Vaccine 32 (2014) 2563–2569

Contents lists available at ScienceDirect

Vaccine

journal homepage: www.elsevier.com/locate/vaccine

Ready or not? School preparedness for California's new personal beliefs exemption law

Marissa Wheeler, Alison M. Buttenheim*

Department of Family and Community Health, University of Pennsylvania School of Nursing, 235L Fagin Hall, 418 Curie Boulevard, Philadelphia, PA 19104, United States

ARTICLE INFO

Article history:
Received 13 December 2013
Received in revised form 6 March 2014
Accepted 13 March 2014
Available online 25 March 2014

Keywords:
Exemption
School immunization requirement
Legislation
Implementation
Preparedness
California

ABSTRACT

Objective: This paper describes elementary school officials' awareness of and preparedness for the implementation of California's new exemption law that went into effect on January 1, 2014. The new law prescribes stricter requirements for claiming a personal beliefs exemption from mandated school-entry immunizations.
Method: We used cross-sectional data collected from a stratified random sample of 315 schools with low, middle, and high rates of personal beliefs exemptions. We described schools' awareness and specific knowledge of the new legislation and tested for differences across school types. We additionally tested for associations between outcome variables and school and respondent characteristics using ordered logit and negative binomial regression. Finally, we described schools' plans and needs for implementing the new legislation.
Results: Elementary school staff reported an overall low level of awareness and knowledge about the new legislation and could identify few of its features. We observed, however, that across the exemption-level strata, respondents from high-PBE schools reported significantly higher awareness, knowledge and feature identification compared to respondents from low-PBE schools. Multivariate analyses revealed only one significant association with awareness, knowledge and identification: respondent role. Support staff roles were associated with lower odds of having high self-rated awareness or knowledge compared to health workers, as well as with a reduced log count of features identified. Though most school officials were able to identify a communication plan, schools were still in need of resources and support for successful implementation, in particular, the need for information on the new law.
Conclusion: Schools need additional information and support from state and local agencies in order to successfully implement and enforce California's new school immunization law. In particular, our results suggest the need to ensure information on the new law reaches all levels of school staff.

1. Introduction

Nonmedical exemptions from mandated school-entry immunization requirements have risen in recent years, with faster increases in states that allow personal beliefs exemptions (PBEs) [1–4]. Voluntarily choosing to not vaccinate is associated with negative beliefs about vaccine safety, side effects, and efficacy, as well as with the perception of low risk and severity of vaccine-preventable childhood diseases (VPCDs) [5–8]. While most states offer nonmedical exemptions as a mechanism for balancing the public's health with parental rights and parental choice [9,10], exemptions are ethically and epidemiologically problematic. Exemptors present a free-rider problem by taking advantage of herd immunity without assuming any of the risk of vaccination [11]. Intentionally unvaccinated individuals are at increased risk for contracting and transmitting VPCDs, in particular pertussis and measles [12,13]. Disease risk is further increased in the presence of clusters of intentionally unvaccinated individuals [13,14]. Both the ease of obtaining an exemption [2] and the clustering of intentionally unvaccinated individuals [15,16] have been implicated in recent disease outbreaks.

In response to these concerns, some states that offer nonmedical exemptions have considered or enacted stricter requirements for filing an exemption. This shift is motivated by states' desire to use the exemption process as an opportunity to educate parents on

Abbreviations: PBE, personal beliefs exemption; VPCD, vaccine preventable childhood disease; AB, assembly bill; CDPH, California Department of Public Health; LHD, local health department.

* Corresponding author. Tel.: +1 215 284 8413; fax: +1 215 573 9193.
E-mail address: abutt@nursing.upenn.edu (A.M. Buttenheim).

http://dx.doi.org/10.1016/j.vaccine.2014.03.051
0264-410X/

vaccine benefits and risks [17]. Increasing the administrative burden of obtaining an exemption also ensures that exemptions are filed out of conviction rather than convenience [18].

California is one of several states that have recently passed or are considering a law related to nonmedical exemptions. Assembly bill (AB) 2109 prescribes more stringent requirements for claiming a PBE. Those wishing to exempt from one or more required vaccines must file a letter of affidavit, signed by both a health care practitioner and the parent or guardian no more than 6 months prior to when the student becomes subject to the immunization requirement. In signing the affidavit, the health care practitioner confirms that the parent has received information on the risks and benefits of immunizations, and the parent/guardian confirms receipt of the information. The new law differs from the prior law in requiring a signed attestation from a health care practitioner; previously only the parent/guardian was required to sign an affidavit stating that one or more vaccines were contrary to the parent's beliefs [19]. Health care practitioners eligible under the new law to sign the form include physicians, surgeons, nurse practitioners, physician assistants, osteopathic physicians or surgeons, naturopathic doctors and credentialed school nurses. The credentialed school nurse was added to the original bill to address concerns about access to medical care. The law additionally stipulates that the parent must provide documentation of any immunizations the child has received, a requirement that was also stipulated in the existing health and safety code [20,21] but inconsistently enforced. In his signing message, California Governor Jerry Brown added an additional directive to the California Department of Public Health (CDPH) that a separate religious exemption option be provided; the religious exemption does not require a health care practitioner's signature [22].

