

BACKGROUND

- Marin County is an affluent county in the San Francisco Bay Area with a population of approximately 256,000 people
- The rate of kindergarten parents seeking Personal Belief Exemptions (PBEs), non-medical exemptions from one or more required school immunizations, in Marin County is nearly four times the California average
- Marin County PBEs increased from 3.7% in 2002 to 7.8% in 2012¹
- In 2014, California implemented legislation requiring parental conversations with medical professionals before receiving PBEs
- Marin-specific reasons that parents request PBEs were not well known

PURPOSE

- Better understand vaccine decision-making in Marin to equip providers for conversations required under the new law
- Specific Aims**
- Identify differences between parents of kindergartners with and without PBEs
 - Increase knowledge about local PBE decision-making:
 - Vaccination decisions
 - Leading reasons for PBEs
 - Share results with providers, schools and public health professionals

METHODS

Survey Development and Data Collection

- Developed Marin Kindergarten Vaccination Survey content using existing questionnaires and expert knowledge
- Pilot-tested with 10 staff members for clarity and length
- Translated finalized survey into Spanish
- Topics for all survey respondents included:
 - Child's exemption status
 - Demographic information
 - Sources of vaccine information
- Topics for parents with PBEs:
 - Vaccine-specific coverage of their child
 - Reasons for requesting a PBE
- In Fall 2013, Immunization Coordinators of 39 public and private schools in Marin County emailed the Survey Monkey link to 2,271 kindergarten parents

Data Analysis

- Stratified study population by school entry immunization status
- Compared characteristics among parents of kindergartners with and without PBEs using Pearson's chi-squared tests, Fisher's exact tests, and Student's t-test:
 - Demographic information
 - Sources of vaccine information
- Among parents of kindergartners with PBEs:
 - Calculated proportions to describe child's vaccination coverage
 - Determined means for common reasons for requesting PBEs
- All data were analyzed with Stata version 12

Uses and Dissemination of Findings

- Developed talking points addressing vaccination concerns to share with practitioners in the community

