

**Maine Early Childhood
Immunization Survey
Final Report**

March 2008



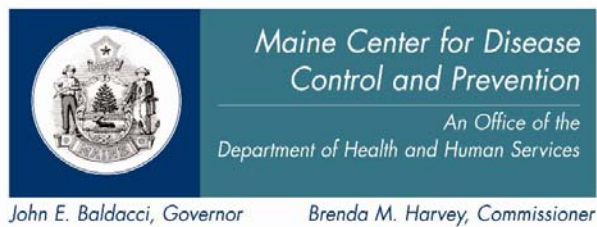
UNIVERSITY OF
SOUTHERN MAINE

**Maine Early Childhood Immunization
Survey Report**

March 2008

University of Southern Maine
Muskie School of Public Service
Survey Research Center

Prepared for the
Maine Center for Disease Control and Prevention
Department of Health and Human Services



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Project Background

Overview

During fall of 2006, the DHHS Maine Immunization Program (MIP) contracted with the USM Muskie School of Public Service to develop and implement a survey(s) with Maine parents of preschool children to identify both barriers to and incentives for getting children immunized. Data collected from the survey(s) is intended to be used by MIP to identify public health practices that will result in more children having age-appropriate immunizations and to inform ongoing program planning priorities such as outreach education.

Project Staff

MIP staff who provided leadership in the development, design and oversight of this project were: Jiancheng Huang and Alexander Dragatsi, MPH. The primary project staff were: Al Leighton, Director USM Muskie School Survey Research Center, Diane Friese, Researcher, Public Health team at USM Muskie Augusta, and Meg Lewis, contracted statistician from Yarmouth, Maine.

Methodology

The Maine Office of Vital Records provided a random sample of 8,526 names and addresses (time of birth) of mothers who had a baby born in Maine during the past five years. (N= 61,377 births occurring in Maine between 1/1/02 and 12/31/06). MIP and Muskie staff collaborated on developing a 4-page written survey which was mailed to mothers. An introductory letter and passive consent form was included in each mailing. In addition, as an incentive to answer the survey, participants could return their name and address to enter a drawing for a gift certificate to be used at a Hannaford Supermarket. A total of 1,726 surveys were completed and returned to the Survey Research Center, 20.2% of all those mailed out (in addition 2,324 of the 8,526 mailed out were returned undelivered).

A second component of the survey process was a telephone survey, administered to a percentage of mothers who did not respond to the survey in writing. Birth record information from Vital Records was linked to phone numbers from a national database compiled by Survey Sampling Inc. (SSI) located in Trumbull, Connecticut. SSI correlated phone numbers with the names and addresses; 1,588 of the non-

responders were matched to a phone number. SSI's protocol included deleting their file immediately upon completion of the matching process. A 5-8 minute phone survey was administered to those 1,588 parents by Survey Research Center staff. Eighty-two (82) were found to be ineligible for the phone survey because they had already completed the mailed survey. Of the remaining 1,506 mothers, 927 (61.6%) completed the phone survey (263 could not be reached because the matched phone number was either a wrong number or a non-working number). Ultimately 2,653 people completed the mail or phone version of the survey. Therefore, 31.1% of those initially selected as the sample population participated in the survey process.

The Vital Record data was not used in the following analysis and will be destroyed at the completion of this project. De-personalized response data from the phone surveys and written surveys was encoded into computer files for the data analysis in this report.

Results Summary

This report gives the data analysis results from surveys of more than 2,600 Maine households during fall 2007. Surveys were conducted initially by mail, and later by telephone to obtain additional responses.

- Most questions on the mail and phone surveys were identical, and the response data was combined for this analysis. Although there are differences between the mail and phone survey response patterns, the combined data offer a broad view of parents' opinions about pre-school immunizations and their preferred healthcare information sources.
- To help understand the barriers and incentives for getting recommended pre-school immunizations, the analysis was broken out by whether all eligible children in the responding household were immunized or not. For analysis purposes, all families were classified as either "All immunized" or "Not all immunized". Families with one or more unimmunized or under-immunized children were classified as "Not all Immunized". Families whose children had received all the recommended doses for their age were classified as "All Immunized." The classification is based on responses to question 6 – "how many children age 5 or under in your household have not had all of the recommended shots for their age".

Following are highlights of the survey findings.

- The “Not all immunized” group was 10.3% of the combined (mail and telephone) responses. On average, this group had more children under age 5 in their households. They also reported a higher level of completed education.
- More than half of both groups agreed with statements about the health protection of childhood immunizations, the value of physicians’ recommendations about vaccination, and the risk of childhood diseases. As expected, levels of agreement were lower in the “Not all immunized” group.
- **The top reasons selected for not immunizing their pre-school children were:**
 1. the number of shots given at one time
 2. concern about autism
- Both subgroups reported using a variety of sources to get information about their children’s health care. On average, the “Not all immunized” group reported using more healthcare information sources. Overall, the top five sources selected were:
 1. pediatrician
 2. family doctor
 3. friends
 4. parents
 5. Internet sources

The survey respondents added many comments to questions about their reasons for not immunizing, where they get healthcare information, which information is most helpful, and how they prefer to get it. Those comments are given in the Appendix.