While the CDPH is responsible for overseeing the rollout of the new policy [22,23] and tracking immunization compliance across the state, and is specifically tasked with designing new exemption forms, direct implementation of AB-2109 falls to local school districts and school officials. Implementation and enforcement of the new law will ultimately depend on district and school procedures as well as individual actions; previous research has documented school-level variability in the interpretation and implementation of immunization laws [24]. The goal of this paper is to describe awareness and knowledge of AB-2109 and preparedness for implementing the new law among California elementary school officials and staff.

2. Methods

2.1. Data

We used survey data collected by the CDPH Immunization Branch in the 2013 Special Kindergarten Assessment survey. The survey assessed school officials' awareness of and preparedness for California's new personal beliefs exemption law. Interviews took place in the spring 2013, 7–9 months prior to the January 2014 effective date for AB-2109. As many schools begin kindergarten registration in February or March, the interviews took place approximately one year before schools would need new forms and procedures in place to comply with the new legislation.

The survey was conducted with a stratified random sample of 315 schools. Following the sampling protocol established by the CDPH Immunization Branch for a similar survey in 2009 [25], the sampling frame of 8226 public and private schools in the state enrolling kindergarteners was first stratified based on PBE prevalence in order to compare knowledge and awareness of AB-2109 across schools with different exemption rates. Following our earlier work on PBE rates in California [26], we defined the high-PBE stratum ($N = 469$) as having a Fall 2012 PBE rate of at least 20% or having at least 20 PBEs. The low-PBE stratum ($N = 1381$) was defined as having no PBEs filed in the past 5 years. The remaining schools ($N = 6376$) were placed in the middle stratum. After excluding schools with fewer than 10 kindergarteners ($N = 1028$) and schools with enrollment or PBE data errors ($N = 6$), schools were randomly sampled from each strata. The final sample selected for interview consisted of 96 high-PBE schools, 117 low-PBE schools, and 102 middle-PBE schools. Sampling weights were calculated for each school as the inverse of the school's selection probability. The sample size of 315 was based on the CDPH's capacity to interview 300 schools, power calculations for similar previous surveys used to estimate kindergarten cohort immunization coverage, and a small allowance for lack of response. Following CDPH's usual survey protocol, local (county) health department (LHD) representatives conducted a phone survey with representatives from sampled schools. The respondent at each school was identified as the staff member responsible for maintaining immunization records. The questionnaire was based on the CDPH's standard Selective Review instrument (used every 3–5 years to validate annual mandatory school reporting of kindergarten immunization status and exemptions) and adapted to include AB-2109-specific questions. The survey included 19 questions that were a combination of close-ended, open-ended, partial open-ended and scaled questions; approximately 60% of the survey items focused on the new legislation. The final question on the survey solicited comments, questions, or concerns about the implementation of the new legislation for school personnel and parents. Surveys lasted approximately 5–15 min. 17 of the sampled schools were not able to provide sufficient data, leaving 298 schools in the analytic sample.

2.2. Measures

We examined three main outcomes: self-rated awareness, self-rated knowledge and specific knowledge of the new legislation (see Appendix 1 for survey question wording). Self-rated awareness and self-rated knowledge of the new legislation were each measured according to a 5-point scale from not at all aware/knowledgeable [1] to very aware/knowledgeable [5]. Specific knowledge of key provisions of the new legislation was measured by asking respondents to describe the legislation. Following a script in the interview guide, the interviewer said, "Tell me about the key components of the legislation as you understand them." Interviewers were instructed not to read the list of components or prompt the respondent. As respondents enumerated components of the legislation (for example, the implementation date or the requirement for a health care provider signature), interviewers compared responses to a list of the 7 key provisions of the legislation identified by the research team prior to data collection. For each provision, interviewers then coded awareness via a three-category variable: whether the respondents had identified it correctly and fully; partially/incorrectly; or not at all. This protocol was pilot tested prior to the survey and interviewers reported that they were able to capture and code respondents' unprompted answers. Responses were only coded by a single interviewer (the LHD representative for the county in which the school was located) as interviews were not recorded or transcribed. We present results for these awareness items as separate dichotomous variables, where 1 represents fully and correctly identified and 0 represents all other responses. In addition, we created a summary measure for total number of components identified (possible range 0–7) for use in regression analysis.

We also looked for associations between each outcome variable and 4 school and respondent characteristics. School-level variables were school type (public, private or charter), kindergarten enrollment and 2012 PBE rate per 100 kindergarteners. Enrollment