Hispanic Internet Use for Health Information
A Literature Review and Data Analysis

DrTango, Inc

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Executive Summary

In the decade from 1990 to 2000, the U.S. Hispanic population increased by more than 50%, from approximately 22 million to 35 million. Since many of these Hispanics have limited proficiency in English, or prefer to receive information in Spanish, government agencies and healthcare providers are seeking ways to provide health information that is linguistically and culturally appropriate. The Centers for Disease Control and Prevention (CDC) is seeking to better define the potential of the Internet to expand the provision of health information to Hispanic consumers, particularly those who prefer to receive health information in Spanish.

Towards this objective, the CDC has contracted DrTango, Inc., a private company that specializes in providing Internet-based health information for Hispanics to:

1. Provide a focused literature review in regard to the use of the Internet by Spanish-speaking Hispanics, and
2. Analyze and summarize information from DrTango’s databases that can further describe how Spanish-speaking U.S. Hispanics use the Internet to search for and use health information

DrTango has four unique databases reflecting Internet usage by Spanish-speaking Hispanics. Two of these databases are derived from the Spanish-version the online *Health Illustrated Encyclopedia* developed by A.D.A.M Inc. and translated into Spanish by DrTango. A third database is derived from visits to DrTango’s online, Spanish-language diet and physical activity promotion program called MiDieta™, located on the Univision.com website. These databases are comprised of information from a large and growing number of Spanish-speaking consumers. For example, during the six week period that we gathered data about visits to the encyclopedia on Univision.com website, more than 10,000 users utilized the encyclopedia website. The fourth database contains information from over 8,000 visits to the encyclopedia by Spanish-speaking clients of a major healthcare provider organization, Texas-based HAMPTON Health. For the current report, we have also analyzed data on more than 50,000 users of the MiDieta™ program that have provided personal data and completed a free evaluation of dietary and physical activity patterns and body weight status.

Key findings from the focused literature review and analysis of DrTango’s databases include the following:

- Various studies indicate that between 32% and 50% of Hispanics are using the Internet, and that this prevalence is increasing

- The literature review indicates that more women than men (59% vs 42%) use the Internet for health information, and that 46% of users are under age 30
- The DrTango databases indicate that approximately 70% of those using the online Spanish-language *Health Illustrated Encyclopedia* are women; 31% are under age 30 and an additional 51% are between the ages of 30 and 45 years.

- For Spanish-speaking visitors that registered for unlimited access to the online *Health Illustrated Encyclopedia* within Univision.com website:
  - Over 70% searched the Internet for health information on at least a weekly basis.
  - Over 60% have a high school education or less.
  - Approximately 80% preferred accessing Internet-based health information in Spanish rather than English.

- A study in the literature review found that the *amount of time* that Hispanics spend on Spanish-language websites has increased significantly, from 30% in 2000 to 55% in 2002.

- Based on the frequency of searches in the *Health Illustrated Encyclopedia*, users from both the Univision.com website and the healthcare website most frequently searched for information on gastrointestinal, ear/nose/throat and dental topics.

- Users on the Univision.com website searched most frequently for information dealing with skin problems, female genito-urinary problems and musculo-skeletal complaints. Users from the healthcare site were somewhat more likely to search for articles dealing with chronic disease issues including cardiovascular and pulmonary conditions.

- Reports in the literature review indicate that Spanish-speaking consumers often find incomplete answers to their questions on the Internet, and that health information on Spanish-language websites is sparse and consistently less accurate.

- The *Health Illustrated Encyclopedia* developed by ADAM, Inc and translated and culturally adapted by DrTango, Inc was well regarded:
  - 70 percent of encyclopedia users reported finding the information they were looking for and 80 percent found the information “very useful”, indicating that at least this source of online health information appeared to satisfy the needs of the great majority of users.

- In response to the question “In general, how satisfactory is the health information you find on the Internet, 67% of respondents that completed DrTango’s online evaluation indicated that the information was “very satisfactory” and another 23% found the information “somewhat satisfactory”.

In summary, through literature review and analysis of our proprietary datasets, we found that a large number of Spanish-speaking Hispanics are online and actively seeking health information. Online Hispanics are *not* highly educated, with over 60% having a high school education or less and they are spending over half their online time on Spanish-language websites. We believe these trends will continue as more, high quality health information becomes available online in Spanish. Hispanics in our survey reported that
were pleased and highly satisfied with the option of accessing up-to-date, high quality health information online.

In conclusion, this report has added to our knowledge of how Spanish-speaking U.S. Hispanics use the Internet to find health information. There is, however, a great deal more for us to learn. Through DrTango’s expanding network of hospitals and media partners, DrTango is continuing to gather data on Hispanics in hopes of finding patterns in how they access health information online.

Utilizing this data will enable us to track trends and begin to evaluate the influence of online health information on changes in behavior and, ultimately, on improvement in health outcomes.

Acknowledgements

We gratefully acknowledge the collaboration of the Centers for Disease Control, Univision Online and HAMPTON Health for allowing us to gather and analyze the data generated through the content products on their websites. Without their support, these analyses would not have been possible.
### Table of Contents

I. Background 5  
  Primary Aims of the Analysis 5  
  Unique Resources 6  
  Organization of the Report 6  

II. Literature Review 7  
  To what degree are Spanish-speaking U.S. Hispanics using the Internet? 7  
  How often do Spanish-speakers use the Internet to seek health information? 9  
  What are the demographic characteristics of those Spanish-speakers that use the Internet to search for health information? 10  
  What type of health information is of greatest interest and concern to Spanish-speaking U.S. Hispanics? 10  
  What has been the availability of credible Spanish-language websites and health content? How is this changing? 11  
  How satisfied are Spanish-speaking U.S. Hispanics with the health information they find on the Internet? 12  
  Summary and Conclusion 12  

III. DrTango Products, Relationships and Databases 13  
  Content Products 13  
    Health Illustrated Encyclopedia 13  
    MiDieta™ 13  
  Delivery Mechanisms 14  
    Spanish-language Media Portal: Univsion.com Website 14  
    U.S. Healthcare Providers: HAMPTON Health 16  

IV. Findings of Analysis of DrTango Databases 18  
  Health Illustrated Encyclopedia - Media Portal (Univision) 18  
  Health Illustrated Encyclopedia – Healthcare Provider Version 23  
  MiDieta™ – Media Portal (Univision) 24  

V. Summary and Conclusions 26  
  Principal Aims 26  
  Key Findings 26  

VI. Next Steps and Future Opportunities 30  
  Questions Remaining 30  
  Future Opportunities 31  

References 33  
Appendix A: Encyclopedia Home Page 34  
Appendix B: Encyclopedia Registration Form 35  
Appendix C: Encyclopedia Evaluation Form 36
I. BACKGROUND

The U.S. Hispanic population increased 58% between 1990 and 2000, from 22.4 million to 35.3 million (U.S. Census, 2001). The majority of these Hispanics prefer speaking and reading in Spanish and many have limited proficiency of the English language (U.S. Census, 2001).

Government agencies and healthcare providers are seeking ways to provide health information that is linguistically and culturally appropriate to U.S. Hispanics. The Internet is an increasingly important source of health information for English speaking Americans. It has been unclear, however, the relevance of the Internet for Spanish-speaking Hispanics.

DrTango, Inc is a private company that specializes in developing and providing Internet-based, Hispanic health solutions to healthcare providers, media companies and government agencies. The scope of current report is to:

- Provide a focused literature review in regard to the use of the Internet by Spanish-speaking Hispanics to obtain health information.
- Analyze and summarize information from DrTango’s unique databases to further assess and describe how Spanish-speaking U.S. Hispanics use the Internet to search for and use health information.

**Primary Aims of the Analysis**

This report aims to address the following key questions and issues:

1. To what degree are Spanish-speaking U.S. Hispanics using the Internet?

2. How often do Spanish-speakers use the Internet to seek health information?

3. What are the demographic characteristics of those Spanish-speakers that use the Internet to search for health information?

