

Burden Report Evaluation

2011-2012

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Overview

Purpose of the Evaluation

This evaluation is being completed to identify more effective ways of disseminating the asthma burden report and to improve the content by determining which data are being utilized most by target audiences. Evaluation findings will be used to improve usability, application, and dissemination of the next burden report. This may include changes to data content and presentation, while broadening the scope of dissemination vehicles. This evaluation also looks at how to improve reporting of disparate population data and make the data more understandable to the public. The Utah Asthma Program (UAP) staff members in charge of creating and disseminating the burden report will be responsible for implementing the evaluation recommendations.

Background on the Burden Report

Utah's first asthma burden report was published in 2004. At that time, the report contained primarily Behavioral Risk Factor Surveillance System (BRFSS) Core data, which include only a handful of questions on asthma. In 2007, another burden report was created using data from the BRFSS Core and Adult History Module. This report gave a more thorough picture of asthma among adults in Utah because more data were available. The most recent burden report was completed in 2009. This report included the BRFSS Core, Adult History Module, and Call-back data. The Call-back questionnaire provides a wealth of information as it includes about 100 asthma-specific questions for both adults and children. From the first burden report in 2004 to the current report, many improvements have been made in the formatting and content based on increased data.

Methodology

The evaluation group worked together to structure the evaluation plan for the burden report. The evaluation was carried out using a non-experimental sequential mixed methods design. Data were collected using a document review, survey questionnaire, evaluation worksheet, and key informant interviews. The quantitative data analyses included primarily descriptive statistics, and were analyzed for themes and pertinent recommendations.

Evaluation Questions

The evaluation questions were written by the evaluation group and reflect the interest of the vested stakeholders in the task force and action groups. The questions were utilized throughout the evaluation process, but especially when designing data collection instruments and analyzing results. These questions will be answered throughout the remainder of the report.

1. What data are people using from the burden report?
2. What data should be included in the new burden report?
3. What are the best methods for disseminating the burden report?
4. What data on disparate populations should be used in the report?
5. What ways can data be shared to make them more understandable to the public?

Data Collection

Literature Review and Document Review

The data were collected using several methods. The first step included a thorough literature review of key concepts related to burden report content, messages and dissemination. The second step involved a document review, which incorporated a comparison between the UAP Burden Reports and asthma burden reports from California, Pennsylvania and Michigan. A table was constructed to analyze specific components of the four state burden reports in order to answer evaluation questions and set recommendations.

Internet-based Questionnaire

The third step involved development of a questionnaire based on previously used evaluation questionnaires found during the literature review. The burden report evaluation questionnaire contained 12 questions with various response methods (see Appendix B) and was administered via the Internet using Survey Monkey. A link to the survey was sent to all UAP listserv members as this group is one of the primary stakeholders downloading the burden report. The questionnaire was sent to this audience only because previous attempts to do a pop-up or embedded survey were unsuccessful in the time allotted for the evaluation. An embedded survey will be added to the link for the 2012 Burden Report and data will be collected over the next year for future evaluation efforts.

Key-Informant Interviews and Evaluation Worksheet

The final step involved interviewing three other chronic disease epidemiologists on burden report content and dissemination methods. The questions were taken from the instruments found during the literature review; the full set of questions asked is in Appendix C. The interviews were conducted by the UAP Evaluator, but were recorded and transcribed by a UAP intern. The epidemiologists interviewed were also asked to review the UAP Burden Report and complete an evaluation worksheet which is also found in Appendix C.

Data Analysis

The data were analyzed using Microsoft Excel and SAS statistical software. The report contains primarily descriptive statistics shared in graphs and charts. The qualitative data collected in the key informant interviews and open response questions were used primarily to support the quantitative data and were analyzed separately for themes.

