	.515
Monetary2	*La Opinión*	91	.20	.600
	L.A. Daily News	69	.45	1.105
Consequence1	*La Opinión*	91	.15	.470
	L.A. Daily News	70	.17	.589
Consequence2	*La Opinión*	91	.07	.629
	L.A. Daily News	70	.09	.717
Consequence3	*La Opinión*	91	.90 **	1.491
	L.A. Daily News	70	.44	.958

** $p < .05$

A separate two-tailed independent samples t-test showed a significant difference between the mean of two out of the five socio-cultural schemata, based on a .05 level of significance. *La Opinión* contained more than twice the number of socio-cultural schemata related to a person's existence within a family, community or society than the *Daily News of Los Angeles* (t= 1.972, df=158, $p < .05$) (see Table 5). It also contained three times the socio-cultural schemata related to the interplay of a person's disease with emotion and stress (t=2.097, df=159, $p< .05$) (see Table 5).

Table 5. A comparison of socio-cultural schema between two newspapers

SC Schema	*Newspaper*	*N*	*Mean*	*Std. Deviation*
Social self	*La Opinión*	91	.36 **	.850
	L.A. Daily News	69	.14	.394
Lifestyle mod.	*La Opinión*	91	.20	.687
	L.A. Daily News	70	.06	.289
Religious beliefs	*La Opinión*	91	.04	.206
	L.A. Daily News	70	.01	.120
Natural therapies	*La Opinión*	91	.04	.206
	L.A. Daily News	70	.03	.168
Stress/Emotion	*La Opinión*	91	.08 **	.307
	L.A. Daily News	70	.00	.000

** p < .05

Discussion

Extending the Public Health Model of Reporting

This content analysis extends the public health model of reporting beyond its foundation (Rodgers & Thorson, 2001; Thorson, Dorfman, & Stevens, 2003) for media reports on crime and violence and demonstrates the model's usefulness as a theoretical framework for analyzing diabetes as a chronic disease in the newspaper articles examined here. Thorson et al. (2003) suggested that reporting crime and violence in a public health context would help community members to see crime and violence as something they could prevent, rather than always seeing themselves as victims. Similarly, this research suggests that the inclusion of public health facts in the context of articles about diabetes allows the disease to be portrayed as a preventable and treatable societal problem, rather than a disease that victimizes individuals and populations.

To an extent that varied by publication and by health fact type, diabetes-focused newspaper articles contained significant number of public health facts of perspective, monetary costs and consequences. To a lesser extent, both newspapers also contained socio-cultural schemata that the public health literature suggests relate to Mexican-Americans' perceptions of diabetes. Considering the research, which shows that many Latinos report problems communicating with health care providers (Kauffman Foundation, 2005) but that many rely on both Spanish and English media for health information (Brodie et. al, 1999), this finding is key for those who work in the media as

well as public health practitioners who want their messages to be heard by a wider general audience.

This study demonstrating the use of public health facts in articles about diabetes also extends the research of Stryker, Emmons and Viswanath's (2007), which concluded that ethnic media display a greater commitment to publishing messages of prevention and education than their mainstream counterparts. Not only did *La Opinión* surpass the *Daily News of Los Angeles* in number of stories about diabetes, it also surpassed the English-language daily in its inclusion of statistically significant public health facts.

La Opinión and the *Daily News of Los Angeles* most frequently included public health facts to give readers perspective on diabetes prevention. With nearly two prevention facts per article, *La Opinión* appears to recognize to some extent that reader need information to show diabetes not just as a medical diagnosis, but also as a health concern that can be proactively addressed by having an active lifestyle and by following a well-balanced diet.

Next, both papers most frequently included public health facts to provide readers with information about the consequences of diabetes. Although neither paper included a significant number of consequence health facts discussing mortality rates due to diabetes, both papers included a significant number of consequence facts discussing the outcome of diabetes treatments or interventions. *La Opinión* averaged nearly one such consequence fact per article and the *Daily News of Los Angeles* averaged half that. The researcher can say, anecdotally that it was more common for *La Opinión* to include

diabetic individuals as sources discussing the benefits they were experiencing from their treatment.

La Opinión averaged almost one risk factor fact per article, while the *Daily News of Los Angeles* averaged half that number. In *La Opinión*, the inclusion of risk factors in nearly every other article informed readers they were at risk if they had a family history of the disease, or if they were overweight or sedentary. About one of every three *La Opinión* articles contained information about diabetes disparities, while that number dropped to one in 10 for the *Daily News of Los Angeles*.