FIGURE 1. STUDY POPULATION BY EXEMPTION STATUS

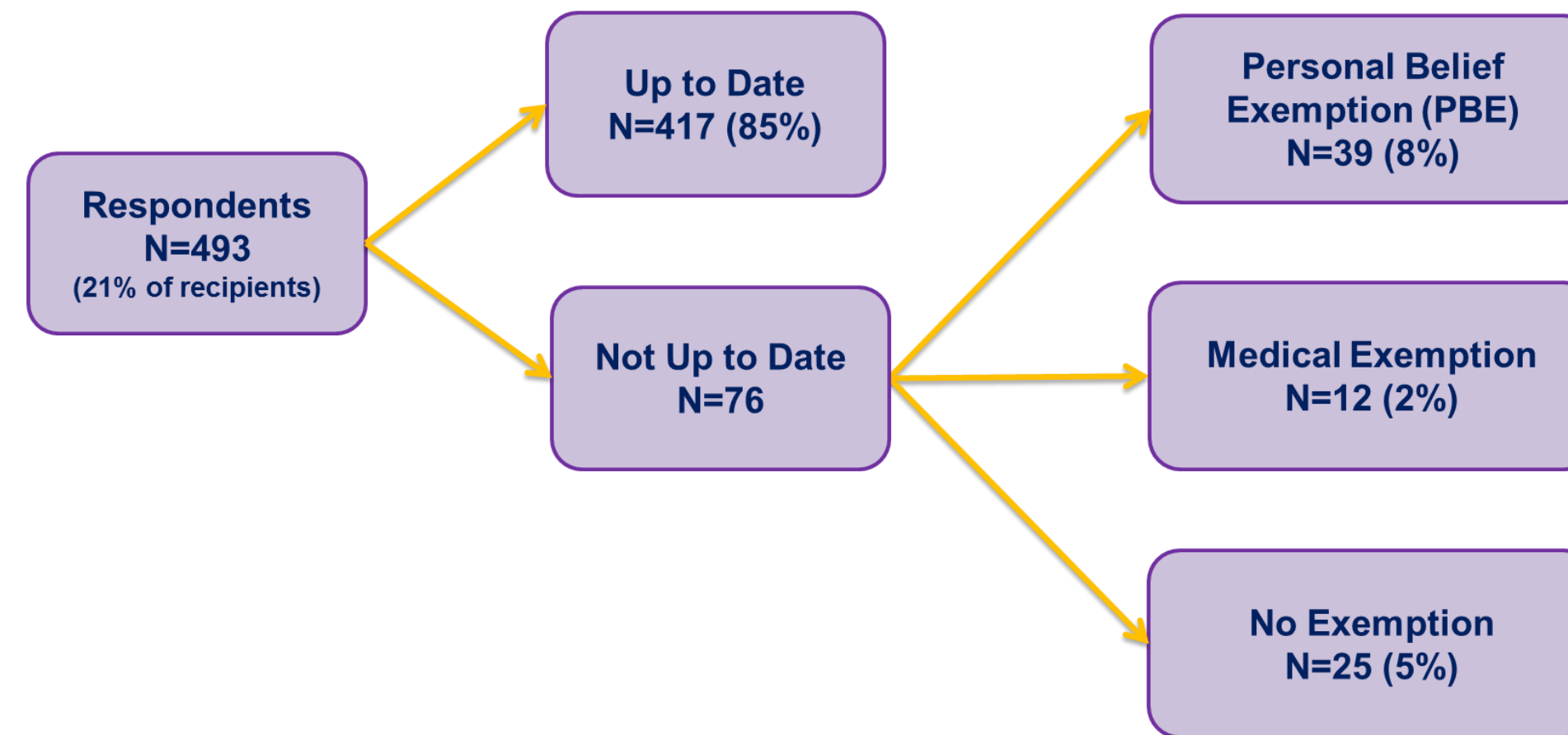


TABLE 1. SCHOOL AND PARENT CHARACTERISTICS BY PBE STATUS

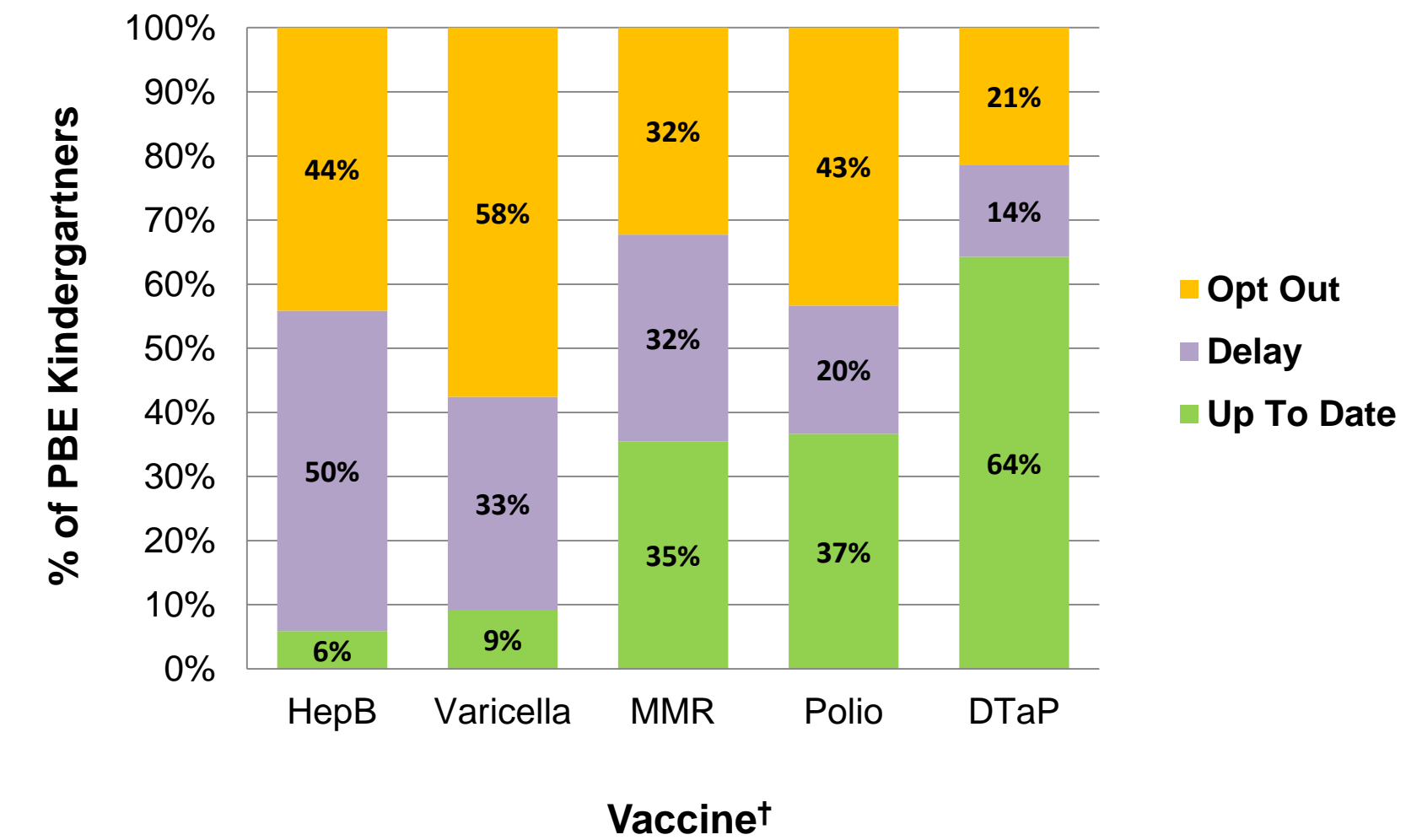
	PBE (N=39)	No PBE (N=429)	P-value
School Type			
Private	36%	26%	0.19
Public	64%	74%	
Parent Characteristics			
Mean Age	39.8	41.1	0.15
Bachelor Degree or Higher	97%	89%	0.11
Fully Vaccinated as a Child	95%	99%	0.08

