HEALTH POLICY SURVEY 2010:

A National Survey on Public Perceptions of Vaccination Risks and Policy Preferences

Hank C. Jenkins-Smith, PhD
Center for Risk and Crisis Management
University of Oklahoma
hjsmith@ou.edu

Carol L. Silva, PhD
Center for Applied Social Research
University of Oklahoma
clsilva@ou.edu

Geoboo Song
Department of Political Science
University of Oklahoma
gsong@ou.edu

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Health Policy Survey 2010

The Center for Risk and Crisis Management at the University of Oklahoma conducted a nation-wide Internet survey focused on public perceptions of vaccination risks and policy preferences. The survey was conducted in early February 2010.[1] A total of 1,213 respondents (who are adults, 18 years or older) voluntarily participated in the survey.

On average, the survey participants were slightly over 45 years of age. Nearly 52% were female, 77% were non-Hispanic White, 45% had completed college, and their median annual household income falls between $40,000 and $50,000. Sixty-four percent of survey participants were parents; approximately half of those who were parents had children living at home.

The survey included over 100 questions, requiring an average response time of 22 minutes. The questions focused on issues regarding (1) vaccination practices, (2) perceived benefits and risks of vaccinations, (3) preferences for government vaccination policies and (4) acquisition of health information from the Internet. Each respondent also provided a range of background information such as age, education level, household income and gender. [2]

1. Vaccination Practices

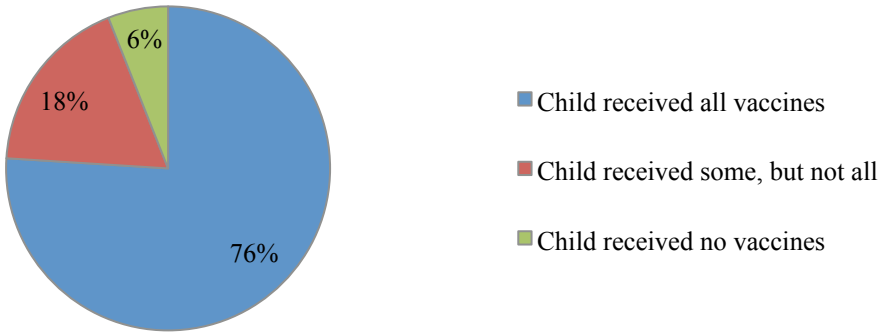
One of the primary issues addressed in the survey concerned vaccination rates for children. Of the 718 children identified in our survey,[3] the parent indicated that 76% had received all recommended vaccinations. Parents reported that 18% had received some (but not all) of the vaccines, and 6% of the children were reported to have received no vaccines at all. These results are shown in Figure 1.

[1] Survey Sampling, Inc. (SSI), of Fairfield Connecticut, recruited the web survey respondents. The University of Oklahoma Office approved the survey and overall research design for Human Research Participant Protection. SSI maintains a panel of approximately 400,000 willing Internet survey participants whose demographics are roughly proportional to national census characteristics. Our sample was randomly drawn from the 400,000 census balanced panel. Each member of the sample received an email invitation to participate in the survey describing the general nature and subject matter of the study. As an incentive to participate, each respondent who completed the survey received a five-dollar stipend and was entered into a drawing for a larger cash award.

[2] The survey also included an imbedded experiment, in which 20 percent of the respondents were randomly selected and exposed to a short (slightly over three minute) online video clip that showed the tragic news story (from the Fox news channel) of Desiree Jennings, a young woman who was reported to suffer from Dystonia as an adverse effect of H1N1 (or swine flu) vaccine. The remaining 979 respondents were assigned to the control group and skipped the video clip. The experiment was designed to assess the degree to which highly charged, web-based information can influence the perceived risks and benefits of vaccines. Overall the effects of exposure to the video clip were muted, on average leading to slight increases in the perceived risks of vaccines among viewers as compared to the control group of non-viewers.

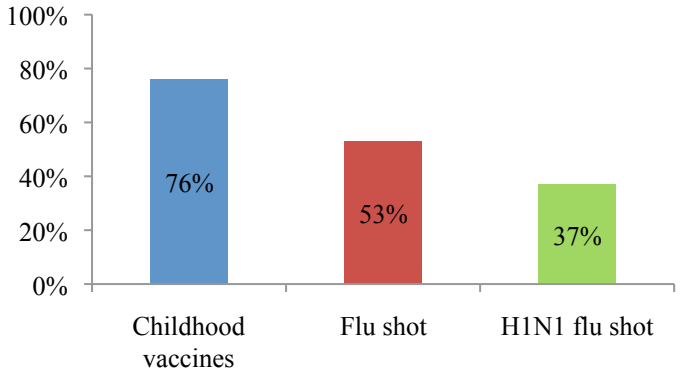
[3] Parents listed all children under the age of 18, and indicated for each one whether the child had received all, some, or none of the recommended vaccines.