4. What type of health information is of greatest interest and concern to Spanish-speaking U.S. Hispanics?

5. What is the availability of credible Spanish-language websites and health content? How is this changing?

6. How satisfied are Spanish-Speaking U.S. Hispanics with the health information they find on the Internet? Is the information understandable and relevant to their needs?
**Unique Resources**

In addressing these key questions, the report will draw heavily from a unique set of resources and opportunities that DrTango has at its disposal. These databases and resources are described in detail in Section III of this report, but in brief, they include:

- DrTango’s internal studies of Hispanics, their health and the media,
- Analysis of the demographic characteristics of Spanish-speakers who utilize DrTango’s online health content,
- Review of the search patterns of users of DrTango’s online health information content, and
- Analysis of responses to online questionnaires asking the opinion of Spanish-speaking users regarding their satisfaction with health information obtained over the Internet.

**Organization of the Report**

This report is organized as follows. The background and primary aims of the report are presented in Section I (above). The report presents an abbreviated literature review (Section II). Next, the report presents details on and analysis of the DrTango datasets (Section III). Then, the report summarizes and synthesizes the information gleaned from the literature review and data analysis according to the six main aims (Section IV). Finally, the report concludes with a section on next steps and future opportunities (Section V).
II. LITERATURE REVIEW

Many studies have been conducted on the use of the Internet, but few have focused on how Spanish-speaking U.S. Hispanics use the Internet to search for and use health information. This report will review the literature for each of the six questions listed in scope of work.

**Question 1: To what degree are Spanish-speaking U.S. Hispanics using the Internet?**

Spooner (2001) reported that half of the U.S. Hispanics are online, and that the income level and age of these users are lower than for Whites. Two key areas in which there has been little data are on (a) the trend of Hispanic Internet usage and (b) the usage of the Internet by Spanish-speaking U.S. Hispanics.

**Trends in Hispanic Internet Use**

The Hispanic Internet usage rate reported by Spooner (2001) increased from 40% (March 2000) to 50% (February 2001). Note that this survey interviewed adults aged 18 and older.

Another study by the National Telecommunications and Information Administration (NTIA) reported that in September 2001, 32% of Hispanics used the Internet (defined as individuals age 3 and older), as compared to 50% of the general population (NTIA 2002). Like Spooner, however, the NTIA documents a rapid increase in Internet use by Hispanics from 16.6% (Dec 1998) to 23.7% (Aug 2000) to 31.6% (Sept 2001).

Two other studies examined the Hispanic segment of the total Internet users. ComScore (2002) reports that 11.0% of Internet users are Hispanic, which closely matches the percentage of the total U.S. population that is Hispanic (12.5%). However, Nielsen (2002) estimates that Hispanics account for only 7.2% of Internet users, which support a Hispanic usage rate closer to NTIA’s 32%. Both studies documented significant growth in Internet usage. ComScore (2002) reported that the average number of unique Hispanic Internet users was 14.5 million per month during the first quarter of 2002, which was 19% greater than for the same period one year earlier; the number of non-Hispanics grew by only 6%. Nielsen (2002) reported similar growth trends: 13% for Hispanics versus 4% for Whites (June 2002 versus 2001).

Not surprisingly, the relevance of the online Hispanic market is tied to the demographics of each geographic market. ComScore (2002) found that, in many markets, Hispanics comprise a far larger share of the Internet users than the national average of 11%.

*In summary, recent studies have found that approximately 50% of Hispanics use the Internet. All studies agree that Internet usage by Hispanics is growing faster than for other ethnic groups.*
**Internet Usage by Spanish-speaking U.S. Hispanics**

A study that focused on *Spanish-speaking Hispanics* by the Roslow Research Group (2002), found that 50% of Hispanics (defined as individuals age 16 and older who speak Spanish at home at least some of the time) used the Internet within the last 30 days (Nov-Dec. 2001). This figure has increased from 38% (July 2000) to 43% (March 2001) to 50% (Nov-Dec 2001)(Table 1). A study by Nielsen Media Research (2002) found that three out of five Spanish-dominant or bilingual Hispanics with internet access at home go online every day and 95% go online at least once per week.

The Roslow Research Group (2002) also studied the importance of language in the same population of Hispanics speaking Spanish at home at least some of the time. In this population, the percent of time using the Internet in Spanish has been increasing significantly (Table 1).

<table>
<thead>
<tr>
<th>Question:</th>
<th>July 2000</th>
<th>March 2001</th>
<th>Nov-Dec 2001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Used the Internet within 30 days</td>
<td>38%</td>
<td>43%</td>
<td>50%</td>
</tr>
<tr>
<td>Percent time using Internet in Spanish</td>
<td>30%</td>
<td>39%</td>
<td>55%</td>
</tr>
</tbody>
</table>

*Source: Roslow Research Group (2002)*

The same study also suggests that Hispanics prefer to receive information in Spanish. Table 2 indicates trends in the language preference to “get news”.

<table>
<thead>
<tr>
<th>Question:</th>
<th>July 2000</th>
<th>March 2001</th>
<th>Nov-Dec 2001</th>
</tr>
</thead>
</table>
| Language Preferred to “get news”:
  Prefer in Spanish | 25% | 24% | 38% |
  Prefer in English | 39% | 35% | 16% |
  No preference/Don’t Know | 36% | 41% | 38% |

*Source: Roslow Research Group (2002)*

This increasing preference by Spanish-speaking Hispanics for Spanish-language Internet content is also reflected in their viewing and listening habits. Roslow Research Group (2002) reported that 64% of the time spent watching TV by Hispanics is for Spanish TV; for radio, this rate is 73%.

In 2001, Brink (2001) suggest that “one explanation for the low Internet usage among Hispanic Americans can be attributed to language barriers; that is the lack of Spanish websites. Less than three percent of content on the web is offered in Spanish.”

**In sum, it appears that as more and better Internet websites become available in Spanish, Hispanics are choosing to access information in the language that is most comfortable to them, i.e. Spanish.**
Advertising and Promotion in Spanish on the Internet

The effectiveness of using Spanish with Hispanics (versus English) was studied by Roslow Research Group (2000), which focused on advertising to both Spanish-dominant and bilingual Hispanics. Their findings include:

a. Unaided advertising recall ("awareness" of the commercial) was 61% higher for Spanish commercials when compared to English (for both groups).

b. Persuasiveness (measured by the impact of a commercial in changing consumer interest among competing brands) was 6 times stronger in Spanish for Spanish dominant Hispanics and 3.4 times stronger for bilingual Hispanics.

c. Main message recall (measured by the respondents’ ability to write down the main idea of a commercial) was 83% higher in Spanish for Spanish dominant Hispanics and 36% higher for bilingual Hispanics (e.g., 71% of those who viewed the commercial in Spanish correctly recalled the main message, versus 52% of those who viewed the commercial in English).

Similar analyses for Internet-based advertising and promotion in Spanish could not be located. However, it seems reasonable to assume that retention of information provided over the Internet by Spanish-dominant and bilingual individuals would also be greater if the information were provided in Spanish.

Data from the Roslow Research Group (2002) also indicated that only 63 percent of the Spanish-speaking Internet users list their home as their primary location of Internet access. Other primary access sites include school: 10%; work: 8%; friend/relative: 11%, and library: 7%. In fact, only 67 percent stated that they had access to the Internet at home. Access outside of the home obviously facilitates use of the Internet by Hispanics. However, the lack of home access may also account for some of the differences across studies in Hispanic Internet usage, since some studies only focus on household access to computers or the Internet.

Question 2. How often do Spanish-speakers use the Internet to seek health information?