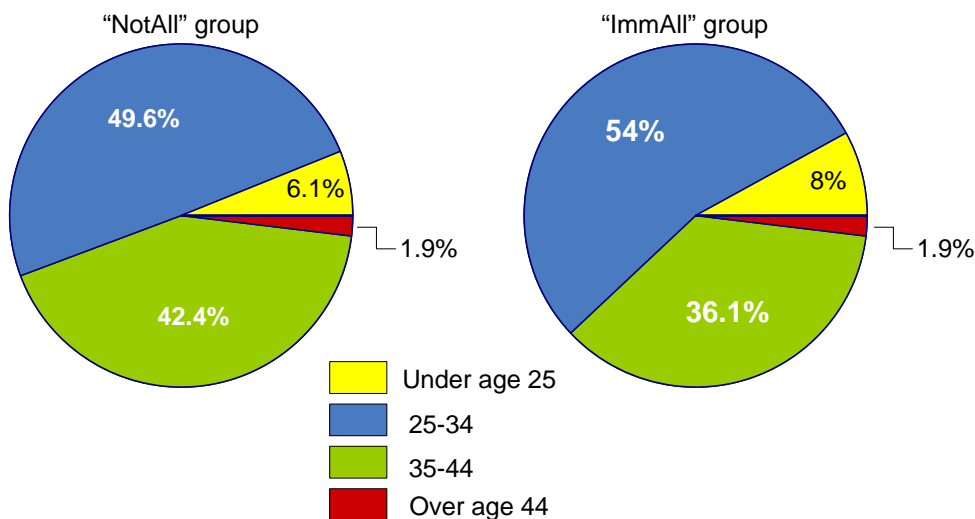
Analysis of the Survey Data

Sampled households

The combined mail and telephone surveys represented 2,653 households having at least one child under age 5 at the time of the survey. Most questions were the same on the mail and telephone surveys. One case where the two formats differed is highlighted with notes.

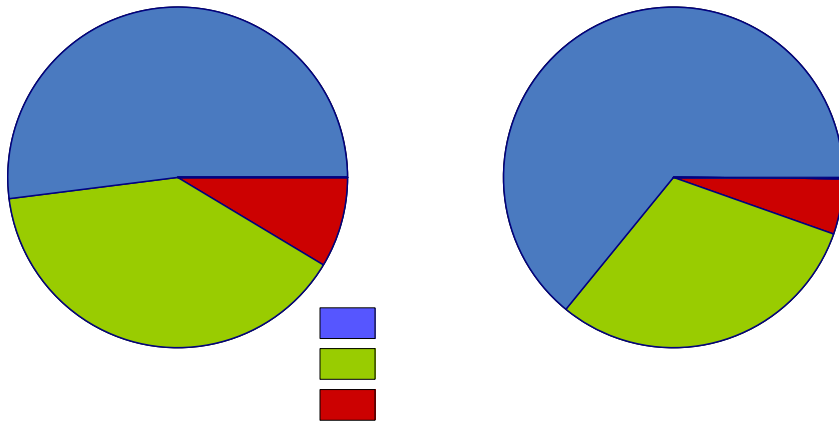
Many respondents did not answer all survey questions. The sample used for this report consisted of 2,616 surveys that provided an answer to the question “How many children age 5 or under in your household have ALL recommended shots for their age?” The sample households were broken down by whether or not all children had received the immunizations recommended for their age. In this analysis, the categories are indicated as: “NotAll” (not all children under 5 immunized; 269 respondents or 10.3% of the overall total) or “ImmAll” (all children under age 5 immunized; 2,347 respondents or 89.7% of the total.)

The survey respondents were more than 95% female for both subgroups. Their reported ages were: 202 respondents under age 25 (7.8%), 1,384 between ages 25 and 34 (53.6%), 948 between ages 35 and 44 (36.7%) and 50 respondents over age 44 (1.9%). Respondent ages are broken out by “NotAll” and “ImmAll” as follows, showing a somewhat older “NotAll” group.