Overall, *La Opinión* included more information about health disparities, risk factors, disease prevention, and consequences of treatment, whereas the *Daily News of Los Angeles* more frequently reported the costs of treatment.

Beyond the existence of public health facts in health stories, this research also sought to determine if information was presented in a culturally relevant way, through the identification of socio-cultural schema recognized in public health literature. Out of the five socio-cultural variables coded for, only two schemata – social self, and the interplay of stress and emotion with disease – were statistically significant.

La Opinión included nearly one "social self" schema per article, describing a person's existence within a family, community or society, and putting the emphasis on the diabetic individual and his or her support system. This schema was included in one out of every three stories about diabetes in the *Daily News of Los Angeles*. Rather than anecdotally emphasizing the individual, *Daily News of Los Angeles* articles about

diabetes were likely to be about treatment. Specifically, stories had a business angle and focused on a local corporation's development of a new type of inhalable insulin.

Public health literature identified the interplay of stress and emotion with diabetes as another important socio-cultural schema. Patients frequently reported fright, sadness or fear as an instigator of diabetes, and often mentioned emotional struggle as leading up to a diabetic condition, but this was rarely reflected in either newspaper's content. Less than one in every three *La Opinión* articles contained this schema, and no *Daily News of Los Angeles* articles included this schema.

Implications

Articles lack Public Health and Socio-Cultural Perspective

Although both newspapers included some public health facts, the number of health facts per story is low overall. More than 80 percent of stories did not include facts related to disease disparity, cost of treatment to the individual and society and consequences in terms of mortality rates. Additionally, more than 98 percent of the articles contained no facts referring to disparities in mortality rate according to ethnic group. If public health facts in stories help readers to see themselves as individuals who have the power to prevent disease, the low inclusion of public health facts in these two newspapers analyzed suggests readers aren't given much perspective to empower themselves with this information. Just as crime reporters could better serve readers by including public health facts in their stories (Rodgers & Thorson, 2001), newspapers could better serve their readership by enhancing their understanding of disease by including facts of perspective, monetary costs, and consequences.

This lack of public health facts implies this Spanish-language newspaper has diverges from what previous researchers recognized as the ethnic newspaper's advocacy role (Porter, 2003). Descriptive information regarding the author of each article is also revealing. While La Opinion did include a greater number of public health facts, the majority of these facts were contained in stories whose author was neither a staff member nor a writer for a wire service. A possible explanation for this is that advocacy organizations, like the American Diabetes Association, are more likely to target an ethnic newspaper with their news releases because of the high incidence of diabetes within this population. The findings of this study could imply that a smaller ethnic newspaper more greatly targeted by health advocates, compared to a larger mainstream one, would include more information from health advocates, not just to serve readers, but to serve its own interests by filling the "news hole."

This research also demonstrates that 90 percent of the time, newspaper articles did not include sentences expressing socio-cultural schema related to lifestyle modification, religious beliefs, natural therapies or the influence of stress and emotion upon disease. Although the socio-cultural schema of social self was included in stories at a higher rate – less than 80 percent of the time – this still seems to be a low inclusion of information that emphasizes a patient's social experience with disease.

While it makes sense that a newspaper directed at Caucasian readership would not heavily incorporate information relevant to the experience of Hispanics, the researcher offers two explanations for the meager presence of socio-cultural schema in Spanish-language articles. The first explanation reinforces findings of previous content analyses

regarding chronic disease in the Latino press. Consistent with this research, health information found in Latino publications is rarely tailored for the target readership and relevant to Latinos' experience in the U.S. health system (Mercado-Martinez et al., 2001; Vargas and dePyssler, 1999). On a practical level, this indicates that Latino publications aren't taking their target readership's cultural perspective into account when crafting health news stories. In this case, this research would suggest that newspapers could include a greater number of socio-cultural schema to appeal to their audience's cultural framework of understanding disease (Clausen, 2003).

Alternately, *La Opinión's* inclusion of few socio-cultural schema could be explained, not as an oversight of failing to recognize its audience's culture, but as a newspaper's heightened awareness of its increasingly heterogeneous Mexican-American audience. This explanation is consistent with Acevedo-Franco (2005) and Padín (2005), who suggest that Latino publications face the challenge of appealing to an audience less united by culture and language. Although *La Opinión* was targeted at recent Mexican immigrants when it was founded in 1926, its current Mexican-American readers are likely to range widely in the amount of time they have been in the U.S. and the extent to which they have adapted to U.S. culture and perception of disease. To emphasize a Mexican-American disease perspective as discussed in public health literature would call for the newspaper to narrowly define its audience, something it might be unwilling to do at the risk of offending Mexican-American readers who have been in the country many years and have adapted to the U.S. health care system and ways of considering disease.