A recent (May 2002) report produced through the Pew Internet and American Life project did an in-depth analysis of Internet users that have gone online to search for health information (Fox and Rainie, 2002). These individuals (n=500), referred to in the report as “health seekers” were predominantly middle-aged and were more likely to be women than men. Most relevant to this report, the report found that “interest in health information cuts across ethnic and racial groups in a relatively equal way – white, black and Hispanic Internet users are equally enthusiastic for such material”. Specifically, the percentage of Internet users that have gone online looking for health information was 62% for Whites vs 60% and 61% for Hispanics and Blacks, respectively. Unfortunately, this report did not stratify by language-preference for Hispanics.

Utilizing DrTango’s databases, we specifically asked a question about the frequency with which Spanish-speakers seek health information on the Internet. The results of this analysis are reported in Section III.
**Question 3. What are the demographic characteristics of those Spanish-speakers that use the Internet to search for health information?**

The study by Fox and Rainie (2002) did not present demographic characteristics of Hispanics vs. other ethnic groups. Spooner’s (2001) reports that those who searched the Internet for health information were more often women than men (59% versus 42%) and more often older than younger individuals (55% for those aged 30+ versus 46% for those under 30). Many studies have examined many other dimensions for the average Internet user (e.g., impact of a chronic condition), but these have not been applied to Hispanics in general or to Spanish-speaking Hispanics in particular. There is very little known about Spanish-speaking Internet Health Seekers.

Some insight into the demographic characteristics of Spanish-speakers who use the Internet is reported in Section III.

**Question 4. What type of health information is of greatest interest and concern to Spanish-speaking U.S. Hispanics?**

Although not addressing Spanish-speaking populations specifically, the study by Fox and Rainie (2002) did report information on interest in specific health topics. They reported significant changes in the types of health information being sought by Internet “health seekers” (Table 3). Specifically, the authors emphasized the fact that in an earlier (August 2000) survey, only 13% of health seekers said they had sought information about “fitness and nutrition”, but when “weight control” was added to the category, the percentage was 65%. It is not known how much of this jump was due to addition of weight control to the category versus an increased interest in the topic of weight control over time. Very interestingly, however, the study found that those who described their health as “fair or poor” were more likely than those in excellent health to have looked for information about nutrition, exercise and weight control.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Looked for information about a particular illness or condition</td>
<td>93</td>
</tr>
<tr>
<td>Looked for information about nutrition, exercise, or weight control</td>
<td>65</td>
</tr>
<tr>
<td>Looked for information about prescription drugs</td>
<td>64</td>
</tr>
<tr>
<td>Gathered information before visiting your doctor</td>
<td>55</td>
</tr>
<tr>
<td>Looked for information about alternative or experimental treatments or medicines</td>
<td>48</td>
</tr>
<tr>
<td>Looked for information about mental health issue like depression or anxiety</td>
<td>39</td>
</tr>
<tr>
<td>Looked for information about a sensitive health topic that is difficult to talk about</td>
<td>33</td>
</tr>
<tr>
<td>Looked for information about a particular doctor or hospital</td>
<td>32</td>
</tr>
<tr>
<td>Diagnosed or treated a medical condition on own, without consulting you doctor</td>
<td>18</td>
</tr>
</tbody>
</table>


**Question 5. What has been the availability of credible Spanish-language websites and health content? How is this changing?**

Two studies based on the RAND report “Proceed with Caution: A Report on the Quality of Health Information on the Internet” (Berland et al, 2001) are most relevant to this question. Bertrand (2001) found:

- “Search engines are not efficient tools for locating health information on a particular health topic.” The chance that a user will find “information that is relevant to their search” is 20 percent using English search engines and only 12 percent using Spanish search engines.
- “Consumers often find incomplete answers to their questions, but the information that is provided is generally accurate.” “The average English-language website lacked information about one in four of the topics that medical experts and consumer advocates thought were important to consumers…Health information on Spanish-language websites was sparse and less consistently accurate.”
- “Most Web-based health information will be difficult for the average consumer to understand.” “Half of the English-language materials are written at the college level,” as are 40 percent of the Spanish-language materials. “All [of the English-language materials] were at least the tenth-grade reading level,” and for Spanish-language materials “almost all were written at least the ninth-grade reading level.”

Berland (2001) concluded that “the best English-language websites are far better than the best Spanish-language sites. Major gains in quality of Spanish-language information…can be achieved by translating and culturally adapting what is now available in English.”
Question 6. How satisfied are Spanish-speaking U.S. Hispanics with the health information they find on the Internet? Is the information understandable and relevant to their needs?

We have been unable to find any published studies that researched this issue. We thus specifically asked our database these questions as reported in Section III.

Summary and Conclusion

In summary, a number of reports have been published on Hispanic Internet usage and on the usage of the Internet to search for health information. These new reports confirm the rapid increase in Internet usage by Hispanics and the growing importance of the Internet for Hispanics as they seek health information. However, current studies still leave a number of gaps, specifically in regard to the preference by Hispanics to use the Internet in Spanish.

In the next section, we describe in more detail DrTango’s health information products, relationships and databases and the opportunities they present to fill in some of these gaps.
III. DRTANGO PRODUCTS, RELATIONSHIPS AND DATABASES

DrTango Inc. has developed a number of health information products and relationships that, in turn, have created several unique databases relating to Spanish-speaking Hispanics. These databases provide an array of information about the demographic characteristics, attitudes and health concerns of Spanish-speaking Hispanics who use the Internet to access health information.

In the following sections, we will briefly describe the key products, and the various delivery mechanisms, which have allowed us to build a variety of databases of information on Hispanics using health content on the Internet.

Content Products

For the current report, two health information products are of particular relevance:

- The Health Illustrated Encyclopedia
- MiDieta™ – A Diet, Fitness and Weight Management Application

These health information products are briefly described below.

Health Illustrated Encyclopedia

The Health Illustrated Encyclopedia was produced and is owned by A.D.A.M., Inc. The Spanish-language version was translated, made culturally relevant and is maintained by DrTango, Inc. The encyclopedia offers more than 11,000 pages of health content including answers to common medical questions related to disease and conditions, and information about medical tests, symptoms, injury, treatment options, surgical procedures, poisoning, nutrition and drugs. The information is organized into more than 3700 “articles” each of which addresses a specific health issue or topic.

A demonstration of the Health Illustrated Encyclopedia is available at www.drtango.com.

MiDieta™ – A Diet, Fitness and Weight Management Application

DrTango’s proprietary MiDieta™ application is an online, Spanish-language nutrition and physical activity promotion program. The product offers a range of features, including articles, recipes, tips, personalized menus, and access to bilingual dietitians. Of most relevance to the current report, however, are two features:

- Free evaluation of body weight status, diet and physical activity patterns.
- “Ask the Expert” service in which individuals can email their health-related questions and receive responses from highly qualified nutrition and medical experts.

A demonstration of MiDieta™ is available at www.midieta.com.
Delivery Mechanisms

The *Health Illustrated Encyclopedia* and MiDieta™ are being licensed to and integrated into the websites of two distinct groups:

- Spanish-language media portals and
- U.S. healthcare providers

For the current report, we analyzed the data generated through the utilization by Univision.com, the largest Spanish-language destination website for Hispanics, and the “Hampton” Healthcare System. (Hampton is not the real name of a hospital system based in the Southern U.S.) These institutions and the product integration are described in more detail below.

1. Spanish-Language Media Portal: Univision.com Website
DrTango, Inc has a strong strategic relationship with Univision Online, the largest destination site for Spanish-speaking U.S. Hispanics. Univision.com is actively used by nearly 7 million Spanish-speaking Hispanics each month. An advantage for the current report is that the Univision.com website is *only in Spanish* and *over 90% of visitors are from the U.S.*

Both the *Health Illustrated Encyclopedia* and MiDieta™ have been integrated into the Univision.com website.

*Health Illustrated Encyclopedia* (HIE): The Health Illustrated Encyclopedia was integrated into the Univision.com website in July 2002. With the objective of closing some of the gaps in knowledge identified through the literature review for this project, Univision Online agreed to attach a registration and exit survey to the encyclopedia.