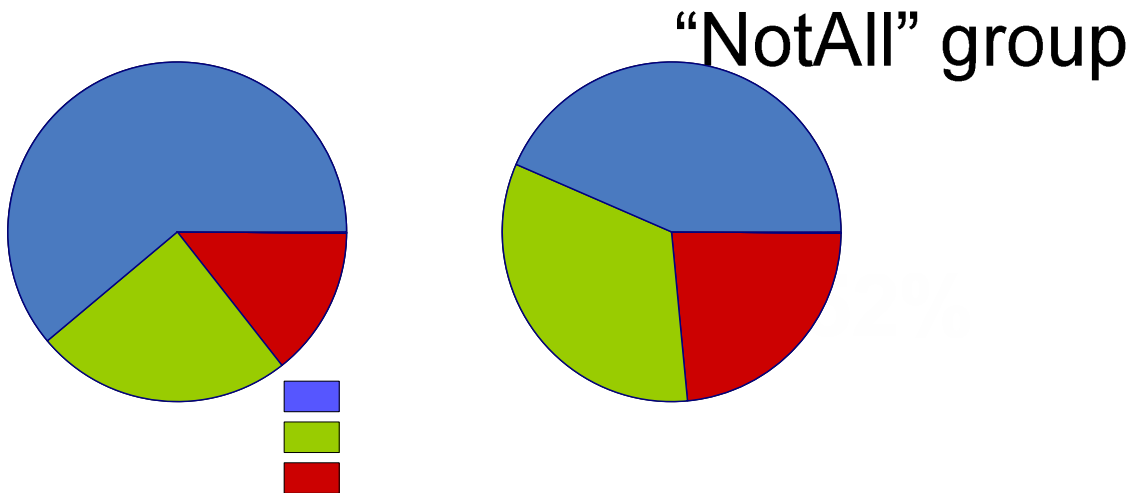


Overall, the respondents represented 1,645 households having one child under age 5 (62.9%), 823 with two children under age 5 (31.5%) and 148 with three or more

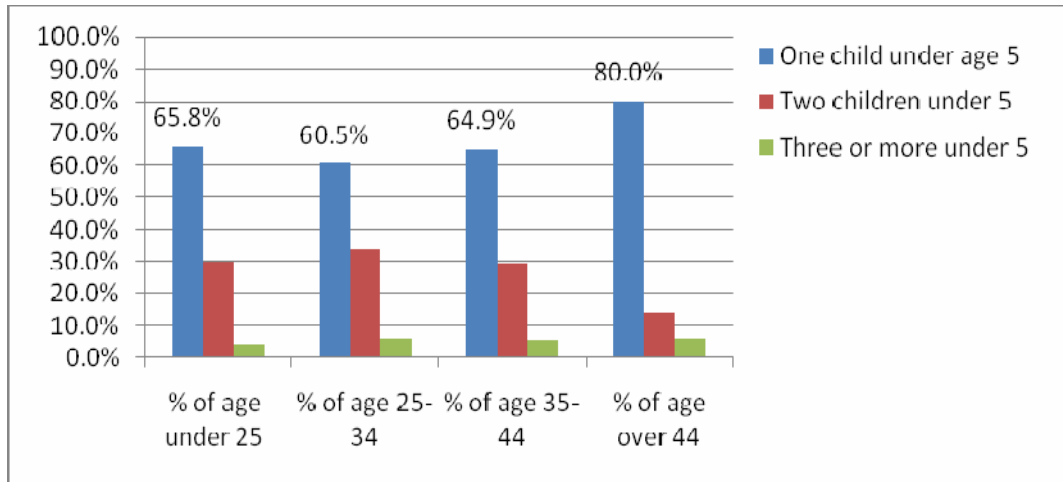
children under age 5 (5.7%). The number of children per household is broken out by subgroups in the following charts. On average, the “NotAll” households had more preschool children.



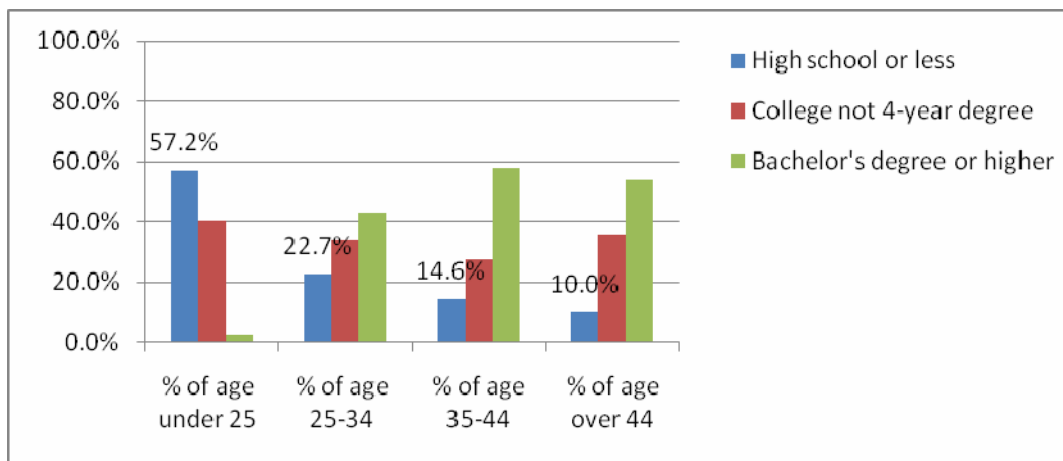
The respondents’ highest completed education levels at the time of the survey were: 587 reporting high school or less (22.5%), 839 with some college or a 2-year degree (32.2%) and 1,181 with a bachelor’s or graduate degree (45.3%). The following charts show respondent education broken out for the subgroups. On average, “NotAll” respondents reported a higher level of education.



