

Kelly R. Kast, MSPH and Ken Gershman, MD, MPH

Objectives

1. To assess parental knowledge of appropriate antibiotic use for common respiratory infections.
2. To assess parental expectations for antibiotics for cough, cold or flu symptoms.

Background

- Antibiotic resistance has been called one of the world's most pressing public health problems.
- In the 1990's, the Colorado began to see a dramatic increase in resistance of *Streptococcus pneumoniae* to penicillin.
- This, coupled with studies reporting significant inappropriate prescribing of antibiotics to treat viral infections, sparked efforts to address inappropriate antibiotic use.
- *Get Smart Colorado* is a statewide coalition addressing antibiotic resistance in Colorado through education about and support for appropriate antibiotic use with the general public and health care providers.
- To evaluate its efforts over time, *Get Smart Colorado* added questions to the Colorado Children's Health Survey to measure parental knowledge and attitudes related to antibiotic use.

Methods

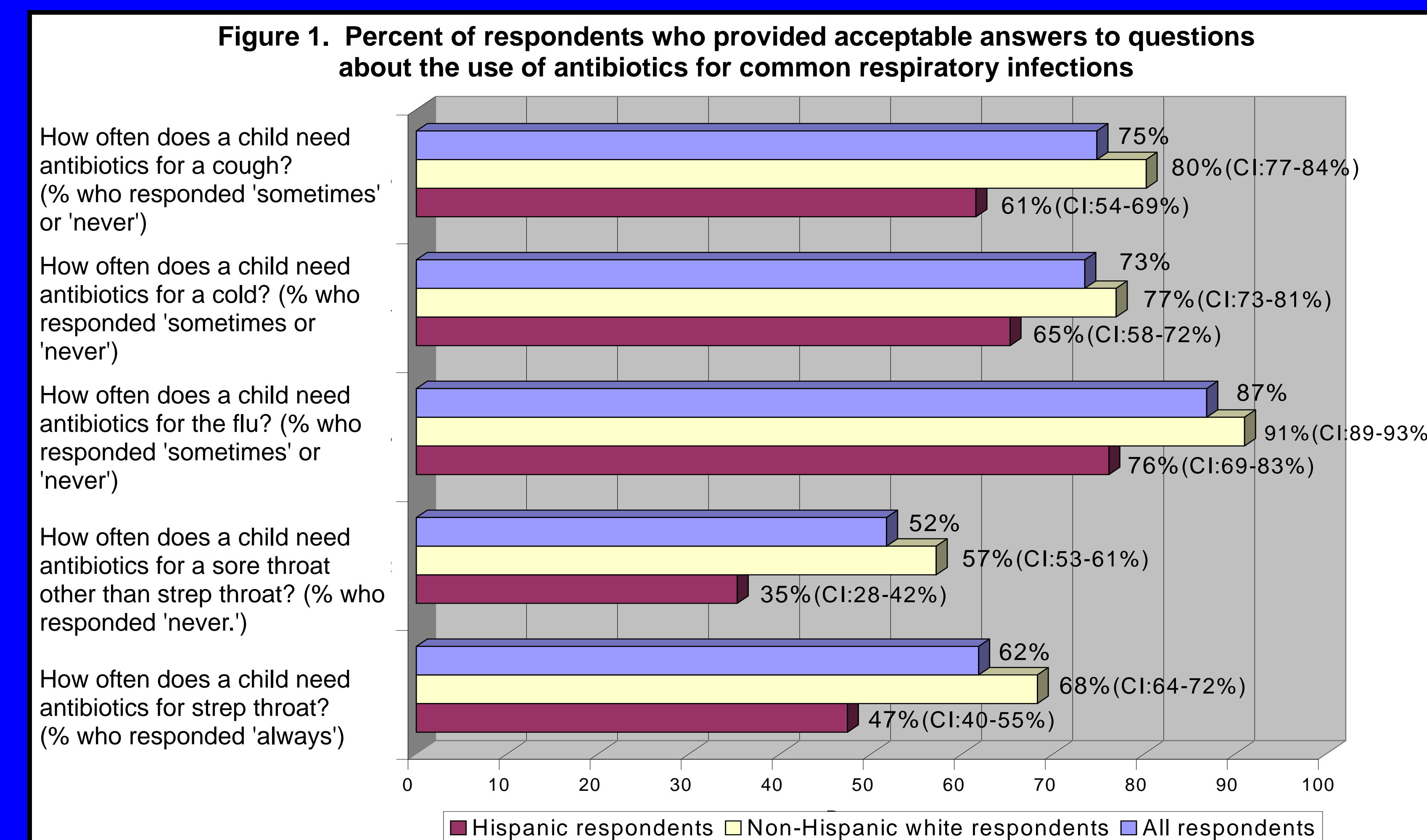
- These data were collected from the 2005 Colorado Child Health Survey, which is a population-based survey that collects data about the health status and risk behaviors of children 1-14 years of age.
- Parents of young children are identified through the Behavioral Risk Factor Surveillance System (BRFSS) telephone survey.
- Data from the survey were weighted to reflect the general population of children one to 14 years old.
- Differences in responses by Hispanic and non-Hispanic white respondents were assessed using 95% confidence intervals (CI).
- Knowledge questions asked respondents to estimate how frequently (always, usually, sometimes or never) a child needs antibiotics for common respiratory infections and symptoms.
- Expectation questions asked respondents to estimate how much they agreed or disagreed (strongly agree, somewhat agree, somewhat disagree, strongly disagree) with statements about expectations for antibiotics.