Limitations and Directions for Future Research

Although this research achieved its purpose of identifying the presence public health facts and socio-cultural schema, it did not attempt to address the effects of such information upon newspapers' target audiences. Framing theory suggests that the inclusion or exclusion of certain schema may influence audience's responses to matters of social and political interest (Zaller, 1992; Kahneman, Tversky, 1984; Iyengar; 1991), and the next step in this research would test whether or not the presence or absence of schema and public health facts in any way impacted audience members understanding of health information in news articles or even change of behavior.

This research begins to extend the public health model of reporting into the realm of reporting on chronic disease. Likewise, this research suggests that socio-cultural schema, or information intended to make articles culturally relevant to readers, are not often included. However, because only 161 articles primarily about diabetes were present in both newspapers combined over a three-year time span, additional larger studies are needed to determine the consistency of these findings.

This research was further limited in its scope because it addressed the way a specific health issue, diabetes, was presented by two newspapers to a specific community, which cannot be generalized to characterize the way other newspapers report on diabetes issues in their distinct communities.

The methodology employed for this research, a quantitative content analysis, allowed the researcher to assess content but there may be other logistics that influenced the findings that are beyond the scope of this study including ethnic composition of

reporters at the newspapers, newsroom values, newspaper reader composition, and so on. The researcher did not have the opportunity to visit each publication to gather qualitative information about the unique culture of each newsroom and its effect on the process of making the news but future studies can take these features into account to assess their potential impact on the news process and the news content that results from that process.

Conclusions

The difference in the number of stories, as well as the difference in the number of health facts and socio-cultural schema contained in each article reveals differences in the ways an English and a Spanish newspaper provide information to their readers. From the data collected, the researcher cannot speculate why papers differed in their inclusion of public health facts and schema. Ethnic news media, might to a certain extent, serve as advocates for their readers' health (Stryker, Emmons and Viswanath, 2007; Porter, 2003), but they still have a long way to go in tailoring their health content to their specific audience (Vargas & dePyssler, 1999; Mercado-Martinez, Robles-Silva, Moreno-Leal & Franco-Almazan, 2001; Subervi-Veléz, 1999).

REFERENCES

Acevedo-Franco, G. (2005). The emergence of Spanish language media. In *Vital Speeches of the Day, 72*(2), 55-60.

Amador, L. (2005, August 23). Los niños también pueden [The kids can too]. *La Opinión*. Retrieved February 15, 2007 from La Opinión Web database.

Anderson, T. (2005, November 5). Menu nutrition-info push starts; some find proposals hard to swallow. *Daily News of Los Angeles*. Retrieved February 15, 2007 from Lexis-Nexis database.

Anderson, T. (2004, April 6). County health failures; killings, diabetes top list. *Daily News of Los Angeles*. Retrieved February 15, 2007 from Lexis-Nexis database.

Brodie, M., Kjellson, N., Hoff, T., & Parker, M. (1999). Perceptions of Latinos, African Americans, and Whites on media as a health information source. *The Howard Journal of Communications, 10,* 147-167.

Brown, S.A., Garcia, A.A., Kouzekanani, K., & Hanis, C.L. (2002). Culturally competent diabetes self-management education for Mexican Americans. *Diabetes Care, 25*(2), 259-268.

Campion, E.W. (2004). Medical research and the news media. *New England Journal of Medicine, 351* (23), 2436-2437.

Centers for Disease Control and Prevention. (2004). *Heath, United States 2004*. Table 55. Retrieved April 8, 2006 from http://www.cdc.gov/nchs/data/hus/hus04trend.pdf#topic.

Clarke, J. & Everest, M. (2006). Fear, uncertainty and the medical model. Social Science & Medicine, 62 (10), 2591-2600.

Clausen, L. (2003). Global news communication strategies: 9.11.2002 around the world. *Nordicom Review*, 24 (2), 105-116.

Coronado, G.D., Thompson, B., Tejeda, S. & Godina, R. (2004). Attitudes and beliefs among Mexican Americans about Type 2 Diabetes. *Journal of Health Care for the Poor and Underserved, 15*, 576-588.