The following graphs compare the surveyed households based on respondent age groups. The first chart shows differences in the number of preschool children. The pattern is most different for the oldest age group, which reported fewer preschool children.



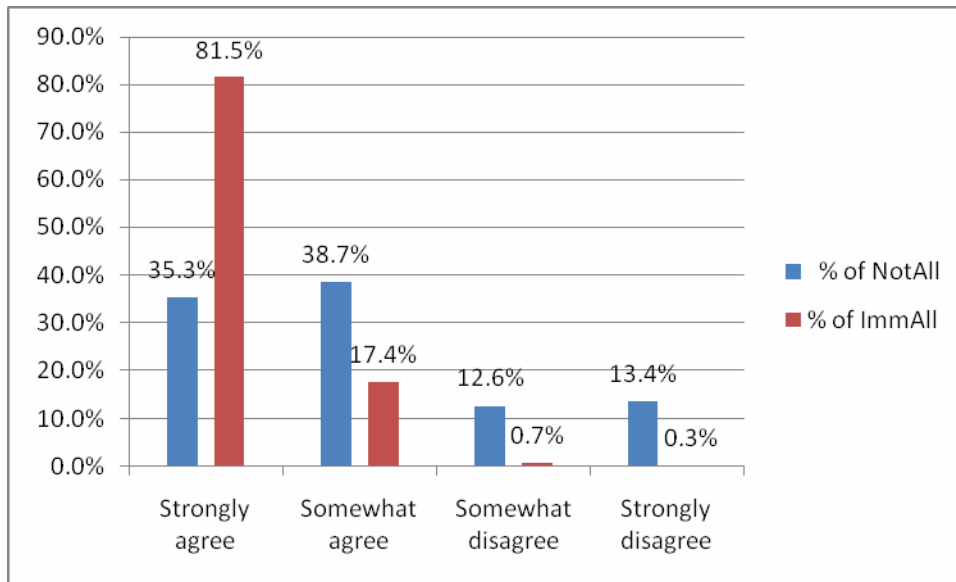
The following chart shows the breakdown of respondent education levels by age group. The pattern is most different for the youngest age group, which reported lower levels of education.



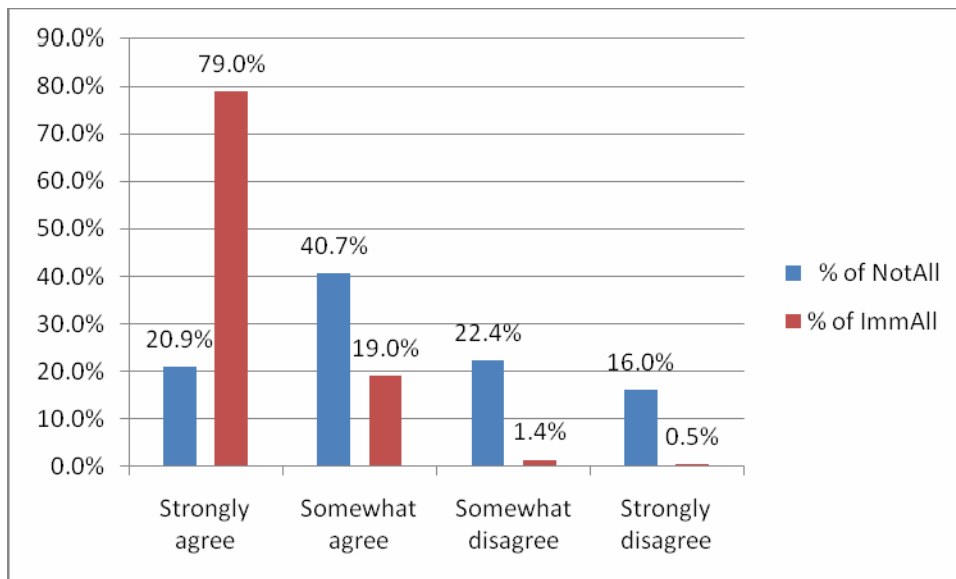
Opinions about childhood diseases and immunization

The following graphs highlight the different response patterns between the subgroups for survey questions that asked how strongly the respondents agreed with three statements about management of childhood disease. As might be expected, more of the “NotAll” group did not agree with the statements.