Results

915 parents and guardians (224 Hispanic respondents (24%), 639 non-Hispanic white respondents (70%) and 52 respondents (6%) represented all other races) from 54 counties participated in the survey.

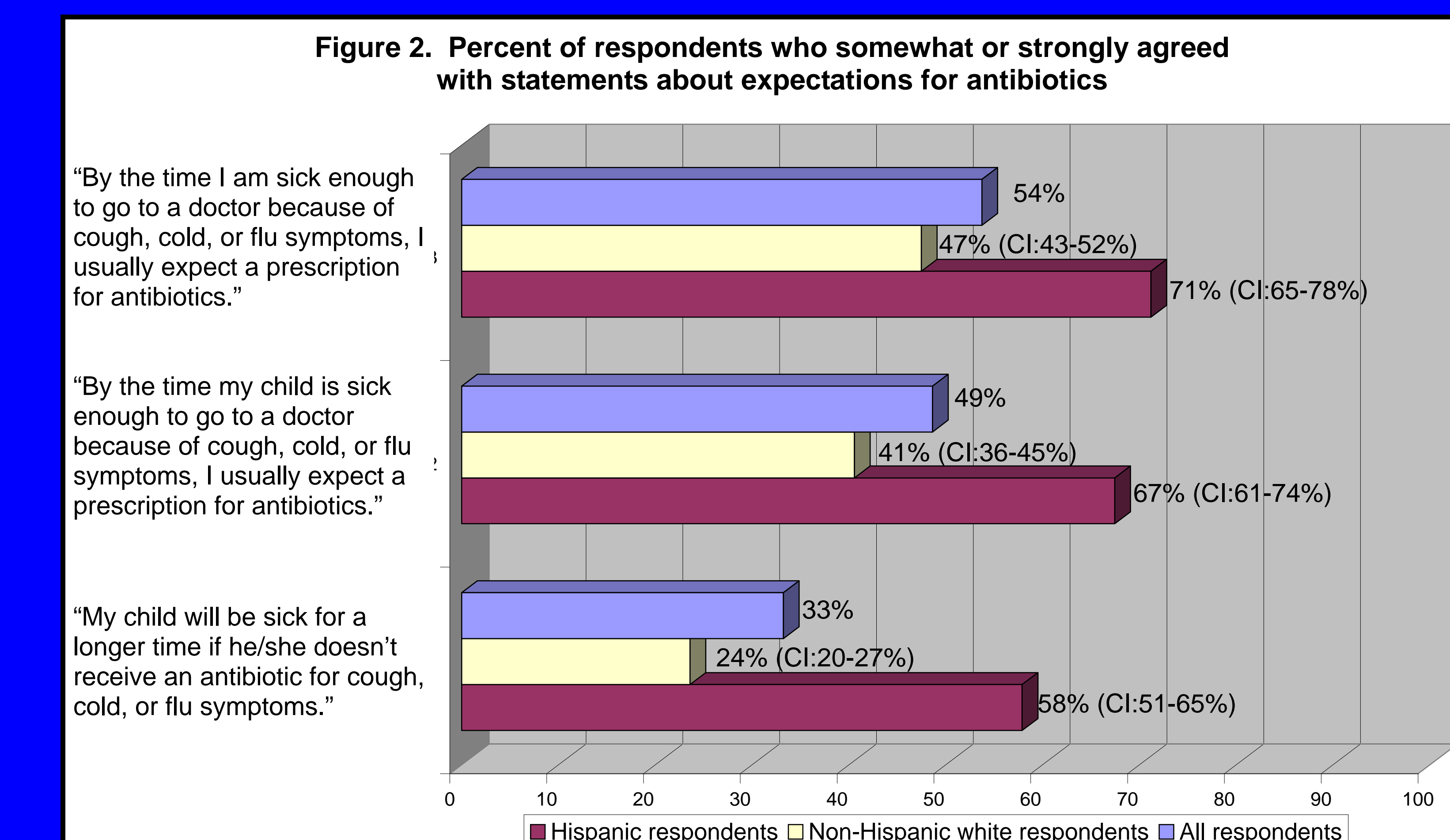
KNOWLEDGE

Overall, the majority of respondents were knowledgeable about when antibiotics are needed for common respiratory infections; however, there was a significant difference in knowledge of appropriate antibiotic use between non-Hispanic white and Hispanic respondents (Figure 1).



ATTITUDES

Overall, a third of parents agreed their child would be sick for a longer period of time if he or she did not receive antibiotics for cough, cold or flu symptoms. Approximately, half of the parents indicated they agreed that they expected antibiotics for their child or themselves when they visit a health care provider for cough, cold or flu symptoms. Expectations for antibiotics were higher among Hispanic respondents compared with non-Hispanic white respondents (Figure 2).



Conclusions

- Physicians have indicated parental expectations for antibiotics as a major factor in their overprescribing of antibiotics.¹
- Although expectations are high, the results of the 2005 Colorado Health Survey also show that only 40% of parents indicated a health care provider had talked with them about the problems of overusing antibiotics.