In order to access the encyclopedia on the Univision.com website, users enter via the “Health” section of the Univision.com website, where they are presented with a banner that invites them to explore the encyclopedia content. Once at the Health Illustrated Encyclopedia Home Page, the user can easily locate articles containing health information on a specific topic by

1. Searching for the topic by name in the alphabetized index,
2. Searching for related articles using key words, or
3. By using their mouse to point and click on a part of the body affected on a manikin figure (See Appendix A: Encyclopedia Home Page).

*Health Illustrated Encyclopedia Registration on the Univision.com Website:* Visitors arriving at the encyclopedia are allowed to view a maximum 10 articles to familiarize themselves with the content at no charge. After reaching the maximum, the user is then presented with a request to become a registered user and is taken to a registration page (see Appendix B). The registration page requires information on country, state
and city of residence, date of birth, gender and education. A final question asks what language they prefer to use when seeking health information.

User Evaluation Process: In order to gather opinions of Spanish-speaking users in regard to their level of satisfaction with the process of searching online for health information, an “exit” evaluation was programmed into the encyclopedia. The interface is designed such that, when the user chooses to leave the encyclopedia content, a message appears encouraging them to fill out a short evaluation of their experience on the site. An incentive is offered to those completing the evaluation, consisting of a chance to win a prize of a $50 credit for purchases at the Univision.com consumer site. The evaluation form (see Appendix C) asks the following questions:

1. Did you find the information you were looking for?
2. Was the information useful to you?
3. What did you like most about the Encyclopedia?
4. What did you like least about the Encyclopedia?
5. How frequently do you search for health information on the Internet?
6. In general, how satisfactory is the health information that you find on the Internet?

Univision.com Website Launch: The Health Illustrated Encyclopedia was launched on the Univision.com website in mid-July of 2002. After the launch, the number of users rose steadily from 40 to 50 per day during the first week to about 200 per day by mid August. Notably, a promotion by the Univision.com website in which a banner advertising the encyclopedia was placed on the Univision.com Home Page in late August dramatically increased the rate of visits to 1,800 per day, with the visit rate dropping back to about 300 per day after the brief promotion ended. In the six weeks from the launch of the encyclopedia on Univision.com to the time of this report, more than 10,000 users had utilized the health encyclopedia.

The number of registrations rose rapidly in late July shortly after the encyclopedia was launched, and then peaked dramatically in conjunction with the promotion of the site in late August. In the six weeks from the launch of the encyclopedia on Univision.com to the time of this report, more than 1,500 individuals have registered as users of the encyclopedia, and provided demographic data. We are continuing to gather data through our partnership with Univision Online.

Analysis of HIE Data: Information on all users’ article views during their visits to the encyclopedia are entered into a database. All 3,700 articles in the encyclopedia are coded according to several categorization schemes. For this report, the most frequently viewed articles have been grouped into medical categories, eg. dermatology, female genito-urinary, musculo-skeletal etc.. The articles are also categorized by the demographic group affected, e.g. pediatrics, women’s health etc, but this categorization was not used in the current report. Finally, we are currently tagging each article with ICD-9 codes and will have this task completed by October, 2002. In the future, this categorization will allow a more detailed analysis of the areas of health concern.
Another potential analysis of the encyclopedia data could be to tabulate the actual searches that users perform. This data could provide insight as to how Hispanics are thinking as they access health information, whether their search results in a match with the encyclopedia or not. However, this data is quite complex to analyze and are outside the scope of this report.

**MiDieta™ on Univision.com:** MiDieta™ was launched on the Univision.com website in January 2002, and has been very successful since its launch. Some metrics include:

- **Visitors:** Nearly 1 million unique Hispanics have accessed the MiDieta™ section of the Univision.com website
- **Evaluations:** Over 50,000 have completed the free evaluation of diet and physical activity, producing a database of the body weight and dietary patterns of Spanish-speaking consumers, linked to their individual demographic data.
- **Questions:** Over 20,000 email “Ask the Experts” questions have been received. By monitoring the topics addressed in these responses, it is possible to assess the frequency of questions on a specific topic, which then serves as an indication of the level of interest/concern about that topic.
- **Calls:** DrTango’s call center has received hundreds of questions about diet and fitness. Each question is recorded. An analyses of these questions was outside the scope of this report.

An issue in the interpretation of the MiDieta™ data stems intrinsically from the focus of the application as a resource for nutrition and dietary information. Because of this characteristic, individuals submitting data for the free diet, physical activity, body weight and behavior evaluation, and submitting questions to “Ask the Experts”, are likely to have concerns that are heavily weighted towards nutrition and dietary issues. For this reason, the body weight status and dietary patterns of MiDieta™ users, and their expressed diet and health concerns, may not be representative of the general population of Spanish-speaking Hispanics.

Despite this limitation, the MiDieta™ database provides a unique and ongoing source of information on the body weight status and dietary and physical activity habits of Spanish-speaking Hispanics that use the Internet for health. For this report, we have analyzed the “Ask the Experts” responses which provide useful insight into the types of health information being sought by Spanish-speakers who are concerned about diet and nutrition issues. In the future, the MiDieta™ database can be used for analyses and monitoring of diet and physical activity patterns of Spanish-speaking Hispanics in relation to their self-reported body weight status.

2. **U.S. Healthcare Providers: Hospital System**

**Health Illustrated Encyclopedia:** The Spanish version of the *Health Illustrated Encyclopedia* is being used by a large and growing number of hospitals and health systems, including Hampton Health.

The current report utilizes data gathered from use of the encyclopedia through the
Hampton Health corporate website. This website has provided online access to the encyclopedia the longest, and serves a large Hispanic client base. Although the encyclopedia has been active on the HAMPTON Health website since July 2001, we have only begun recording the searches and article access information in June 2002.

As of September 5, 2002, the HAMPTON Health database contained information on 8,787 unique visits to the encyclopedia.

Unlike the Univision.com version of the encyclopedia, this hospital version was fully “open”, meaning that registration is not required. Demographic data is therefore not available for the current report, since the clients do not need to register to use the encyclopedia and no unique identifying information is attached to information in the database. Nevertheless, the data represents a large sample of individuals who prefer to access health information in Spanish. As for the data collected from users of the encyclopedia from the Univision.com website, the search patterns of individuals accessing the encyclopedia from the healthcare site provide a direct indication of the health issues of most interest and concern to them. In future, we will be working with HAMPTON Health and other healthcare providers to gather demographic data on users.
IV. FINDINGS OF ANALYSIS OF DRTANGO DATABASES

As described in Section III, three databases were utilized in developing this report.

1. Health Illustrated Encyclopedia – Media Portal (Univision) version
2. Health Illustrated Encyclopedia – Healthcare Provider (HAMPTON Health) version
3. MiDieta – Media Portal (Univision) version

The sample sizes analyzed for this report are summarized in Table 4.

<table>
<thead>
<tr>
<th>Databases</th>
<th>Univision</th>
<th>Provider (HAMPTON Health)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Registered¹</td>
<td>Not-registered²</td>
</tr>
<tr>
<td>Encyclopedia</td>
<td>1,570</td>
<td>10,972</td>
</tr>
<tr>
<td>- Accessed</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Evaluations</td>
<td>137</td>
<td>---</td>
</tr>
<tr>
<td>MiDieta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Evaluations</td>
<td>51,868</td>
<td>---</td>
</tr>
<tr>
<td>- Ask Experts</td>
<td>20,000+</td>
<td>---</td>
</tr>
<tr>
<td>- Members</td>
<td>1,000+</td>
<td>---</td>
</tr>
</tbody>
</table>

¹ Number of people
² Number of unique sessions
³ Being launched Oct 1, 2002

The results of the analysis for each of the databases are presented below.