Question 2: “My pre-school children’s health can be protected by getting shots to prevent disease”

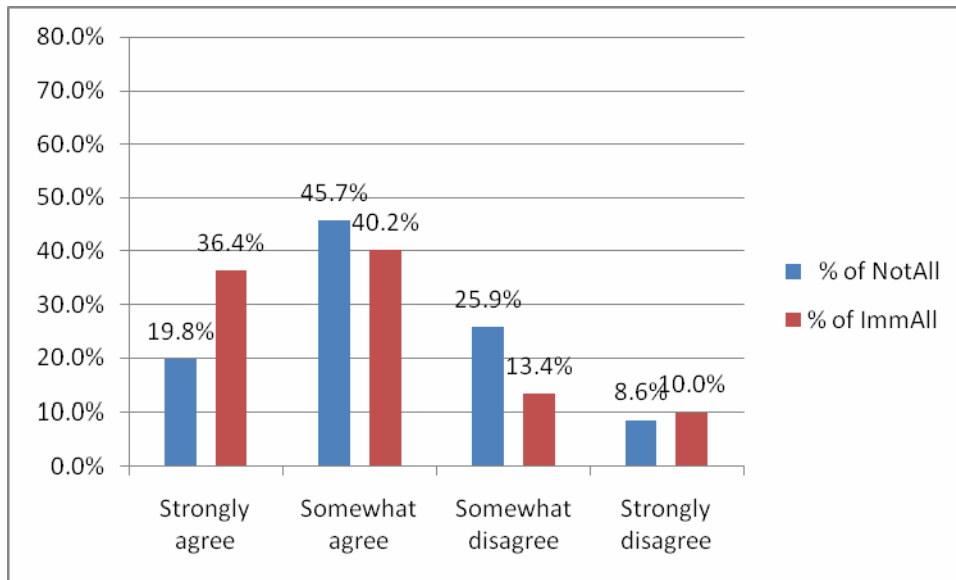


Question 3: “I believe I should follow a physician’s recommendation to vaccinate my child”



Question 4 – MAIL SURVEY: “My pre-school children are at risk of getting sick from childhood diseases such as measles, mumps, tuberculosis, whooping cough, etc.”

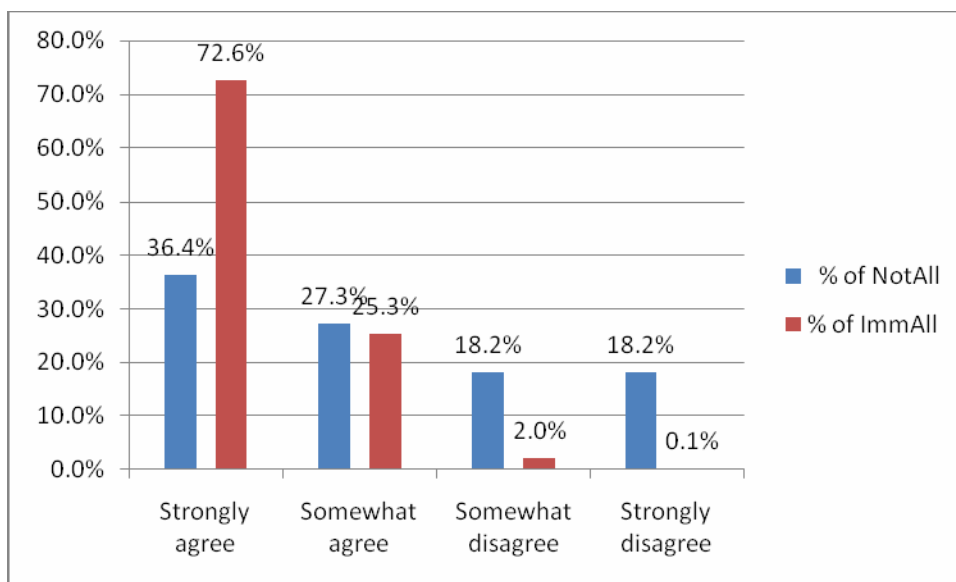
The graph below is based on the mail survey responses only (N=1,652).



Write-in responses to this question indicated that some parents believed their children were no longer at risk for childhood diseases *because* they were immunized. Therefore, the question was changed somewhat in the telephone survey.

Question 4 – TELEPHONE SURVEY: “*If my pre-school children don’t get their immunizations, they will be at risk of getting sick from childhood diseases such as measles, mumps, tuberculosis, whooping cough, etc.*”

The graph below is based on the phone responses only (N=904).



Note that more than 98% of respondents either Somewhat or Strongly agreed with this version of the statement. This pattern is more like the responses to questions 2 and 3. The different results from the two versions of this question support the possibility that many parents believe immunization will reduce the risk of childhood diseases – whether or not they have immunized their children.

Reasons not to immunize children

The table below shows the percent of “NotAll” respondents who selected the following reasons why they have not taken some or all of their children for shots, shown in order from most to least selected. The numbers total more than 100% because respondents could select multiple reasons. Note that “another reason” got the highest percentage of responses.

% of "NotAll" respondents who selected this reason	
The number of shots given at one time bothers me	52.8
I'm afraid my child(ren) will become autistic	34.2
I think preschool shots for children can cause illness instead of preventing it	23.4
I think preschool shots for children are unnecessary	15.2
For religious reasons	6.7
I can't afford the shots	3.3
I have transportation problems	1.9
I don't know where to get the shots	0.7
It takes too long before I can get someone to administer the vaccine	0.3
Another reason (see Appendix Q7 for the “other” write-in responses)	67.7

Sources of healthcare information

The table below summarizes answers to: “In the past five years, where did you get information regarding your children’s health care?” The selection results are shown from highest to lowest overall. The columns again add to more than 100% because most respondents selected multiple information sources. The two subgroups differed significantly ($p < .01$) in all responses except their use of parents as an information source. The “NotAll” group indicated use of more information sources, including higher reliance on friends, the Internet, news sources and other sources for healthcare information.