Results

Overview

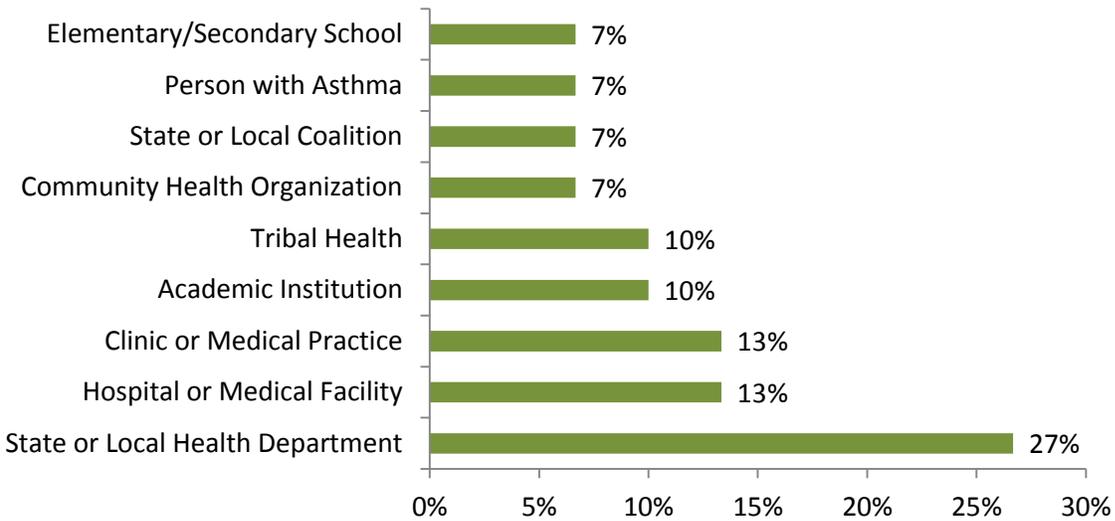
Document Review

The document review included a comparison of the three burden reports previously created by the UAP as well as asthma burden reports from California, Michigan and Pennsylvania. The full document review can be found in Appendix A, but a portion of the results will be shared throughout the results section.

Internet-based Questionnaire

The Internet-based questionnaire consisted of 12 questions, including selected response, Likert scale and open-ended questions. The link was sent to the 89 members of the UAP listserv, 30 of whom completed the questionnaire for a 33.7% response rate. According to the literature, this rate is acceptable for an Internet-based evaluation survey. The only demographic question asked on the questionnaire was about the respondent's primary work affiliation. Figure 1 shows respondents' primary organization of affiliation.

Figure 1: Internet-based Questionnaire Sample



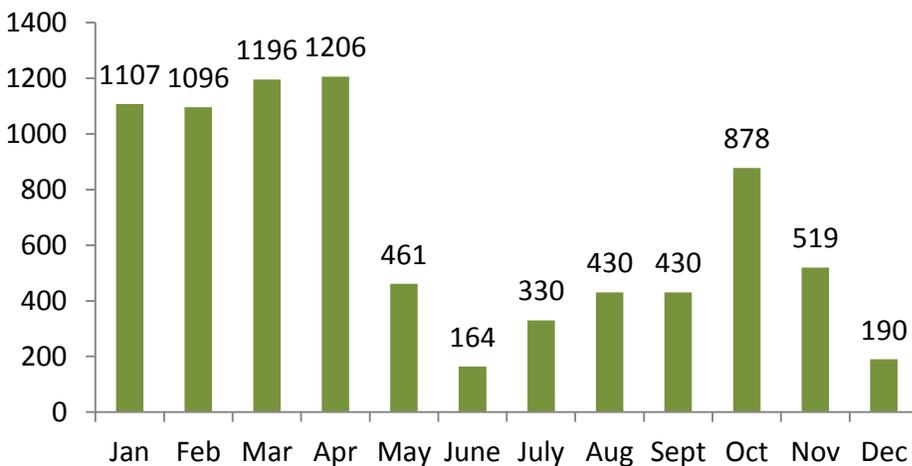
Interviews

The final data were collected by interviewing three chronic disease epidemiologists. Claudia Bohner from the Tobacco Program, Mary Catherine Jones from Heart Disease and Stroke, and Meghan Balough from the Cancer Program were interviewed. These three epidemiologists were also responsible for reviewing the 2009 UAP Burden Report and completing the evaluation worksheet.