1. Health Illustrated Encyclopedia – Media Portal (Univision) version

Demographic Characteristics of Registered Users
After 6 weeks of operation on the Univision.com website, a total of 1,570 users had registered and provided demographic data. Analysis of this data indicated that 70% of the registered users were female and 30% male (Table 5). The age distribution indicates that most registered users (80%) were in the age range from 18-45 years, with another 16% in the age group from 45-65 years.

Almost one third (32%) of the registered users had a university degree (bachelors, masters or doctoral degree), while 39% had a high school degree. Notably, 64% of adult users of the encyclopedia on Univision.com website had a high school education or less.

In summary, it appears that the majority of Spanish-speaking registered users seeking health information are women 18-45 years of age, and are predominantly (64%) individuals with a high school level of education or less.
Table 5: Demographic Characteristics of users that registered for the unlimited use of the *Health Illustrated Encyclopedia* on the Univision.com website

<table>
<thead>
<tr>
<th>Total Users (N)</th>
<th>Gender (%)</th>
<th>Age (%)</th>
<th>Education (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>&lt;18</td>
</tr>
<tr>
<td>Registered Users</td>
<td>1,570</td>
<td>70</td>
<td>30</td>
</tr>
</tbody>
</table>

Language Preference
The registration form for the *Health Illustrated Encyclopedia* asks what language is preferred when seeking health information. Table 6 below shows the distribution of responses. It is clear from this data that the great majority (83%) of users on the Univision.com website prefer to obtain health information in Spanish.

Table 6: What language do you prefer to use to search for health information?

<table>
<thead>
<tr>
<th>Response:</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish</td>
<td>1298</td>
<td>83</td>
</tr>
<tr>
<td>English</td>
<td>27</td>
<td>2</td>
</tr>
<tr>
<td>Either of the two</td>
<td>178</td>
<td>11</td>
</tr>
<tr>
<td>Other language (specify)</td>
<td>67</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1570</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

User Evaluation Results
A total of 137 users filled out the evaluation form. The user responses to the six evaluation questions are presented in Tables 7-12.

1. Did you find the information you were looking for? Responses to this question indicate that 70% of the users of the *Health Illustrated Encyclopedia* found all the health information that they were seeking, and another 24% found some of the information (Table 7). Only 6% found little or none of the information they were seeking. These results indicate a very successful experience for the majority of Spanish-speakers seeking health information from the encyclopedia.

Table 7: Did you find the information you were looking for?

<table>
<thead>
<tr>
<th>Response:</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I found all the information</td>
<td>96</td>
<td>70</td>
</tr>
<tr>
<td>I found some information</td>
<td>33</td>
<td>24</td>
</tr>
<tr>
<td>I found little information</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>No, I didn’t find anything</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
2. Was the information useful to you? In regard to the usefulness of the information, 80% felt that the information was very useful and another 15% found the information somewhat useful (Table 8). Only 5% found the information of little or no use. These results closely parallel those for question 1.

<table>
<thead>
<tr>
<th>Response:</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, very useful</td>
<td>110</td>
<td>80</td>
</tr>
<tr>
<td>Somewhat useful</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>A little useful</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>No, it wasn’t useful</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>137</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3. What did you like most about the Encyclopedia? Unlike the previous questions where only one response was allowed, users were requested to check all of the relevant responses in questions 3 and 4. Among the 137 respondents, 60% indicated that they “liked most” the clarity of language and terminology (Table 9). Half of the respondents indicated that they liked the illustrations and graphics and the ease of use. The quality of the information was slightly less frequently checked (45%). The links to related information were less frequently cited as a “liked most” feature.

<table>
<thead>
<tr>
<th>Response:</th>
<th>Number of Responses</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illustrations and graphics</td>
<td>68</td>
<td>50</td>
</tr>
<tr>
<td>Ease of use</td>
<td>68</td>
<td>50</td>
</tr>
<tr>
<td>Clarity of language and terminology</td>
<td>82</td>
<td>60</td>
</tr>
<tr>
<td>Quality of the information</td>
<td>62</td>
<td>45</td>
</tr>
<tr>
<td>Links to related information</td>
<td>39</td>
<td>28</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>13</td>
<td>9</td>
</tr>
</tbody>
</table>

The 13 “Other” responses in regard to the “most liked” feature included:

- General learning (el aprendizaje en general)
- Concepts and definitions (los conceptos y definiciones)
- It is very interesting (es muy interesante)
- Explains everything in detail (explica detallamente todo)
- Abundant and clear information (información abundante y clara)
- The extensive information (la gran información)
- The feature that searches for the illness (lo que buscaba de la enfermedad)
- That it is free (que sea gratuita)
4. What did you like least about the encyclopedia? Overall, respondents indicated fewer “liked least” features of the encyclopedia, and no single feature stood out sharply in this regard (Table 10). Twenty percent of respondents indicated “Illustrations and graphics” and “Links to related information” as “least liked” (Table 7). “Clarity of language and terminology” was the least frequently mentioned as a “least liked” feature, corresponding to its relatively high rating as a “most liked” feature. Almost half (22/45) of the “Other (specify)” responses were actually comments that the user “liked everything” (me gustó todo) or found nothing they disliked (ninguna, nada, etc.) The remainder were generally directed towards disappointment with a lack of sufficient information about a specific topic.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number of Responses</th>
<th>Percent of Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illustrations and graphics</td>
<td>28</td>
<td>20</td>
</tr>
<tr>
<td>Ease of use</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Clarity of language and terminology</td>
<td>16</td>
<td>12</td>
</tr>
<tr>
<td>Quality of the information</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Links to related information</td>
<td>27</td>
<td>20</td>
</tr>
<tr>
<td>Other (specify)</td>
<td>45</td>
<td>33</td>
</tr>
</tbody>
</table>

5. How frequently do you search for health information on the Internet?
Responses to this question indicate that users of the Spanish-language encyclopedia that registered and filled out the survey are on the Internet frequently to search for health information (Table 11). A substantial proportion (39%) characterized their use of the Internet to search for health information as “daily” while another 32% indicated use of the Internet for this purpose as “once per week”. In summary, over 70% of these users searched for health information on the Internet at least on a weekly basis. We acknowledge that this sample is self-selected and unlikely to be representative of the online Hispanic population as a whole.

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daily</td>
<td>54</td>
<td>39</td>
</tr>
<tr>
<td>Once per week</td>
<td>44</td>
<td>32</td>
</tr>
<tr>
<td>Once per month</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Less than once per month</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>99</td>
</tr>
</tbody>
</table>
6. In general, how satisfactory is the health information that you find on the Internet?

Unlike the other questions which asked the users opinion about the Health Illustrated Encyclopedia specifically, this was a general question relating to satisfaction with health information on the Internet. A large proportion of respondents (67%) indicated that they found health information on the Internet to be “Very satisfactory”, while another 23% found it at least “Somewhat satisfactory” (Table 12).

The high level of satisfaction expressed with health information on the Internet may have been influenced by having just viewed the Health Illustrated Encyclopedia, which we feel is a high quality product. On the other hand, the high frequency of Internet usage reported in Table 11 above would suggest that these respondents are frequent users of the Internet and, presumably, have viewed a variety of other health information websites before using the Spanish-language version of the Health Illustrated Encyclopedia. Still, it is difficult to say whether the reported high rate of satisfaction actually reflects the general experience of Spanish-speaking Internet users when seeking health information.

| Table 12: In general, how satisfactory is the health information that you find on the Internet? |
|--------------------------------------------|--------|--------|
| Response:                                 | Number | Percent |
| Very satisfactory                         | 92     | 67     |
| Somewhat satisfactory                     | 32     | 23     |
| A little satisfactory                      | 9      | 7      |
| Unsatisfactory                            | 4      | 3      |
| Total                                     | 137    | 100    |

Health Topics of Greatest Interest

Users of the Health Illustrated Encyclopedia on the Univision.com website are given the opportunity to search for health information “articles” addressing the health topics of greatest interest to them. Table 13 displays the frequency of viewing articles grouped by health topic. The analysis is based on the 500 most frequently viewed articles.