- Physicians and other health care providers have an opportunity to lower their patients' expectations for antibiotics by talking with them more frequently about the problems of overusing antibiotics
- The significant differences between Hispanic and non-Hispanic white respondents' knowledge and expectations related to antibiotic use has been noted in other studies.^{2,3}
- These survey data show a need to further address Colorado parents' knowledge and expectations related to antibiotic use, with special consideration of ethnic differences.

References

1. Barden LS, Dowell SF, Schwartz B, Lackey C. Current attitudes regarding use of antimicrobial agents: results from physician's and parents' focus group discussions. *Clin Pediatr.* 1998; 37: 665-71.
2. Mangione-Smith R, Elliot MN, Stivers T, McDonald L, Heritage J, and McGlynn EA. Racial/Ethnic Variation in Parent Expectations for Antibiotics: Implications for Public Health Campaigns. *Pediatrics* 2004; 113: 385-394.
3. Corbett KK, Gonzales R, Leeman-Castillo BA, Flores E, Maselli J, Kafadar K. Appropriate antibiotic use: variation in knowledge and awareness by Hispanic ethnicity and language. *Prev Med.* 2005 Feb; 40: 162-9.

Get Smart Colorado is located at the Colorado Department of Public Health and Environment. The coalition is funded by grants from the US Centers for Disease Control and Prevention and The Colorado Health Foundation.

**GET SMART
COLORADO**
USE ANTIBIOTICS WISELY

www.GetSmartColorado.com