Córtez, C.E. The Latino press in American journalism history. In C. Martindale (Ed.), *Pluralizing journalism education: A multicultural handbook* (pp. 102-119). Westport, Connecticut: Greenwood Press.

Dahinden, U. (2005). Framing: A decade of research experience. *International Communication Association Conference Papers, 2005 Annual Meeting.* New York, pp. 1-9.

Diamant, A., Babey, S., Brown E., Hastert, T. (2005) *Diabetes on the Rise in California*. Los Angeles: UCLA Center for Health Policy Research, pp. 1-8.

Durán, Agustín. (2006, June 26). Nadando contra la obesidad [Swimming against obesity]. *La Opinión*. Retrieved February 15, 2007 from La Opinión Web database.

Gitlin, T. (1980). *The whole world is watching: Mass media in the making and unmaking of the new left.* Berkeley, CA: University of California Press.

Hoy posts nationwide audited circulation. (2006, July 27). Retrieved Oct. 16, 2006 from http://www.hoyinternet.com/acerca/hoy-pressrelease07272006,0,4350600.story

Iyengar, S. (1991). *Is anyone responsible?* Chicago: University of Chicago Press.

Jezewski, M.A. & Poss, J. (2002). Mexican-Americans' explanatory model of Type 2 diabetes. *Western Journal of Nursing Research, 24*(8), 840-858.

Jordan, M. (2005, July 25). A Spanish-TV upstart nips at the heels of No. 2 Telemundo. *Wall Street Journal (eastern edition),* p. B1.

Kahneman, D. & Tversky A. (1984). Choice, values, and frames. *American Psychologist*, 39, 341-350.

Kerlinger, F. (2000). Foundations of behavioral research (4th ed.). New York: Holt, Rinehart & Winston.

Kickbusch, I. & Nutbeam, D. (1998). *Health Promotion Glossary*. World Health Organization, Geneva: Available at http://www.who.int/healthpromotion/about/HPR%20Glossary%201998.pdf.

Kinsicki, L. (2004). No cure for what ails us: The media-constructed disconnect between societal problems and possible solutions. *Journalism and Mass Communication Quarterly, 81,* 53-73.

La Opinión. (n.d.) History of La Opinión. Retrieved December 6, 2006 from http://www.laopinion.com/corporate/about/history/index.php?lang=en.

Loewe, R., & Freeman, J. (2000) Interpreting diabetes mellitus: Differences between patient and provider models of disease and their implications for clinical practice. *Culture, Medicine and Psychiatry, 24,* 379-401.

Luther, C. & Zhou, X. (2005). Within the boundaries of politics: News framing of SARS in China and the United States. *Journalism and Mass Communication Quarterly, 82,* 4, 857-872.

McBean, A.M., Shuling, L., Gilbertson, D.T. & Collins, A.J. (2004). Differences in diabetes prevalence, incidence and mortality amount the elderly of four racial/ethnic groups: Whites, blacks, Hispanics and Asians. *Diabetes Care, 27,* (10), 2317-2324.

Médicos hispanos contra la obesidad [Hispanic doctors against diabetes]. (2006, March 25). *La Opinión*. Retrieved February 15, 2007 from La Opinión Web database.

Mercado-Martinez, F.J., Robles-Silva, L., Moreno-Leal, N., & Franco-Almazan, C. (2001). Inconsistent journalism: The coverage of chronic diseases in the Mexican press. *Journal of Health Communication, 6*, 235-247.

Meyer, P. (2004). The influence model and newspaper business. *Newspaper Research Journal*, *25*(1), 66-83.

Morandi, A. (2005, December 24). El mejor regalo para el nuevo año [The best gift for the new year]. La Opinión. Retrieved February 15, 2007 from La Opinión Web database.

Murgia, A., Zea, M.C. & Peterson, R. (2000). The development of the Cultural Health Attributions Questionaire (CHAQ). *Cultural Diversity and Ethnic Minority Psychology, 6* (3), 268-283.

U.S. Department of Health and Human Services. (2005). *2005 National Healthcare Disparities Report*. Rockville, Md. Agency for Healthcare Research and Quality.

Najm, W., Reinsch, S. & Hoehler, F. (2003). Use of contemporary and alternative medicine among the ethnic elderly. *Alternative Therapies in Health and Medicine, 9*(3), 50-57.

Office of Minority Health. (2002). *Diabetes Data/Statistics*. U.S. Department of Health and Human Services. Retrieved April 8, 2006, from http://www.omhrc.gov/templates/browse.aspx?lvl=2&lvlID=21.