Downloads and Content Used

The UAP Burden Report continues to be one of the most heavily downloaded documents on the UAP website at about 8,000 downloads per year. There are monthly fluctuations in downloads, with the highest month having 1,206 downloads and the lowest having 164. Figure 2 shows downloads of the report by month during 2011.

Figure 2: Burden Report Downloads 2011



According to the previous evaluation on data dissemination, many of the data downloads from the UAP website originated from computer IP addresses registered to academic institutions. Not surprisingly, the

three respondents from an academic institution all reported that they had been aware of the burden report for more than six months. The next respondent organization with a large percentage reporting having known about the burden report for more than six months was the hospital or medical facility group with three out of the four. Although no specific evidence was collected on who is using the burden report, the evaluator believes that academia and medical groups make up a large portion of the downloads each month.

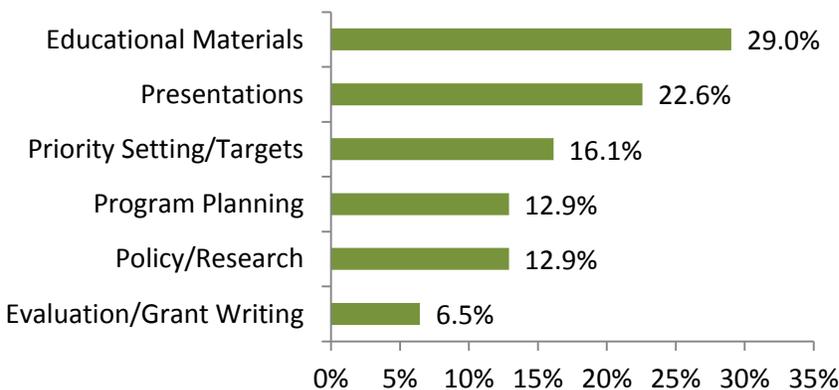
According to the online questionnaire, only 54.4% of respondents (UAP listserv members) had ever used information in the burden report in their work. This is slightly lower than expected as those surveyed have a vested interest in the UAP and asthma in general. Table 1 below shows the highest usage of the burden report by respondents' organization type.

Table 1: Top Burden Report Usage by Organization Type from Internet-based Questionnaire

Organization	Percent
Academic Institution	100%
Hospital or Medical Facility	67%
Health Department	50%
Clinic or Medical Practice	50%

Of those with 'yes' responses, most had used the information for educational materials or presentations. Figure 3 identifies ways in which respondents used the information from the burden report.

Figure 3: Methods of Burden Report Information Use



Because stakeholders are using the UAP Burden Report data for various reasons, the UAP epidemiologist should use this information to tailor the report to ensure stakeholders have the necessary data to complete the projects.

Burden Report Content

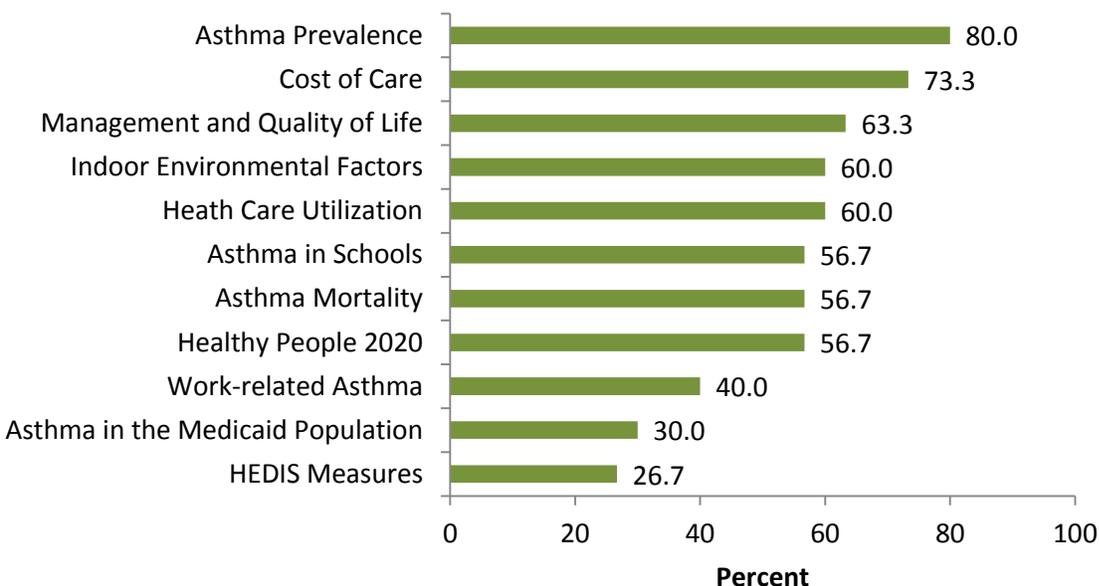
During the document review, the reviewer found that maintaining the same color for graph categories, such as male/female or adults/children, increased the ease of reading the data and graphs. The reviewer also noted that all other states had GIS maps included in the burden report. The current UAP epidemiologist has the skill set necessary to produce GIS maps and these should be included in the upcoming burden report. It was also noted in the document review and in the interviews that there is a