Figure 1: Childhood Vaccinations



Reported vaccination rates for children were lower for both seasonal flu and H1N1 vaccines. According to the parents in our survey, about 53% of children have had a seasonal flu shot (or flu spray) during the past 12 months. The reported vaccination rate dropped to 37% for the H1N1 vaccine. This pattern of responses is shown in Figure 2.

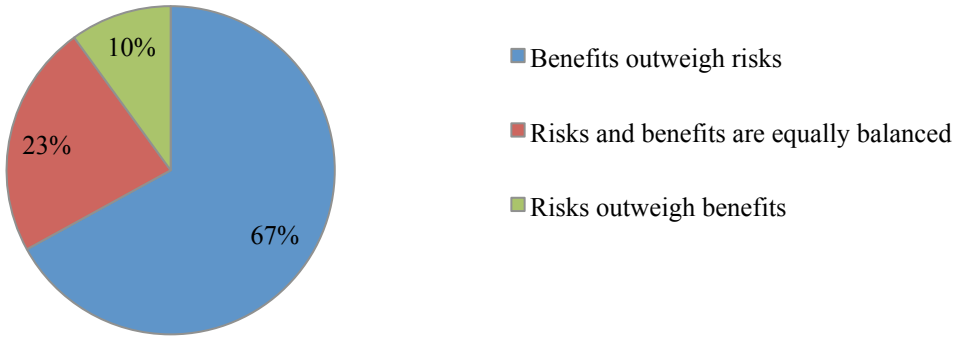
Figure 2: Childhood Vaccination Rates



2. Perceived Benefits and Risks of Vaccinations

A majority of the survey participants perceived the personal and societal benefits from vaccinations to be greater than the associated risks of adverse reactions. When respondents were asked about the overall balance of the possible risks and benefits of required vaccinations for infants and children, about two-thirds of respondents (67%) replied that benefits outweigh risks, 23% indicated that the risks and benefits are equally balanced, and the remaining 10% reported that the risks outweigh benefits. See Figure 3 for these results.

Figure 3: Perceived Balance of Childhood Vaccine Risks and Benefits



Respondents were also asked to rate different aspects of potential benefits associated with vaccines, using a zero-to-ten scale where zero means not at all beneficial and ten means extremely beneficial. Table 1 describes respondents' views of these possible benefits, showing the percentage of respondents who rated each one as "low benefit" (0-4 on the benefit scale); "moderate benefit" (5-7 on the scale); and "high benefit" (8-10 on the benefit scale). The overall mean value from the zero-to-ten point scale attributed to the benefit is also shown.

Table 1: Rating of Benefits from Vaccines

	Low Benefit (0-4)	Moderate Benefit (4-7)	High Benefit (8-10)	Average Benefit Score
"How much benefit do you think vaccinations provide to *society as a whole* by reducing sickness and preventing the spread of infectious diseases?"	6%	31%	63%	7.82
"How much benefit do you think vaccinations bring to *you and your family* in preventing infectious disease?"	11%	32%	57%	7.70

Disease prevention is broadly seen as highly beneficial. A majority of respondents rated the benefits of vaccines to be high for both society and for their own families, though the latter was slightly lower (and the difference was statistically significant).

Questions were also asked about the perceived risks (again on a zero-to-ten scale) posed via adverse health reactions to society as a whole and to the survey respondent's family. The scale endpoints were described to respondents as "no risk" (a value of zero) to "extreme risk" (a value of ten). The results are shown in Table 2.

Table 2: Rating Risks from Vaccines

	Low Risk (0-4)	Moderate Risk (4-7)	High Risk (8-10)	Average Risk Score
"How much risk from *adverse health reactions* do you think vaccinations pose to *people and society as a whole*?"	49%	37%	15%	4.61
"How much risk from *adverse health reactions* do you think vaccinations pose to *you and your family*?"	57%	32%	11%	4.07

Overall the perceived risks from adverse health effects of vaccines are scored much lower than benefits. Half of the respondents rated the risks to society as low. Perceived risks to families are even more likely to be rated low (57%).

Interestingly, the perceived risk from being exposed to people who have *not* been vaccinated is greater than the perceived risks of adverse health effects from vaccines. Most respondents perceived this risk to be moderate to high, with the risk to society looming larger than the risk to the respondents' own families. Table 3 shows these responses.