Office of Minority Health. (2004). Health disparities experienced by Hispanics – United States (from the Centers for Disease Control and Prevention: Morbidity and Mortality Weekly Report). *The Journal of the American Medical Association*, *292*(19), 2330-2331.

Padín, J.A. (2005). The normative mulattoes: The press, Latinos, and the racial climate on the moving immigration frontier. *Sociological Perspectives, 48*(1), 49-75.

Porter, T. (2003). Dismantling the language barrier. *American Journalism Review, 25*(7), 48-55.

Ratzan, S.C. (2001) Health literacy: Communication for the public good. *Health Promotion International*, *16*(2), 207-214.

Rico, Y. (2006, 18 June). Los peligros de la diabetes [The dangers of diabetes]. *La Opinión*. Retrieved February 15, 2007, from La Opinión Web database.

Rock, M. (2005). Diabetes portrayals in North American print media: A qualitative and quantitative analysis. *American Journal of Public Health*, *95*(10), 1832-1838.

Rodgers, S., & Thorson, E. (2001). The reporting of crime and violence in the Los Angeles Times: Is there a public health perspective? *Journal of Health Communication*, 6, 169-182.

Rodgers, S., Cohen, E., Caburnay, C., & Cameron, G. (2007). Reporting on cancer from a public health perspective in Black vs. general audience newspapers. Manuscript submitted for publication.

Saguy, A. & Riley, K. Weighing both sides: Morality, mortality and framing contests over obesity. *Journal of Health Politics, Policy, and Law, 30*(5), 869-921.

Shen, F. (2004). Chronic accessibility and individual cognitions: Examining the effects of message frames on political advertisements. *Journal of Communications, 54*, 123-137.

Stryker, J.E., Emmons, K. & Viswanath, K. (2007). Uncovering differences across the cancer control continuum: A comparison of ethnic and mainstream cancer newspaper stories. *Preventive Medicine*, 44(1), 20-25.

Subervi-Vélez, F.A. (1999). Spanish-language television coverage of health news. *The Howard Journal of Communications*, 10, 207-228.

Scheufele, B. (2004). Framing-effects approach: A theoretical and methodological critique. Communications, 29, 401-428.

Thackeray, R., & Nieger B.L. (2003). Use of social marketing to develop culturally innovative diabetes interventions. *Diabetes Spectrum*, *16*(1), 15-20.

The Los Angeles Times. (2006) The Los Angeles Times Announces September Circulation. Retrieved December 6, 2006 from http://www.latimes.com/services/newspaper/mediacenter/releases.

Uranga, R. (2005, May 1). Bleak future for kids; inactivity, bad diet fuel soaring diabetes, obesity rates. *Daily News of Los Angeles*. Retrieved February 15, 2007 from Lexis-Nexis database.

Urge actuar contra la obesidad [Urge action against obesity] (2006, Febuary 11). La Opinión. Retrieved February 15, 2007 from La Opinión Web database.

U.S. Census Bureau. (2004). U.S. interim projections by age, sex, race, and Hispanic origin. Retrieved May 2, 2006 from http://www.census.gov/ipc/www/usinterimproj/.

U.S. Department of Health and Human Services: Healthy People 2010. Internet, 2002. Retrieved April 8, 2006 from http://www.healthypeople.gov/document/html/Volume1/05Diabetes.htm.

U.S. Department of Health and Human Services. (2005). *2005 National Healthcare Disparities Report*. Rockville, MD. Agency for Healthcare Research and Quality.

Valkenburg, P.M., Semetko, H.A., & Vreese, C.H. (1999). The effects of news frames on readers' thoughts and recall. *Communication Research, 26*, p. 550-569.

Vargas, L., & dePyssler, B.J. (1999). U.S. Latino newspapers as health communication resources: A content analysis. *Howard Journal of Communications, 10*(3), 190-205.

Vincent, D., Clark, L., Marquez-Zimmer, L. & Sanchez. J. (2006). Using focus groups to develop a culturally competent diabetes self-management program for Mexican Americans. *The Diabetes Educator*, *32* (1), 89-97.

Wentz, L. (2005). Multicultural? No, mainstream. *Advertising Age, 76*(18), 3-57.

Wentz, L., & Cardona M.M. (2004). Newspapers turn to Hispanics. *Advertising Age, 75*(1), 16.