The analysis indicates that the most common health topics searched for in the encyclopedia were articles dealing with dermatologic and female genitor-urinary issues. Articles dealing with musculo-skeletal, gastrointestinal, ear/nose/throat and cancer issues were also commonly searched for. Within the dermatology category, the most common topics were acne, nail abnormalities, swelling, itching and rashes. In the female genitourinary category the most common articles dealt with vaginal health, amenorrhea, and dysmenorrhea. The “Musculo-skeletal” topics most frequently accessed were those dealing with arthritis, muscle spasms and back pain, while gastro-intestinal topics focused on abdominal pain and swelling, heartburn and irritable bowel complaints. Ear/nose/throat and dental topics frequently searched for included tooth abscess, breath odor and cold sores and frequently searched for cancer topics included a general article on cancer and specific articles on ovarian, colon and breast cancer.
Table 13: Articles Viewed by Health Topic (Univision.com website)

<table>
<thead>
<tr>
<th>Health Topic</th>
<th>Number of Views</th>
<th>Percent of Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dermatology</td>
<td>39</td>
<td>7.8</td>
</tr>
<tr>
<td>Female genito-urinary</td>
<td>37</td>
<td>7.4</td>
</tr>
<tr>
<td>Musculo-skeletal</td>
<td>33</td>
<td>6.6</td>
</tr>
<tr>
<td>Gastro-intestinal</td>
<td>33</td>
<td>6.6</td>
</tr>
<tr>
<td>Ear, Nose, Throat/Dental</td>
<td>31</td>
<td>6.2</td>
</tr>
<tr>
<td>Cancer</td>
<td>30</td>
<td>6.0</td>
</tr>
<tr>
<td>Neurological</td>
<td>26</td>
<td>5.2</td>
</tr>
<tr>
<td>Nutrition/diet</td>
<td>25</td>
<td>5.0</td>
</tr>
<tr>
<td>Pregnancy</td>
<td>21</td>
<td>4.2</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td>Other topics</td>
<td>205</td>
<td>41.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>500</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

2. *Health Illustrated Encyclopedia* –Healthcare Provider (HAMPTON Health) Version

Users of the *Health Illustrated Encyclopedia* at HAMPTON Health, a major healthcare provider that serves many Hispanic clients, were given the opportunity to search for health information “articles” addressing the health topics of greatest interest to them on the HAMPTON Health corporate website. Table 14 displays the frequency of viewing articles grouped by health topic. The analysis is based on the 500 most frequently viewed articles.

There was some similarity between the frequency with which topics were searched in the healthcare and Univision.com websites. In both sites gastrointestinal and ear/nose/throat/dental topics were frequently searched. However, users from the healthcare website more frequently searched for and viewed articles dealing with cardiovascular, pulmonary and hematologic topics.

The cardiovascular topics most frequently viewed dealt with issues such as embolism, angina, cholesterol, heart failure and arrhythmias. Pulmonary topics included atelectasis, pneumothorax and asbestosis. Finally, hematologic topics frequently searched included iron deficiency anemia, aplastic anemia, pernicious anemia and anemia related to folate deficiency.
Table 14: Articles Viewed by Health Topic (HAMPTON Health)

<table>
<thead>
<tr>
<th>Health Topic</th>
<th>Number of Views</th>
<th>Percent of Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gastro-Intestinal</td>
<td>53</td>
<td>10.6</td>
</tr>
<tr>
<td>Cardiovascular</td>
<td>51</td>
<td>10.2</td>
</tr>
<tr>
<td>Ear, Nose, Throat</td>
<td>28</td>
<td>5.6</td>
</tr>
<tr>
<td>Pulmonary</td>
<td>27</td>
<td>5.4</td>
</tr>
<tr>
<td>Hematology</td>
<td>24</td>
<td>4.8</td>
</tr>
<tr>
<td>Endocrine</td>
<td>22</td>
<td>4.4</td>
</tr>
<tr>
<td>Nutrition/Diet</td>
<td>20</td>
<td>4.0</td>
</tr>
<tr>
<td>Cancer</td>
<td>17</td>
<td>3.4</td>
</tr>
<tr>
<td>Dermatology</td>
<td>15</td>
<td>3.0</td>
</tr>
<tr>
<td>Musculo-skeletal</td>
<td>13</td>
<td>2.6</td>
</tr>
<tr>
<td>Other topics</td>
<td>230</td>
<td>46.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>500</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3. MiDieta™ – Media Portal (Univision.com website) version

**Demographic Characteristics**

More than 50,000 Spanish speaking Hispanics have completed the free evaluation offered within MiDieta™ on the Univision.com website (Table 15). Compared to the users of the Health Illustrated Encyclopedia on the Univision.com site, the users of MiDieta’s free evaluation were more frequently female (90% vs. 70%) and were younger with 54% being under age 30. This high proportion of young women seeking the free diet, physical activity and body weight evaluation would appear to indicate a high degree of concern with body weight among younger, Spanish-speaking women.

Table 15: Demographic Characteristics of Users Receiving Free Evaluation

<table>
<thead>
<tr>
<th>Total Users (N)</th>
<th>Gender (%)</th>
<th>Age (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Free Evaluation Users</td>
<td>51,868</td>
<td>91</td>
</tr>
</tbody>
</table>

**Health Topics of Greatest Interest**

A review of the topics of the messages sent in response to the “Ask the Expert” questions is provided in Table 16. The listed responses exclude those that were very general in nature and did not focus on a specific issue. As might be expected in a website devoted to diet, nutrition and exercise, the most frequent response addressed the issue of weight loss. Other frequent topics focused on aspects of weight loss and methods to achieve that goal.
<table>
<thead>
<tr>
<th>Health Topic</th>
<th>Number of Views</th>
<th>Percent of Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lose Weight</td>
<td>1933</td>
<td>65.8</td>
</tr>
<tr>
<td>Reduce belly</td>
<td>156</td>
<td>5.3</td>
</tr>
<tr>
<td>Pills</td>
<td>142</td>
<td>4.8</td>
</tr>
<tr>
<td>Lose Weight fast</td>
<td>108</td>
<td>3.7</td>
</tr>
<tr>
<td>Cellulite/stria</td>
<td>84</td>
<td>2.9</td>
</tr>
<tr>
<td>Gain weight</td>
<td>62</td>
<td>2.1</td>
</tr>
<tr>
<td>Nutrition for children</td>
<td>50</td>
<td>1.7</td>
</tr>
<tr>
<td>Thyroid problems</td>
<td>46</td>
<td>1.6</td>
</tr>
<tr>
<td>Exercise to loose weight</td>
<td>32</td>
<td>1.1</td>
</tr>
<tr>
<td>Carbohydrates</td>
<td>36</td>
<td>1.2</td>
</tr>
<tr>
<td>Burn Fat</td>
<td>32</td>
<td>1.1</td>
</tr>
<tr>
<td>Diet and Pregnancy</td>
<td>30</td>
<td>1.0</td>
</tr>
<tr>
<td>Diet and Lactation</td>
<td>30</td>
<td>1.0</td>
</tr>
<tr>
<td>Maintain current weight</td>
<td>30</td>
<td>1.0</td>
</tr>
<tr>
<td>Anxiety</td>
<td>25</td>
<td>0.9</td>
</tr>
<tr>
<td>Diabetes</td>
<td>21</td>
<td>0.7</td>
</tr>
<tr>
<td>Abdominal exercises</td>
<td>20</td>
<td>0.7</td>
</tr>
<tr>
<td>Constipation</td>
<td>20</td>
<td>0.7</td>
</tr>
<tr>
<td>Importance of water</td>
<td>17</td>
<td>0.6</td>
</tr>
<tr>
<td>Hormone treatment</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>For Teens</td>
<td>9</td>
<td>0.3</td>
</tr>
<tr>
<td>Bulimia</td>
<td>8</td>
<td>0.3</td>
</tr>
<tr>
<td>Water to loose wt</td>
<td>7</td>
<td>0.2</td>
</tr>
<tr>
<td>Nutrition and aging</td>
<td>7</td>
<td>0.2</td>
</tr>
<tr>
<td>Wt loss surgery</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td>Rice</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td>Proteins to build mus</td>
<td>4</td>
<td>0.1</td>
</tr>
<tr>
<td>Benefits of walking</td>
<td>3</td>
<td>0.1</td>
</tr>
<tr>
<td>Diet/lactation/exercis</td>
<td>3</td>
<td>0.1</td>
</tr>
<tr>
<td>Back exercises</td>
<td>2</td>
<td>0.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2938</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
V. SUMMARY AND CONCLUSIONS