need to include data on asthma risk factors such as smoking and obesity. The last recommendation from both data collection sources was the need to compare asthma rates such as prevalence, ED visits and hospitalizations with national rates.

When listserv respondents were asked if the burden report increased their understanding of asthma in Utah, 57.2% of respondents agreed or strongly agreed, while 35.7% were neutral. This audience make-up is primarily people who already have a general knowledge of asthma, so a significant neutral response was expected. According to the epidemiologists' worksheets, all reported an improved understanding of asthma in Utah after reviewing the burden report. The epidemiologists also strongly agreed that the report was well organized and contained a good mixture of counts, as well as crude, age-specific, and age-adjusted rates. One epidemiologist noted a need for more trend data, especially if available for disparate populations.

Survey participants were asked which data in the current burden report were most useful. Participants were able to select multiple data categories and most selected more than four different content areas. Figure 4 shows the results of this question, with the top three content areas being: asthma prevalence (80%), cost of care (73.3%), and management/quality of life (63.6%). The lowest category was HEDIS measures, though it should be noted that, in the comments section, many respondents reported not knowing what HEDIS measures were. If HEDIS measures are included in future reports, a detailed explanation of these measures should be included to make them more understandable and usable.

Figure 4: Listserv-reported Useful Burden Report Content by Topic



Besides HEDIS measures, the other two data topics least often used were Asthma in the Medicaid Population (30%) and Work-related Asthma (40%).

Interview participants provided useful information on data report contents. One interviewee noted the importance of providing data that relate to policy initiatives. Another participant said that it's important to cut data references if they don't show a statistically significant difference. This epidemiologist mentioned that statistically significant results can often be obtained when data are analyzed by various demographic characteristics. Through the content review worksheet, more information was gained

about the UAP Burden Report current content. The results from six questions asked using a five-point Likert scale, with five being the highest and one being the lowest, are presented in Table 2.

Table 2: Epidemiologists’ Review of Burden Report Content

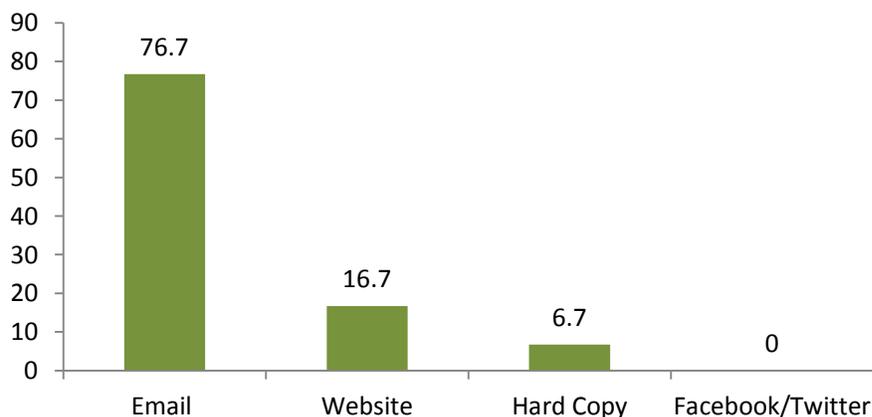
Questions	Results
1. The burden report effectively estimates the magnitude of asthma morbidity and risk factors	4.3
2. The asthma burden report effectively estimates the magnitude of asthma mortality and cost	4.6
3. The burden report improves my understanding of public health implications of asthma in Utah	4.0
4. The asthma burden report provides useful information on social determinants	4.0
5. Geographic information on asthma is useful	4.0
6. The asthma burden report is well-organized	5.0