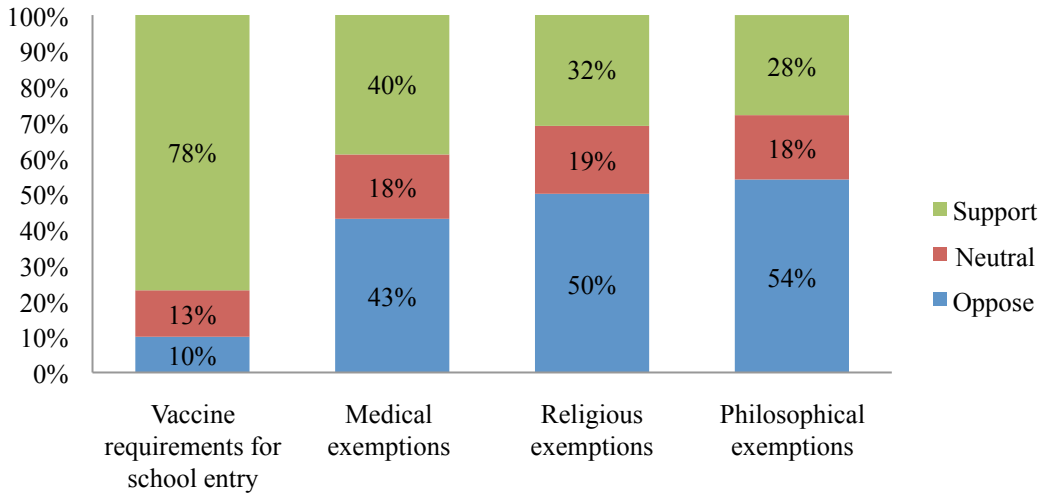
Table 3: Rating Risks of Exposure to the Unvaccinated

	Low Risk (0-4)	Moderate Risk (4-7)	High Risk (8-10)	Average Risk Score
"How much risk from *adverse health reactions* do you think vaccinations pose to *people and society as a whole*?"	25%	42%	32%	6.04
"How much risk from *adverse health reactions* do you think vaccinations pose to *you and your family*?"	25%	50%	24%	5.40

3. Preferences for Mandatory Vaccine Policies

Currently, all 50 states have school immunization laws requiring that children receive vaccinations, although there are differences in the requirements of different states. When respondents were asked their opinion about vaccine requirements for school entry, 78% supported mandatory vaccinations for school-aged children, while 10 percent opposed it. See Figure 4 for these results.

Figure 4. Preferences for government policies

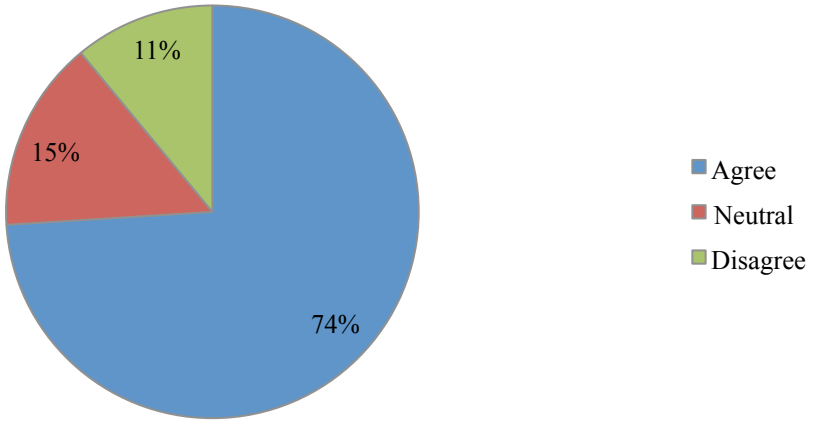


When they were asked their opinion about exemptions from the mandatory vaccine policies, respondents were divided (40% in favor, 43% opposed) if the exemption was based on parents' concerns about adverse reactions to the vaccines. Respondents were less supportive of exemptions based on religious beliefs (32% in favor, 50% opposed), whereas a majority opposed exemptions based on the parents' philosophy or beliefs (28% in favor, 54% opposed).