Principal Aims

The Internet offers a unique opportunity for consumers to access health information in a timely and efficient manner. The principal aims of this report have been to add to our understanding of the current and potential use of the Internet by Spanish-speaking U.S. Hispanics seeking health information. Specifically, the report has sought to address the following key questions and issues:

- To what degree are Spanish-speaking U.S. Hispanics using the Internet?
- How often do Spanish-speakers use the Internet to seek health information?
- What are the demographic characteristics of those Spanish-speakers that use the Internet to search for health information?
- What type of health information is of greatest interest and concern to Spanish-speaking U.S. Hispanics?
- What is the availability of credible Spanish-language websites and health content? How is this changing?
- How satisfied are Spanish-Speaking U.S. Hispanics with the health information they find on the Internet? Is the information understandable and relevant to their needs?

Key Findings

1. To what degree are Spanish-speaking U.S. Hispanics using the Internet?

The literature review suggests that between 32% and 50% of Hispanics are using the Internet, and that this prevalence is increasing. Notably, the percentage of time that these Hispanics are spending on Spanish-language websites has increased over the past years and is now 55% of the time they are online.

The analysis of DrTango’s databases cannot address the issue of overall prevalence of Internet use by Spanish-speaking U.S. Hispanics, since these databases are not national samples.

2. How often do Spanish-speakers use the Internet to seek health information?

The literature review did not find studies specifically addressing this issue.

We specifically included the question above in our survey of users of the Health Illustrated Encyclopedia who filled out the evaluation form. Almost 40% responded that they used the Internet “daily” to search for health information while another 32% used the Internet “once per week”. In summary, over 70% of these Spanish-speaking users searched for health information on the Internet at least a weekly basis.
The interest of Spanish-speaking Hispanics in obtaining Spanish-language health information is also reflected in the volume of users coming to DrTango’s websites. In the few months since the launch of these websites, data has been collected on over 12,000 users of the *Illustrated Health Encyclopedia* on the Univision.com website, and over 8,000 users on the healthcare site. MiDieta™ has been accessed by nearly 1 million Hispanics since it was launched in January 2002. We have been particularly surprised, and pleased, by the popularity of the MiDieta’s free online diet, physical activity and body weight status evaluation. Nearly 70,000 users have completed this evaluation, with an additional 200-500 Spanish-speaking Hispanics being added each day.

This data, along with the thousands of individual interactions we have had with Hispanics seeking answers to questions, indicate to us a very strong interest in health information in Spanish by U.S. Hispanics, and a continuing shortage of information in Spanish relative to this demand.

3. **What are the demographic characteristics of those Spanish-speakers that use the Internet to search for health information?**

The literature review indicates that more women than men (59% vs 42%) use the Internet for health information, and that 46% of users are under age 30.

Analyses of the DrTango databases provide substantial additional information in regard to the demographic characteristics of Spanish-speaking Hispanics who search the Internet for health information. Approximately 70% of those using the online Spanish-language *Health Illustrated Encyclopedia* were women, with 31% under age 30 and an additional 51% between the ages of 30 and 45. Over 90% of the users of MiDieta’s online evaluation of diet, physical activity and body weight status were women, and the majority (54%) was under age 30.

In regard to educational level, the users of the encyclopedia on the Univision.com website were predominantly (64%) individuals with a high school education or less. This relatively low level of education was unexpected. It is very common for Hispanics that accessed the MiDieta™ application to express to us that “this is really the first time (they) have tried to do something online”. The vocabulary and grammar of the questions sent to our “Ask the Experts” similarly reflect a low level of education and literacy, but a high, at times almost frantic, desire for solutions to their health problems and concerns.

4. **What type of health information is of greatest interest and concern to Spanish-speaking U.S. Hispanics?**

The literature review did not find studies specifically addressing this question. However, we believe that the *Health Illustrated Encyclopedia*, coupled with varied methods for delivering this content to consumers, provides a truly unique opportunity to gain understanding in this area.

Data based on utilization of the *Health Illustrated Encyclopedia* by users on the Univision.com website and through the healthcare provider HAMPTON Health provide a
direct indication of the major health interests and/or concerns of Spanish-speaking Hispanics.

Users from both the Univision.com website and the healthcare website frequently accessed information on commonplace gastrointestinal and ear/nose/throat/dental topics. In addition, users on the Univision.com website searched frequently for information dealing with skin problems, female genitor-urinary problems and musculo-skeletal complaints. The demographic profile of the users accessing this information guide our interpretation. On both the media and health provider websites, the majority are women between the ages of 18 and 44.

We also found that users from the healthcare website were somewhat more likely to search for articles dealing with chronic disease issues including cardiovascular and pulmonary conditions. Individuals sending questions to the “Ask the Expert” feature of the MiDieta™ website were, as expected, primarily focused on issues of weight loss and diet.

5. What is the availability of credible Spanish-language websites and health content? How is this changing?

The review of the literature indicates a shortage of reliable, understandable and relevant health information on the Internet, especially in regard to information in Spanish. Bertrand (2001) found that search engines are not efficient tools for locating health information on a particular health topic and that “consumers often find incomplete answers to important questions”. Moreover, “Health information on Spanish language sites was sparse and less consistently accurate”.

DrTango’s Web-based health information products seek to respond to the need for high quality, understandable and relevant health information adapted to the needs of Spanish-speakers.

6. How satisfied are Spanish-Speaking U.S. Hispanics with the health information they find on the Internet? Is the information understandable and relevant to their needs?

Our literature review did not find studies specifically addressing these questions relating to Spanish-speaking Hispanics.

Users of the Spanish-language encyclopedia, however, reported a high level of satisfaction; 70 percent reported finding the information they were looking for and 80 percent found the information “very useful”, indicating that at least this source of online health information appeared to meet the needs of the majority of users.

In response to the more general question “How satisfactory is the health information you find on the Internet?”, 67% of respondents indicated that the information was “very satisfactory” and another 23% found the information “somewhat satisfactory”. These generally positive responses could have been influenced by the placement of this general question at the end of a series of questions referring specifically to the Spanish language
Health Illustrated Encyclopedia, a resource which, as noted above, received a high approval rating. Also, it is possible that those that chose to fill out the evaluation may not be typical of all users. It could be hypothesized that individuals filling out the evaluation are likely to be users who are more comfortable with operating in the online setting and more positively disposed to receiving online information. However, the high level of satisfaction reported indicates that at least some Spanish-speaking users find the Internet to be a generally satisfactory way of obtaining health information.
VI. NEXT STEPS AND FUTURE OPPORTUNITIES

The relatively short duration and limited scope of this initial project has only allowed us to address a limited number of questions regarding how Spanish-speaking Hispanics utilize the Internet for health. There are a number of immediate questions that we would like to further explore utilizing our datasets. In addition, DrTango is uniquely positioned to implement a number of larger, more significant initiatives in this area.

Questions Remaining That Can Be Answered with Current Data

A number of important questions remain to be answered in regard to the health information needs and interests of Spanish-speaking Hispanics. DrTango’s unique databases could address questions such as the following:

1. How do the health concerns and interests of Spanish-speaking Hispanics vary in relation to social/demographic characteristics? For example:
   - Do health concerns among Spanish-speaking Hispanics vary in relation to age and gender?
   - How do health concerns differ in relation to education level?
   - Are there differences in health concerns among Hispanics in relation to language preference?