Wimmer, R.D., & Dominick, J.R. (2003) *Mass media research: An introduction* (7th ed.). Belmont, CA: Wadsworth/Thompson Learning.

Zaldívar, A. & Smolowitz, J. (1994). Perceptions of the importance placed on religion and folk medicine by non-Mexican-American Hispanic adults with diabetes. *The Diabetes Educator, 20*(4), 303-306.

Zaller, J. (1992). *The nature and origins of mass opinion*. New York: Cambridge University Press.

APPENDIX

1. Story code: A numerical code assigned to each article that comprises the sample.

2. Newspaper name: One of two newspapers 1) *La Opinión* or 2) *Daily News of Los Angeles.*

3. Headline: The article's exact title, not including any subhead.

4. Date: The month, day and year the story was published.

5. Story source: The author of the story. There are five categories. 1) wire (AP, Reuters, or some other distinguishable international newswire) 2) newspaper staff (the author of the story is a member of the paper's reporting staff) 3) both (the story might be from a staff writer but acknowledge that the wire contributed to the report) 4) other (a reporter's name is listed without newspaper affiliation, but not from a wire service) 5) can't tell (no source is listed or this can't be determined from the information given). GET THIS INFORMATION ONLY FROM THE TOP OF THE STORY!

6. Reporter's gender: Code gender for the first author only. There are three categories: 1) female 2) male 3) can't tell. Use the first name, especially the end vowel (ends in 'a' for female, 'o' for male) in Spanish newspaper stories.

7. Locale: The geographic place in which the story's event, issue or feature took place: 1) local (any event, issue or feature occurring in L.A. County 2) state (any event, issue or feature occurring in California but outside L.A. County) 3) national (news stories that occur elsewhere in the U.S., for the purposes of this study, national means any state but California) 4) international (events, issues or features occurring outside the United States, such as a feature about Mexican patients receiving lower-cost diabetes medication in Mexico)
   To determine the story locale, the coder will first examine the dateline. If there is no dateline present, the coder will read the first three paragraphs to determine the story's setting.

8. Primary news source: This is the source taking up the most space in the story. Options for this category might include the following, but they're not exclusive. Write the name of the primary news source to classify later.
   - The American Diabetes Association
   - Scientific journal or other publication
   - State/local health department
   - University professor
   - Medical professional

9. Does the primary news source appear to be Hispanic?: Yes or No

10. Primary story focus: The primary focus of the story, the angle around which the disease, diabetes, is framed. If diabetes is listed among a number of conditions in the lead paragraphs of the article, the disease might be a secondary focus in the article, rather than the primary topic. For example, a sentence might read "Overweight adolescents are more likely to develop heart disease, type two diabetes, certain types of cancer and sleep disturbances as adults," but this does not necessarily indicate the story is about diabetes. If none of the following story foci apply, and diabetes is determined to only briefly appear as health condition associated with another primary story focus, check "secondary story focus." Whether the story is primarily or secondarily about diabetes, check the primary story focus from the following list, and continue coding.

    1)Prevention: Refers to activities that may decrease one's chance of developing disease. For diabetes, this would include eating a healthful diet lower in calories, exercising regularly to lose/maintain weight, lowering blood pressure and cholesterol levels (things that would predispose one to have what the medical community recognizes as pre-diabetes)

    2) Diagnosis: Refers to the aspects of diagnosing disease. For diabetes, this includes a fasting plasma glucose test, an oral glucose test or a random glucose plasma test. The earlier diabetes is diagnosed, the better chance a diabetic has at a long, healthy life.

    3) Risk factors: A risk factor is something that may increase a person's chance of developing disease. Some diabetes risk factors include physical inactivity, overweight, diet high in fat/sugar, ethnicity, smoking, excessive alcohol consumption.

    4) Therapeutics: Includes any recommended treatments for diabetes, such as insulin, diabetes pills (which work to lower blood glucose), having a small amount of sugar (such as 4 oz. of juice) to bring blood glucose levels back up when they're too low, lifestyle change (modifying diet, exercise, etc.).

    5) Politics/Policy: Primarily concerned with access, quality and cost of care for those affected by disease. The city, the state, the individual or the family may be the stakeholder affected by politics/policy.

    6) Secondary story focus: Diabetes is listed as a factor that compounds the effects of another disease, but the primary focus of the story is not diabetes.