4. Vaccines and Values

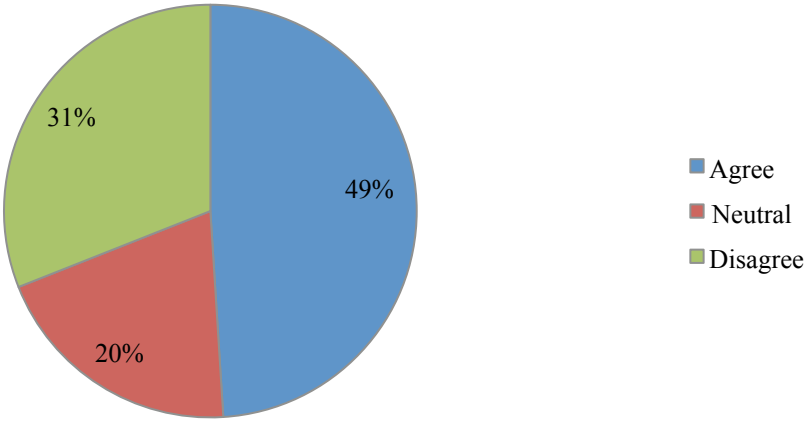
Requiring that parents have their children vaccinated raises questions about parental choice and governmental authority. In part the issue concerns whether parents view the vaccines to be a *choice* to be made at the household level, or an *obligation* to protect the community as a whole. When asked to agree or disagree with the statement: "Eradication and elimination of infectious diseases is not a personal choice but a community responsibility", 74% agreed (Figure 5).

Figure 5. How do you evaluate the following statement? – "Eradication and elimination of infectious diseases is not a personal choice but a community responsibility."



However, when the issue is framed to be whether parents or the government should make decisions about vaccinating children, nearly half (49%) of our respondents would leave the choice in the hands of parents (Figure 6).

Figure 6. How do you evaluate following statements? – "Parents, not the government, should make decisions about immunizing their children."

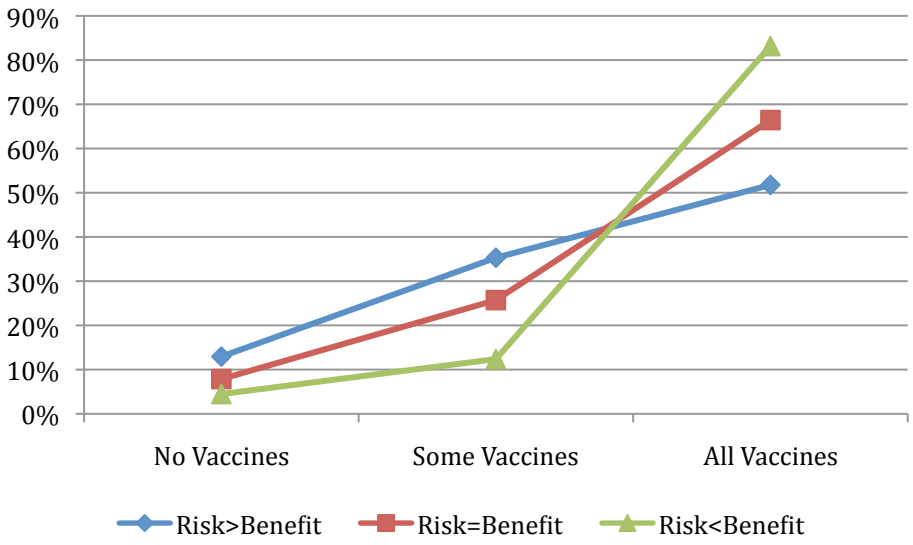


Overall, while a sizable majority of our respondents view eradication of disease as a community responsibility, about half are reluctant or opposed to having government preempt parents' choices about whether to have their children vaccinated. The implication is that vaccination campaigns will need to address two distinct issues of vital interest to parents: one concerns the benefits and risks of the vaccines; the other concerns what may be perceived as governmental intrusion into the domain of parental choice.

4. Consequences of Beliefs about Vaccines

The beliefs and values that parents hold concerning vaccine risks/benefits and parental autonomy have significant implications for both individual behavior and community health. Parents who believe that the risks of vaccines outweigh the benefits for their family are significantly less likely to report that their children have received the recommended course of childhood vaccinations. Among those parents who perceived the risks to outweigh the benefits, only 52% reported that their children had received all recommended vaccines. For those who think the risks and benefits are roughly equal, 66% reported that their children had received all recommended vaccines. Among the majority of parents who think benefits exceed the risks, 83% said their children have received all recommended vaccines. These results are shown in Figure 7.

Figure 7. Childhood Vaccination Rates by Parents' Perceptions of the Balance of Vaccine Risks and Benefits



A similar pattern is evident with respect to parents' beliefs about parental choice. Among those who believe that the decision to vaccinate children should be left to parents, 72% reported that their children had received all recommended vaccines. Among those who thought the matter should be decided by the government, 84% reported that their children had received all recommended vaccines.

In sum, the beliefs about childhood vaccinations – including whether government should have authority to require them – are related in important ways to whether parents say they vaccinate their children. Public policies and health education campaigns concerning vaccinations should be designed to address these matters directly.