The data from the worksheet show strength in all areas, but some room for improvement on relating the data to public health implications and on use of information on social determinants of health. One participant noted that matching the pie chart data for the age at the onset of asthma with the color in the legend was too time consuming. It should be noted that the same chart was mentioned in the last question on the Internet-based survey by a respondent who didn’t believe a pie chart was a good way to present the age at diagnosis data and that a bar chart would be better.

Dissemination

Survey participants were asked about a preferred method of receiving the burden report. It was not surprising to see that listserv members chose “email on the listserv” as the most preferred method. The full results are shown in Figure 5.

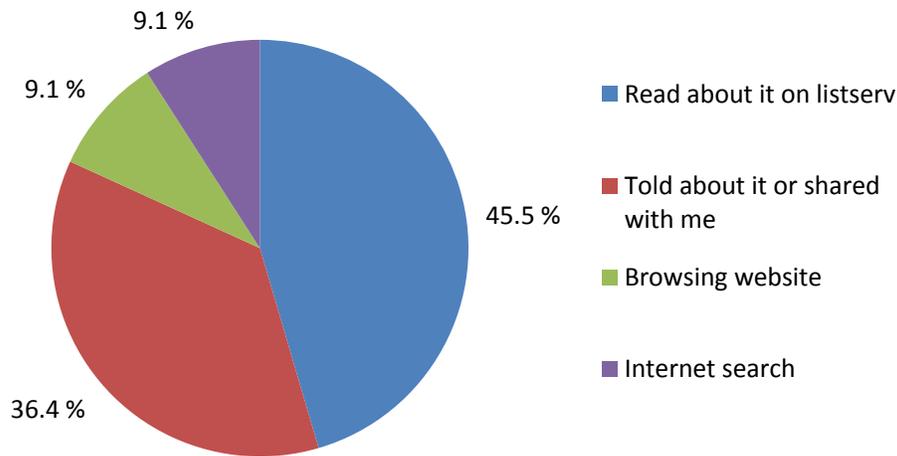
Figure 5: Preferred Dissemination Methods



It should be noted that, while no survey respondents wanted to be updated via social media, the interviews confirmed that hard copies are clearly not used as readily anymore. One interview participant said, “People stack the paper copy on the shelf and never look at it again...It would be more helpful if I could travel around the state and share the data. This would make more of a difference than whether it’s distributed electronically or hard copy.”

The online questionnaire also included a question related to how people had heard about the burden report. As seen in Figure 6, a large portion of respondents read about it on the listserv (45.5%), but nearly as many reported having been told about it or had someone share the report with them (36.4%). It was encouraging to see that people are sharing information about the existence of the UAP Burden Report or content from the report.

Figure 6: Methods by Which Participants Were Informed of Burden Report



Survey respondents were also asked how long they had been aware of the UAP Burden Report (Figure 7). Several reported not being aware of it or having been informed of it within the last month. Ideally, this sample should have a higher percentage of responses in the 1-6 Month and the Over 6 Months categories as they are vested members of the asthma listserv.