% of respondents selecting this information source			
	Overall	"NotAll" group	"ImmAll" group
Pediatrician	73.2%	60.2%	74.7%
Family physician (MD or DO)	67.3%	74.8%	66.5%
Friends	45.2%	57.6%	43.8%
Parents	41.7%	42.8%	41.6%
Internet sources	38.4%	54.3%	36.6%
Hospital staff	32.7%	24.9%	33.6%
Nurse practitioner	30.5%	37.9%	29.7%
News source	27.8%	37.9%	26.7%
Nurse midwife	11.1%	29.0%	9.0%
Chiropractor	5.8%	17.5%	4.5%
Naturopathic medicine professional	4.0%	21.2%	2.0%
Herbalist	3.1%	11.2%	2.1%
Other source (see Appendix Q8 for write-in responses)	16.5%	37.6%	14.1%

The following table summarizes answers to: “Which one of those was most helpful regarding the immunization of your children?” As before, the results are shown from most-chosen to least-chosen overall. The top two selections for both subgroups were pediatricians and family physicians. However, the patterns of choice differed significantly ($p < .01$) between the two subgroups. For example, the percentage of “ImmAll” respondents selecting pediatrician as the top choice was almost twice that for “NotAll” respondents. Note that for both groups, a larger percentage chose Internet sources as most helpful than they did friends or parents.

% of respondents selecting this information source as <i>most</i> helpful			
	Overall	"NotAll" group	"ImmAll" group
Pediatrician	58.0%	30.9%	60.8%
Family physician (MD or DO)	28.8%	24.2%	29.3%
Nurse practitioner	2.5%	4.2%	2.3%
Internet sources	2.4%	8.1%	1.8%
Friends	1.2%	5.5%	0.8%
News sources	0.9%	3.4%	0.7%
Parents	0.6%	1.3%	0.5%

Naturopathic medicine professional	0.5%	3.8%	0.2%
Hospital staff	0.4%	0.0%	0.4%
Nurse midwife	0.3%	1.7%	0.2%
Chiropractor	0.2%	0.8%	0.2%
Herbalist	0.1%	0.0%	0.1%
Some other source (see Appendix Q9 for write-in responses)	4.0%	16.1%	2.7%

Preferred methods for getting healthcare information

The two tables below summarize answers to: “How do you prefer to get healthcare information?” Respondents were asked to check their top (best, or most preferred) and second (second-best, or second most preferred) information sources from a provided list. As before, the results are sorted from highest to lowest overall. Also, there were significant differences ($p < .01$) between the subgroup response patterns.

“Through my doctor” was the clear top-most preference, selected by more than two-thirds of both subgroups.

% of respondents selecting this method as <i>most</i> preferred			
	Overall	"NotAll" group	"ImmAll" group
Through my doctor	76.1%	67.7%	77.0%
U.S. mail	12.5%	12.8%	12.5%
E-mail	3.9%	5.5%	3.7%
Public health website	3.6%	9.8%	3.0%
Public Service Announcements on TV/radio	2.4%	2.6%	2.4%
Through my day care center	0.9%	0.9%	0.9%
Phone	0.5%	0.9%	0.4%

“U.S. mail” was selected far less than “through my doctor” as *most* preferred, but as shown in the following table, it was selected by both subgroups as the *second-most*-preferred method. Please see the Appendix for the “other source” write-in responses to this question.

% of respondents selecting this method as <i>second-most</i> preferred			
	Overall %	"NotAll" group	"ImmAll" group
U.S. mail	29.5%	22.9%	30.1%
Public health website	18.5%	21.0%	18.4%
Public Service Announcements on TV/radio	16.0%	14.3%	16.2%
Through my doctor	13.8%	23.3%	12.8%
E-mail	10.2%	11.0%	10.2%
Through my day care center	8.2%	5.7%	8.5%
Phone	3.8%	1.9%	4.0%

Appendix 1: Write-in responses to Questions 7-10

Q7: Please tell me reasons why you haven't taken some or all of your children for shots (coded responses to "some other reason")