    General diabetes type: This variable "diabetes type" narrows down the type of diabetes discussed in the story to four types: 1) Type 1 diabetes (usually diagnosed in children and young adults, formerly known as juvenile diabetes, caused by an absolute deficiency of insulin); 2) Type 2 diabetes (the most common form of diabetes, especially in minority groups, occurs when the

body is unable to properly use insulin); 3) Gestational diabetes (develops during pregnancy) 4) can't tell (the article does not specify a type of diabetes, and no textual clues allow the coder to infer). Check which type of diabetes the article is primarily referring to.

11. Communication of socio-cultural frames: Communication of socio-cultural frames include elements that Hispanics have reported in medical and public health literature as most important to their perspective as a patient. This study assumes that five categories of socio-cultural frames may be imbedded within the focus of the story: 1) Social self; 2) lifestyle modification; 3) religious beliefs; 4) natural therapies; and 5) the interplay of stress and emotion with the disease. Count how many times each frame occurs in the article. If the same theme appears several times throughout the article, count it only once. If several objects/ideas appear in one sentence, count each individually. Type the number of frame objects in the Excel spreadsheet.

    - Social self: A person's existence within a family, community or society. The researcher is interested in the point at which a person's diabetic condition becomes visible and begins to affect relationships. This might be indicated by the discussion of the importance of caregivers or family members as a part of diabetes management, or a support group where a person can talk about diabetes with other patients and family members. Examples that take into account the importance of the social self might include:
        - Are caregivers or family members included as a part of the individual's diabetes management?
        - Is there a support group where a person can talk about diabetes with other patients and their family members?
    - Lifestyle modification: A purposeful change people make in day-to-day life for medical intervention that allows them to maintain their cultural heritage and belief system. Examples that take into account the importance of lifestyle modification might include:
        - Does a dietician suggest adaptations of Mexican-American recipes?
        - Does a patient talk about the difficulties with forgoing a traditional carbohydrate-heavy diet of rice, beans and tortillas?
        - Are low-cost and accessible exercises like walking or salsa dancing suggested as exercise?
    - Religious beliefs: The confidence people place in a higher power with respect to their life and their disease. Examples that take into account the importance of religious beliefs might include:
        - Does a patient believe that having diabetes is inevitable or that it is God's will?

        - Does he or she pray or seek the help of a religious leader to manage the disease?
    - Natural therapies: Remedies outside of those medically prescribed such as plant derivatives and herbs. Examples of natural therapies might include:
        - Does a patient drink cactus juice, aloe vera juice, or violet water with the belief that it has some curative properties?
        - Are over-the-counter herbal remedies considered as treatment options alongside traditional medical ones?
    - Interplay of stress and emotion with disease: Patients' strong feeling accompanied by mental and physical change, possibly perceived as the onset of diabetes. Examples of the interplay of stress and emotion with disease might include:
        - Does a person in the story mention intense fright, sadness or fear as an instigator of diabetes?
        - Is a fearful event, such as a car crash, thought to have brought on the diabetic condition?
        - Does a person mention emotional struggle over many years as something that could have led up to his or her diabetic condition?

12. Public health facts are defined as health-related diabetes information that is disseminated to the general public with the intent to inform and/or influence health behaviors. Simply put: public health facts include information that helps aid health decisions. There are three types of public health facts of interest here: **1) perspective; 2) monetary costs; and 3) consequences.** Each is defined below. Directions: Read the entire story and count the total number of health facts for each category. A "fact" is defined in terms of a sentence. **NOTE: Sentences with more than one fact are counted as "1" fact if it's the same type (2 perspective facts in the same sentence = 1 perspective fact). In instances where the same fact is stated twice in a news story (in separate sentences), count the fact only once. If two *different* public health facts are present in one sentence, count them separately.** Then, type that number in the Excel coding sheet. Where the same fact is stated twice in a story, count it only once.
    - Perspective: Defined as the psychological capacity to view and interpret public health issues in a broader social context (Rodgers, 2007, p. 12). Perspective facts tell details (like statistics, numbers, data) about the diabetes itself. Perspective facts generally don't focus on individuals, but are about subgroups of individuals in society (ie. Men as compared to women, Latinos as compared to Whites) There are four primary types of perspective facts:

        1. Those that explain disease rates and the incidence of disease BUT do not compare 2 or more subgroups.
        2. Those that communicate disease disparities (ie. compare diabetes between 2 or more subgroups)

3. Those that tell how or why people get disease; and
4. Those that tell how people prevent disease.

Use the following to determine the number of perspective facts:

1. **Disease rates and incidence of disease.** Does the story talk about the rate or incidence of diabetes? (NOTE: Stories that compare rates of diabetes for a subgroup against a national average are coded as diabetes rate and incidence of diabetes, NOT diabetes disparities.) If yes, this counts as 1 perspective fact.
2. **Disease disparities:** Does the story compare diabetes rates from one subgroup (e.g. Hispanics) to another (e.g. Caucasians)? If yes, this equals 1 perspective fact.
3. **Risk factors:** Does the story talk about risk factors that lead to diabetes? If yes, this counts as 1 perspective fact.
4. **Disease prevention:** Does the story tell how to prevent diabetes with things like diet, exercise and diabetes screening? If yes, this counts as 1 perspective fact.

Examples of perspective facts:

"There are 177 million people worldwide affected with this diabetes." (Example of a #1 rate/incidence fact).

"Latinos are twice as likely to develop diabetes as Whites." (Example of a #2 diabetes disparity fact.)

"Processed foods high in fat and carbohydrates are the cheapest, but they promote the risk of contracting diabetes." (Example of a #3 diabetes risk fact)

"We took control of the carbohydrates that we ate and included more vegetables in our meals." (Example of #4 diabetes prevention fact)

- Monetary costs: Defined in terms of economic expenses incurred by public health problems. These costs can appear at individual, community, city, state, national or international levels. No comparison is needed to "count" a public health fact as a monetary cost. No exact dollar amount is needed to count monetary cost as a public health fact. Mention of financial information, stock prices or business operations about a company should not be counted as public health facts. Costs can be divided into two categories:
  1. Cost of **testing/screening** including free tests or screenings
  2. Costs of **treatments**, drugs, etc., including prescription medications and insulin.

Use the following to determine the number of monetary cost facts.

1. **Cost of testing/screening including free tests or screenings.** Does the story tell the cost of getting tested for diabetes? Does it mention that testing is free? Does the story tell *what* is covered under a type of insurance plan? If yes, this counts as a monetary cost fact.
2. **Does the story tell how much it costs to receive a prescribed treatment?** Does it tell the cost of hospitalization? For those that do/do not have health insurance, does the story tell how much it costs an individual, community, state to cover those expenses.

Examples of monetary cost facts:

"During the event, attendees will receive free information about areas of health that most interests them; and the opportunity for blood pressure tests, vision screening, blood sugar tests and they will be taught how to care for their feet." (Example of a #1 monetary cost fact.)

"The most important thing about the (educational) program is that it's free for the Latino community, and its available at various hospitals." (Example of a #2 monetary cost fact.)

"When they announced health care cuts, the health promoters sacrificed half their pay to continue the goals of Project Dulce (an education program for diabetics)." (Example of a #2 monetary cost fact.)

"For this reason, they use home remedies, because the doctor would require a week's paycheck." (Example of a #2 monetary cost fact.)

- Consequences: Defined in terms of the outcome or impact of diabetes "prevention, treatment or screening on state, national and international communities as well as the psychological and social impact of diabetes on individuals' perceptions, attitudes and behavioral outcomes" (Rodgers, year, p. TK). In the case of diabetes, consequences refer to the prevention, treatment, and long-term effects of the disease such as: diet, weight-loss, control of glucose levels with medication and associated conditions such as diabetic neuropathy and heart disease. There are THREE types of consequences:
  1. Mortality rates and incidence of death due to diabetes, including rates of survival;
  2. Mortality disparities that compare death rates between two or more subgroups; and
  3. Consequences of diabetes treatments, screenings, prescription drugs, etc.

Use the following to determine the number of consequence facts.

1. **Mortality rates (incidence of death due to disease) including rates of survival.** Does the story tell the mortality rate due to disease? Does it tell the rate or incidence of death due to disease? Does it mention survival rates? Does it tell of the mortality rates of a particular disease as compared to the national average? If yes, this counts as 1 consequence fact.
2. **Mortality disparities that compare death rates BETWEEN TWO OR MORE subgroups.** Does the story compare death rates due to a particular disease between two or more groups? If yes, this counts as 1 consequence fact.
3. **Consequence of disease treatments, screenings, drugs, prescriptions etc.** Does the story tell of the consequences of receiving a prescribed treatment, such as insulin shots? Does it tell the consequences of being screened for pre-diabetes, i.e., early detection? If yes, this counts as 1 consequence fact. (NOTE: This type of consequence may not provide specific data such as percentages and statistics, but may provide specific data in the form of narrative information.