Figure 7: Time Frame for Awareness of the Burden Report

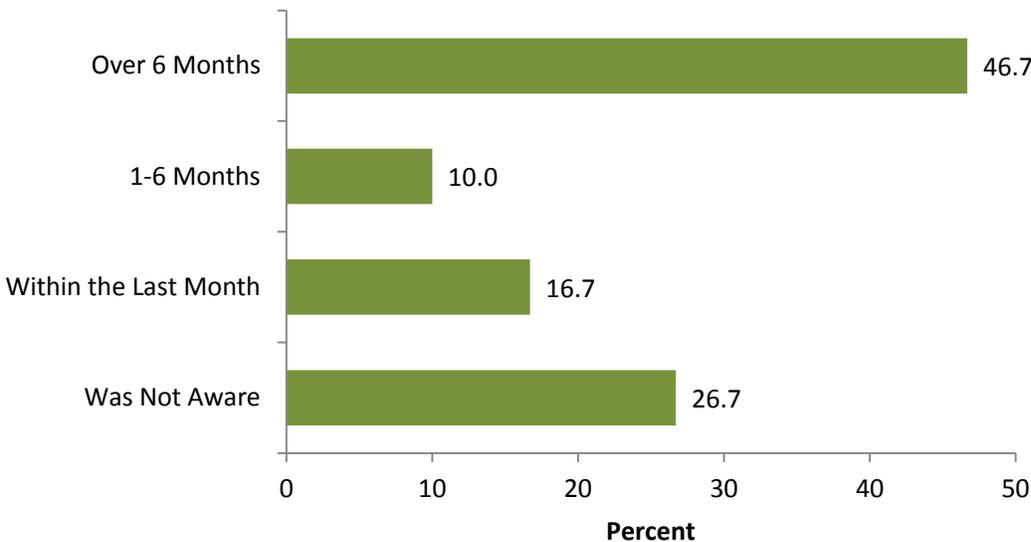


Table 3 breaks down the data from Figure 7 by organization type. However, the middle two categories of “within the last month” and “1-6 months” were combined and termed short-term awareness. Long-

Disparate Populations

When listserv members were asked what type of geographic data would be most useful to them, state level (73%) was highest, then county (56%), and lastly, small area or local health district level at 50%. When stratifying by organizations with the highest response rates and longest exposure to the burden report, 81% were most interested in state level data, 56.3% in county data, 43.8% in local health district data and 31.3% in small area data. These results are at odds with the fact that most data requests are for state level and small area data.

In the final survey questions, respondents could leave additional comments on topics they believe should be covered or on how to improve the burden report. One person suggested using more data related to disparate populations. This comment was shared by a person with asthma who said, "I would like to see the links between low-income communities and asthma occurrence and treatment...more ethnic links with occurrence and treatment."

During the interviews, respondents noted that data specific to geographic areas, not just statewide data or local health district data, are important. Use of education status was also suggested as a stratification variable for future analyses. Suggestions for improving disparate population data by interviewing participants who reviewed the current UAP Burden Report included: sharing more trend data on disparities; more data by income for asthma management and health care utilization; and more on smoking and secondhand smoke.

Understandable to the Public

In the final survey question, two respondents shared comments related to making the burden report more understandable by the general public. One of the local health department respondents noted unfamiliarity with HEDIS measures. If these are selected to be included in the 2012 Burden Report, a good deal of background should be shared on HEDIS measures. The second respondent, from an elementary or secondary school, noted that "health department people may understand the meaning of burden report, but a simple title, e.g., "Asthma in Utah" may be less intimidating and create more interest for the casual or less-informed reader."

During the interviews, the topic of making reports understandable to the public was also addressed. One interviewee noted that she analyzes various data and then looks at it from a community level perspective. This is done to figure out what information will be useful to the public and what is too technical. Another epidemiologist shared that her program breaks the burden report up into categorical sections and lists them on the website in order to make it more navigable and less overwhelming for the public.

Recommendations

- Utilize information from this document, the dissemination evaluation, and other literature when preparing the next burden report and dissemination plan. Make sure that the plan has specific tasks and a lead person who will ensure that tasks are completed (Carpenter, Neiva, Albaghal, & Sorra, 2005).
- Partner with key stakeholders or connector organizations in order to improve reach and amplify dissemination efforts (Carpenter et al, 2005).