01	Child will get them at next appointment
02	We have a child with autism/autism spectrum
03	Varicella is too new. I am unsure of it.
04	Don't get varicella immunization until just before puberty; want children to get chicken pox to avoid childhood shingles
05	Not necessary/not essential for very young children
06	I plan to get shots done for kindergarten
07	Just haven't heard from the doctor that it's time/not given yet
08	We have weighed the benefits & risks and opted to vaccinate for the immunizations we felt were most important
09	Did not feel kids were at risk with stay at home mom/some vaccinations not necessary before child enters school or daycare
10	Not sure how long varicella immunity lasts-rather she get it naturally if possible from exposure to chicken pox
11	We chose to delay
12	Allergy/bad reaction after first series/adverse side effects
13	Illness in family
14	Doctor won't give shots without seeing child first- co-pays are costly with 3 children
15	Child too young – hasn't reached that stage
16	Child was ill at last well-child appointment/or at time of shots
17	Relative with autism condition declined after 18 month shots
18	Personal health treatment ought to be a choice/ not mandated
19	Preservatives/man made ingredients/thimerosal
20	Weaken immune system in the long run/want to not overtax immune system
21	Chicken pox can become more serious as an adult than as child
22	The dangers outweigh the benefits
23	Personal objection to some shots
24	Do not feel chicken pox is a serious illness that requires vaccination; don't think pre-school children are at risk
25	Hep B risk is relatively low during childhood/unnecessary until older
26	[some] not recommended by pediatrician
27	I believe children can get chicken pox and it is safer than the vaccination

28	Hep B vaccine should be started close to onset of sexual activity
29	Don't believe the benefits of the chicken pox vaccine outweigh risks/unsure how long it is effective in preventing chicken pox
30	We only do 2 shots at a time/have created our own schedule
31	1st varicella shot unnecessary at young age.
32	We believe in homeopathic and herbal medicine as well as allopathic medicine
33	The shots are dangerous/dangerous side effects/dangerous chemicals in the shots
34	We prefer to follow our naturopathic doctor's recommendations
35	I did not feel the shot was needed for non-life threatening illness
36	Child has hydrocephalus/tested out of the MMR booster due to seizure concerns
37	[child] had pertussis as infant before vaccination (at 8 weeks)
38	They will get them all, just a matter of schedule/will take multiple visits for some
39	Many/not all illnesses "work" the immune system/strengthen it

Q7 write-in responses continued

40	Health risks should be assessed for each individual child considering daycare attendance, quality of diet and lifestyle, challenges to immune system. Not a blanket prescription.
41	I follow a schedule which starts much later than 2 months. Started my child at 8 months. Would like to see the number of shots reduced and carefully considered for safety benefits e.g. DTaP is safer than DTP but Maine lagged behind other states in administering DTaP
42	My children are not at risk for Hep B and I have waited for DTaP series until SIDS risk was lower-after 6 months
43	Concern of content of vaccine- no matter how small
44	My friend's daughter became deaf at 2 ½ [due to] after vaccine
45	Not comfortable with chicken pox vaccine/has all but that
46	I believe immunizations are strongly linked to many disabilities
47	I don't believe in the VAR shot
48	Recommended immunization schedule is not the best healthcare options
49	I prefer to wait before getting the shots as I did with my 7 yr old
50	Don't agree with all the shots, i.e. Hep B and polio
51	Doctor recommended to hold off on 3rd HepB shot
52	Concerned about strong reactions to vaccine

53	[some] not necessary (chicken pox and flu shot)/all required shots are done but not optional (chicken pox and flu shot)
54	My child has other medical problems that interfere with the timing of the immunizations
55	Review history! Illnesses were on the decline before the vac was created. Since then other illnesses (asthma, SSI, autism, ADD, etc.) was non-existence and are now threw the roof in the generations of the heavily vax. Quinsidence? I think not! [Sic}
56	I know what's in the shots and how they develop the vaccine. I know what it does to the T-cells in the body.
57	Personal beliefs and extensive research on the subject
58	Dosages aren't specific to patient size, age, etc.
59	Some vacs. Are created with the use of aborted babies
60	I think it's better in some cases for healthy children to get naturally acquired immunities to these diseases.
61	Doctor wanted to wait t'il 5th birthday for rest of shots
62	Only vaccination not received is 1st varicella
63	Better able to fight the disease for a lifetime when combating it naturally
64	They have all except pneumonia vaccine/ supply issue
65	Don't trust the drug companies
66	No long term studies of risks
67	Don't believe varicella vaccine is 100% effective
68	I feel that it is impossible to get an accurate presentation of absolute risks because the CDC website no longer tallies and summarizes vaers reports
69	Only reason got other children vaccinated was because it was required for them to attend daycare and school. If not for that wouldn't have taken the risk.
70	Hep B series (I got mine when traveling abroad at age 28). It's scary to vaccinate right out of the womb.
71	The recommendations for vaccinations and when given seem to be designed to benefit doctors more than children
72	There are no guarantees that it works!
73	My youngest child was given an adult form of the PCV shot. She was less than a year old. The next time she was taken in for shots, she was given expired shots. Take a look into the Amish lifestyle.