TABLE 2. SOURCES OF VACCINE INFORMATION BY PBE STATUS

Source*	PBE (N=35)	No PBE (N=430)	P-value
Physician or other healthcare provider	87%	99%	<0.01
Complementary and alternative medical providers	54%	4%	<0.01
Family	0%	12%	0.02
Health-related website	46%	29%	0.02
Social media website	5%	2%	0.18
Friends	10%	10%	0.96

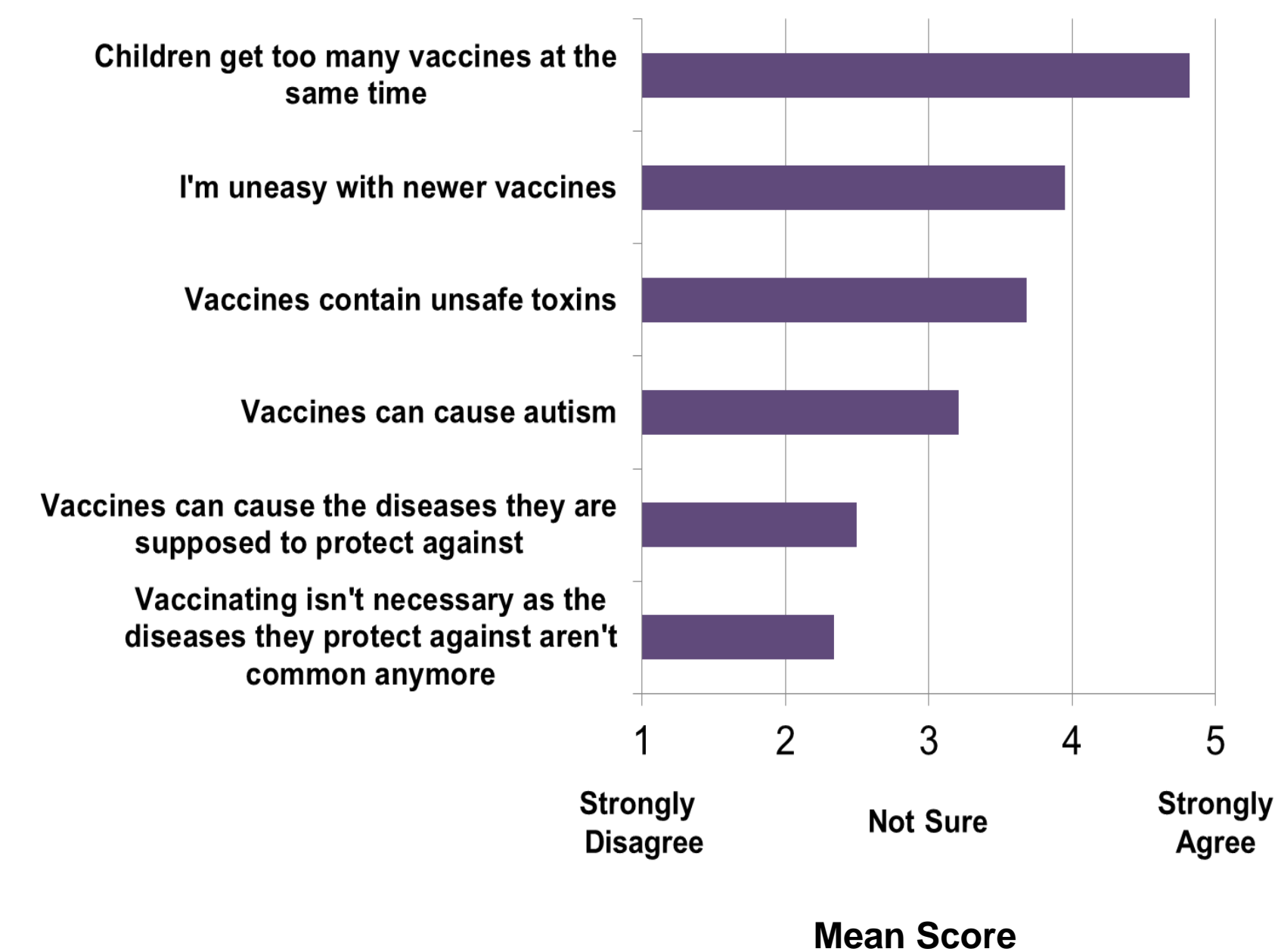
*Respondents were asked to mark up to three sources.

FIGURE 2. VACCINATION COVERAGE AMONG KINDERGARTNERS WITH PERSONAL BELIEF EXEMPTIONS



†HepB: Hepatitis B; MMR: Measles, Mumps, Rubella; DTaP: Diphtheria, Tetanus, Pertussis

FIGURE 3. REASONS FOR REQUESTING PBEs



CONCLUSIONS

- Most parents who request PBEs choose some, but not all, required vaccines for their children
- No significant differences were found in parent age, education or vaccination history between those with and without PBEs
- Parents requesting PBEs are:
 - more likely to receive vaccine information from complementary and alternative providers and health-related websites
 - less likely to receive vaccine information from physicians and other healthcare providers and family members
- Diverse reasons parents request PBEs include:
 - Safety concerns
 - Lack of perceived risk
 - Lack of trust

LIMITATIONS

- Due to the response rate, findings may not be representative of all kindergarten parents in Marin
- Reasons that kindergartners who were not up to date did not have exemptions were not explored in the survey, and therefore unexplained

IMPLICATIONS

- It should be recognized that only a minority of parents with PBEs seem categorically opposed to vaccines
- Providers can use findings in vaccine-related conversations required under the new law:
 - Anticipate themes of parents' concerns
 - Recognize the diversity of vaccine decision-making

REFERENCES

- 2012-2013 Kindergarten Immunization Assessment Results, California Department of Public Health, Immunization Branch http://www.cdph.ca.gov/programs/immunize/Documents/2012_-_2013_CA_Kindergarten_Immunization_Assessment.pdf

ACKNOWLEDGMENTS

We would like to thank Marin school Immunization Coordinators and the Communicable Disease Control and Prevention Team of Marin County Department of Health and Human Services for their collaboration and contributions.

This study was supported in part by an appointment to the Applied Epidemiology Fellowship Program administered by the Council of State and Territorial Epidemiologists (CSTE) and funded by the Centers for Disease Control and Prevention (CDC) Cooperative Agreement Number 5U38HM000414-5.