- Review California's Asthma Burden Report. The reviewer thought that the explanation of 95% confidence intervals was best achieved in this burden report.
- Review the data and suggestions from the results section for content and disparate populations. Apply the recommendations if the data will allow for such analyses.
- Identify ways to make the data more comprehensible to the public and relate the data to public health actions.
- Share the burden report data with stakeholders (Utah Asthma Task Force and listserv) in order to improve use.
- Consider releasing the burden report with the state plan in order to allow for a larger media opportunity.
- Apply the idea from the Heart Disease and Stroke Program of posting the full document, along with links for each section to allow users to easily access the desired sections of the burden report.
- Use multiple methods for dissemination. According to Bernhardt, Mays and Kreutzer, packaging, smart tagging and search engine optimization along with using multiple media can increase dissemination efforts (2011).

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Appendices

Appendix A: Document Review

Utah Burden Report Document Review

Previous UAP Burden Reports

Although Utah’s burden report in 2004 looks different from the latest two in 2007 and 2009, they contain much of the same information. The 2009 version depicts more in-depth segmentation of asthma data with important information on medication use, hospitalization based on geography, number of productive school days missed, environmental triggers, etc.

The 2004 report contained specific backgrounds, missions, objectives and outcomes for each individual asthma plan, which was useful. However, it might have proved to be too lengthy and was later changed to the format in the subsequent 2007 and 2009 reports.

In the 2007 and 2009 reports, there were short and concise paragraphs summarizing the figures and tables. Color coordination throughout these reports, which was a bit off in the 2004 report, allow for uniformity, and added to the professional integrity of the document.

Other State Asthma Burden Reports

The UAP Burden Report was compared with asthma burden reports from California, Michigan and Pennsylvania. Overall, the UAP Burden Report was easier to read and more cohesive.

	California	Michigan	Pennsylvania	Utah
Summary Content	Executive summary also has key findings and I like that it has clear sub headings to differentiate each section example, disparities, costs, etc. But the Ex. Summary was too lengthy	Has no executive summary	Has no executive summary	Executive summary has key findings
Explanation of Content: Confidence Intervals	I also like that California indicates a 95% confidence interval was used in the comparison of county and state level statistics	There is no mention of a 95% confidence interval	I like that Pennsylvania indicates the use of weighted percentages and 95% confidence intervals for its estimates.	Although Utah uses a 95% confidence interval, it is not clearly stated in the post scripts of the graphs but rather in the technical notes and methods. It may be a good idea to state this near the graphs for those who don’t take time to look at the last few pages.

Risk Factors	I liked that risk factors of asthma such as obesity was analyzed	There was nothing on risk factors	Prevalence by body mass index is shown	Prevalence by risk factors like obesity not included
Creative Display of Data	Asthma surveillance pyramid which adds variety to the document. This pyramid shows from bottom up; asthma prevalence/severity, scheduled office visits, unscheduled office visits, ED/urgent care, hospitalization, and mortality. On the outside of the pyramid on both sides are costs, pharmacy, quality of life, and triggers.	Used several maps in indicating asthma data county level results	Very colorful and had maps for county level data when appropriate	
Chart Types	I liked that there was a bit more variety in this report: trend data was used to show lifetime prevalence of asthma, although most of the charts were bar graphs or histograms	I like that it has bullet points of asthma control and then goes on to show prevalence of characteristics of uncontrolled asthma in both adults and children	I like how pie charts were used to depict asthma management data; it makes the data more comparable	Although I like the sideways bar graph showing prevalence of asthma by county, it would have been a bit varied and more clear to show this in a map
Comparison Data	I like how hospitalization and mortality rates are compared with national rates	I like how it compares national indicators of receiving appropriate asthma care (Healthy People (HP) 2010 goals) to that of the state. It is easy to tell whether or not the HP 2010 goals were met.	I also like how it has a classification of asthma severity by the national asthma education and prevention program to give a perspective of the various asthma symptoms experienced in the state	There is not much data comparing state rates to national rates