2. How do dietary and physical activity patterns of Spanish-speaking Hispanics vary in relation to demographic and other characteristics? For example:
   - How do self-reported dietary and physical activity patterns vary in relation to age and gender?
   - How do these patterns vary in relation to body weight status?

3. What actions did Spanish-speaking Hispanics take after accessing the health encyclopedia or other health content?
   - We are interested in knowing what actions Hispanics take based on good health information in Spanish.

4. How are health concerns among Spanish-speaking Hispanics changing over time?
   Since data collection in DrTango’s databases is an ongoing process, we will be tracking the changes based on the selected indicators over time. This would permit analysis of questions such as:
   - Do health interests and concerns among Spanish-speaking Hispanics change over time?
   - Are there specific changes in interest or concern regarding health conditions for which Hispanics are at increased risk, such as diabetes or cardiovascular disease?
Future Opportunities

- **CDC’s own database of Online Hispanics:** The CDC could create its own local, regional, and/or national database of Hispanics by adding DrTango’s content products and services (such as the Health Illustrated Encyclopedia and MiDieta™) to the CDC website. This report describes the highly useful databases created by adding these products to the Univision.com and healthcare provider websites. Adding these applications to the CDC website would similarly create a database in which the CDC could use to track and analyze trends in usage and health topic search patterns of Spanish-speaking Hispanics who seek health information from the CDC website.

- **Direct and Targeted communication with Hispanics:** DrTango currently delivers a personalized, interactive and localized online Spanish-language newsletter on diet and health to over 100,000 Hispanics. Through collaboration with our hospital clients, as well as integration of MiDieta™ into other media portals, we expect this number to grow to over 1 million by the end of 2003. This database provides the opportunity for direct communication with Hispanics who, as evidenced by their willingness to complete the dietary and health evaluation, are by definition health seekers. Communications can be localized and customized all the way to the zip code level if necessary.

- **Health Illustrated Encyclopedia on Governmental websites:** The National Library of Medicine (NLM) has just launched a Spanish language website. The core consumer content on the NLM website is the same as the ADAM Health Illustrated Encyclopedia utilized for this report. We would be interested in replicating the analyses included in this report with the NLM or other governmental agency versions.

- **Integration and Promotion of CDC’s initiatives:** Our health content products are being improved and expanded. We are developing and will soon launch a “Diet and Diabetes” module within MiDieta™. Although the menus within MiDieta™ are already in accordance with the American Diabetes Association guidelines, we will be adding additional functionality and content to the “Diet and Diabetes” module within MiDieta™. We would be enthusiastic to work with CDC to integrate specific guidance, behavior change strategies and/or monitoring initiatives into this product from the start.

- **Bilingual Version of MiDieta™:** Through a strategic investment by HAMPTON Health, we are currently translating MiDieta™ into English. By the end of 2003, we will have a bilingual version of the program. This version will benefit not only English only speakers that want to manage their weight, but is being designed to be a communication tool that non-Spanish-speaking healthcare professionals can use to counsel their Hispanic patients.
- **MANGO – A Multimedia Diet and Weight Management application for Low-Income Hispanics.** MiDieta™ is successfully providing diet and weight management guidance to the 30-50% of Hispanics that are online. It does not, then, benefit the 50-70% of Hispanics who are not computer savvy. This population is also the group that is most likely to be: exclusively Spanish-speaking, low-income, and suffer from the highest rates of overweight, obesity and related conditions. We have thus designed a conceptual prototype of a multimedia system for the diet and weight management of low-income Hispanics. This system, which would leverage voice recognition and touch screen technologies, would be clinic-based, bilingual, culturally localized, and interactive. The design would draw heavily on MiDieta’s database of over 2,500 menus and the consumer feedback we have received. A proposal to develop and test the feasibility of the MANGO system has been submitted to the NIH SBIR program, but funding will be available in April 2003 at the earliest. We are thus concurrently seeking alternative funding sources.

- **National Collaboration of Hospitals:** The data presented in this report is based on data gathered through just one healthcare system of 42 hospitals. The Spanish Health Illustrated Encyclopedia is being delivered through the websites of literally hundreds of additional hospitals. Senior executives at Tenet, Wake Forest, Wyckoff Heights Medical Center, and others have expressed their specific interest in participating in a larger collaboration and analysis. Further analysis into questions such as those indicated above would allow additional insights into the health information needs of Spanish-speaking Hispanics and allow us to stratify by geographic region and ethnic sub-group (i.e. Mexican American vs. Cuban American). As data collection continues, the size of these databases will continue to grow, allowing more detailed analysis of the health information interests and concerns of age, gender, education or language preference sub-groups.

- **MiDieta™ through Hospitals:** The first hospital version of MiDieta™ was just recently launched with Wyckoff Heights Medical Center. By the end of 2002, it will be available through HAMPTON Health and a number of other large health systems. Widespread use of this product will allow us to document dietary and fitness habits of Hispanics that are accessing this application through a hospital website.
REFERENCES


Fox S and Rainie L. Vital Decisions: How Internet users decide what information to trust when they or their loved ones are sick. Pew Internet and American Life Project, May 2002.


Appendix A: Encyclopedia Home Page

Bienvenido a la Enciclopedia Ilustrada de Salud

Así como lo podrá comprobar durante su visita a nuestras páginas, la Enciclopedia es una impresionante combinación de textos, imágenes y medios interactivos que le ofrecen información sobre diversas enfermedades y condiciones de salud. Cada título está presentado en términos sencillos y comprensibles para la población en general y viene acompañado de miles de ilustraciones y fotografías.

El contenido de la Enciclopedia está organizado en tres grandes grupos.

Un grupo corresponde a temas de interés general y tiene cerca de 4.000 artículos de salud y calidad de vida. En cada artículo se presenta una descripción de una condición de salud o enfermedad, se explican sus síntomas y causas y se ofrece información sobre sus posibles tratamientos. Un elemento que contribuye a hacer única esta Enciclopedia es que sus 10.000 páginas están conectadas por más de 85.000 hipervínculos que le permiten al lector descender a un tópico a otro con gran facilidad.
Appendix B: Encyclopedia Registration Form

Registro de usuarios a la Enciclopedia Ilustrada de Salud de DrTango

Te invitamos a utilizar la Enciclopedia Ilustrada de Salud de DrTango sin costo alguno, mientras dure nuestra oferta especial limitada. Por favor, llenar los datos en la siguiente plantilla.

Correo electrónico: 
Contraseña: 
Confirmar contraseña: 
Ciudad: 
Estado/ Código postal: 
Pais: 
Fecha de nacimiento: Día, Mes, Año: 
Sexo:  ❑ Femenino  ❑ Masculino
Educación: ❑ Escuela primaria ❑ Secundaria, hasta el 6º curso ❑ Bachiller ❑ Técnico

Contains commands for working with the selected items.
Appendix C: Encyclopedia Evaluation Form

Enciclopedia Ilustrada de Salud

¡Danos tu opinión sobre la Enciclopedia Ilustrada de Salud de DrTango y tendrás la oportunidad de ganar $50 dólares de crédito para Compras en Univisión!

1. ¿Encontraste la información que buscabas?
   - Sí, encontré toda la información
   - Encontré algo de información
   - Encontré poca información
   - No encontré nada

2. ¿Te fue útil esta información?
   - Sí, muy útil
   - Algo útil
   - Poco útil
   - No, no fue útil

3. ¿Qué te gustó más sobre la Enciclopedia Ilustrada de Salud de DrTango? (Marca todas las opciones relevantes)
   - Las ilustraciones y gráficos
   - La facilidad para usarla
   - La claridad del lenguaje y la terminología
   - La calidad de la información
   - Los vínculos (links) hacia información relacionada
   - Otra (por favor, especificar):