Appendix B: Online Questionnaire

Internet-based Questionnaire: Asthma Burden

1. What type of organization do you represent?

- Local Health Department
- State or Local Coalition
- Community Health Organization
- Hospital or Medical Facility
- Clinic or Medical practice
- Academic Institution (College, University)
- Elementary/Secondary School
- Person with Asthma

Other (please specify)

2. What geographical level of statistics do you find most useful? (Select all that apply)

- Small Area
- County
- Health Districts
- State

3. What data do you find MOST useful? (Select all that apply)

- Asthma prevalence
- Asthma management and quality of life
- Indoor environmental factors that affect asthma
- Asthma in schools
- Health care utilization for asthma
- Asthma mortality
- Work-related asthma
- Asthma in the Medicaid population
- HEDIS measures
- Cost of care
- Healthy People 2020 goals

4. What data do you find LEAST useful? (Select all that apply)

- Asthma prevalence
- Asthma management and quality of life
- Indoor environmental factors that affect asthma
- Asthma in schools
- Health care utilization for asthma
- Asthma mortality
- Work-related asthma
- Asthma in Medicaid populations
- HEDIS measures
- Cost of care
- Healthy People 2020 goals

5. What is your preferred method for being informed of the burden report?

- Email through the listserv
- Utah Department of Health Website
- Hard copy
- Facebook/Twitter

Other (please specify)

6. Please select the choice that best reflects your opinion

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The burden report is easy to access on the website	<input type="checkbox"/>				
The burden report has increased my understanding of asthma in Utah	<input type="checkbox"/>				

7. How long have you been aware of the asthma burden report?

- Was not aware
- Within the last month
- 1-6 months
- Over 6 months

8. How did you first learn about the burden report?

- A hard copy was sent to me
- Someone told me about it or shared it with me
- Read about it on listserv
- Browsing the State Department of Health website
- Conducting an internet search

9. Have you used the information in the burden report in your work?

- Yes
- No

10 In what ways have you used the report in your work? (select all that apply)

- Program Planning
- Evaluation
- Grant Writing
- Priority Setting/Planning/Targeting Programs
- Educational Materials
- Presentations
- Policy Development
- Research
- Other (please specify)

11. In your opinion who needs to be made aware of the burden report?

12. Please provide any additional comments about the topics covered in the burden report and how it could be improved?

Appendix C: Key-Informant Interview Questions and Worksheet

Interview Questions for Burden Report

Interview Questions

Question	Topic	Use
What methods do you use to disseminate your burden report? Which do you find most effective? (what are the factors that contribute to these successes?)	Dissemination	Improve dissemination and visibility of report
In order to improve use, how do you remind stakeholders of the burden report?	Use	Identify ways to promote the burden report
Have you done anything in recent burden reports to improve the relation of data to public health action/implications? If yes, how?	Usability	Improve practical use by stakeholders
What do you find is the best approach to addressing the needs of disparate populations?	Dissemination/disparities	
What have you done to present the data in graphs and charts in a more interesting format?	Format	
What are the 3 biggest challenges you face in disseminating the burden report?	Dissemination	
What is your biggest challenge regarding content in the burden report?	Content	

Interviewee Burden Report Content Evaluation Form

Asthma Burden Report Evaluation

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. The burden report effectively estimates the magnitude of asthma morbidity and risk factors.	1	2	3	4	5
2. The asthma burden report effectively estimates the magnitude of asthma mortality and cost.	1	2	3	4	5
3. The burden report improves my understanding of public health implications of asthma in Utah.	1	2	3	4	5
4. The asthma burden report provides useful information on social determinants.	1	2	3	4	5
5. Geographic information on asthma is useful.	1	2	3	4	5
6. The asthma burden report is well organized.	1	2	3	4	5

7. Were there any graphs that didn't represent the data well? (Please list them)

8. Please list gaps in the presentation of data on disparate populations.

9. (Yes/no) Is there a good mix of:

If no, please list areas of needed improvement

- Counts
- Crude rates
- Age-specific rates
- Age-adjusted rates
- Trend data