Q8: In the past five years, where did you get information regarding your children’s health care? (coded responses to “some other source”)

01	Books
02	Magazines
03	Allergist, health care provider inc. specialists, RN, PA, podiatrist, ENT, etc.
04	Education (my own)
05	Under code 08
06	Alliance for Healthy Families/ Healthy Family Programs
07	Under code 03
08	Pre-school, daycare, Head Start, nursery school
09	Case manager
10	Birthing instructor/ lay midwife or doula
11	Periodicals, reviews, medical/nursing journals
12	KVCAP Healthy Families/ KVCAP newsletter
13	LaLeche League/ lactation consultant
14	MaineCare
15	WIC
16	Healthy Futures – mailings
17	Our own research
18	Self or family member with medical education
19	= 08
20	[already on original list of options]
21	Healthy Families/Youth alternatives Healthy Fam. Partnership
22	Experience with older children/ myself
23	DHHS
24	Workplace/ co-workers/ work in healthcare
25	School
26	American Academy of Pediatrics Periodicity Schedule
27	Under code 03
28	Under code 03
29	CDC/ CDC.gov
30	AAFP
31	Under code 04
32	Under code 03
33	Speech/ or physical therapists
34	On original list of options
35	Under code 03
36	Nutritionist

37	PAT* (U Maine)
38	Under code 03
39	Family
40	Pharmacist
41	Under code 03
42	Under code 13
43	Church family and the Lord
44	Under code 03
45	Under code 03
46	Handouts/handouts from Pediatrician's Office
47	Under code 04
48	Veterinarian

<i>Q8 write-in responses continued</i>	
49	Parent educator
50	Maine Immunization Program
51	Hydrocephalus Association
52	Healthy Kids Family Support worker
53	County Health Service
54	Homeopath
55	Acupuncturist
56	School Nurse
57	Nutritional Healing Resource
58	Aap.org (American Academy of Pediatrics)
59	World Health Organization
60	Radio Programs
61	Under code 54
62	Child psychologist
63	Alternative health guides, non-pharma studies
64	Doula ("friend at childbirth")

Q9: Which ONE of those was more helpful regarding the immunization of your children? (coded responses to "some other source")

01	Myself, my experience, my own instincts/feelings
02	Alliance for Healthy Families/Healthy Families Program

03	Home health care nurse/visiting nurse
04	Self/Family member with medical education
05	Books/research/my own research
06	RN at the doctor's office/ nurse
07	There is no one best source/no one
08	It's required
09	Physician Assistant
10	Church family and the Lord
11	Neurologist
12	Visiting nurse and daycare provider
13	Parent educator
14	CDC/Maine Immunization Program
15	Co-workers
16	Nursing program – USM
17	None- don't feel doctor is unbiased
18	Headstart
19	My daughter has autism
20	Handouts explaining them, from pediatrician's office
21	Lay midwife
22	Youth Alternatives Healthy Families Partnership
23	Does not apply
24	CDC website
25	It was a personal decision/Pediatrician not very flexible and it is hard to request vaccinations that don't contain metals

Q10: How do you prefer to get healthcare information? (coded responses to “some other source”)

01	[From my nurse practitioner] this is already in original options
02	[Internet research/Internet] this is already in original options
03	Family/family member in health care
04	My research/myself/my own studies
05	[News articles/ news] this is already in original options
06	Head start/school
07	Friends/friends in healthcare/other parents
08	Workplace/co-workers/work in healthcare
09	Magazines
10	Books/literature
11	DHHS

12	Through the hospital
13	Current medical journals/ independent research journals/ medical studies
14	None from State
15	[Pediatrician] this is already in original options
16	Local library
17	PATT (U Maine)
18	All of the sources
19	Clinic
20	Any other medical professional [other than my doctor]
21	Handouts at doctor's office
22	Parent educator
23	Healthy Kids Family Support Worker
24	Midwife
25	Nursing education at the hospital [maybe code 08?]
26	Word of mouth

Appendix 2: Crosstabulations from Maine Childhood Immunization Survey

December 2007 - updated January 2008, with some additional crosstabs and statistical significance

Each worksheet that follows gives the response count data, and related percentages, for one or more survey questions.

The count data is from a spreadsheet prepared by the USM Muskie School Survey Research Center.

Frequency cross-tabulations were done using the statistical program Systat.

Results have been put into Excel for ease of additional analysis and graphing.

Each survey question and its answer choices are shown. Where the mail and telephone survey questions differ, both are given.

Most tables are broken out by two sample subgroups - i.e., respondents who had or had not immunized all their pre-school children.

Not all tables show the same count totals because of missing values (not all respondents answered all questions).

Q1: How many children age 5 or younger live in your household?

Q1 vs ImmunizedAll
Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
one	140	1505	1645	62.9%
two	106	717	823	31.5%
three	21	115	136	5.2%
four	2	6	8	0.3%
5 or more	0	4	4	0.2%
Column total	269	2347	2616	
Column ttl %	10.3%	89.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
one	52.0%	64.1%
two	39.4%	30.5%
three	7.8%	4.9%
four	0.7%	0.3%
5 or more	0.0%	0.2%
	100.0%	100.0%

Q11: I am:

Q11 vs ImmunizedAll
Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Female	258	2281	2539	98.1%
Male	5	44	49	1.9%
Column total	263	2325	2588	
Column ttl %	10.2%	89.8%		100.0%

Subgroup percentages

	NotAll	ImmAll
Female	98.1%	98.1%
Male	1.9%	1.9%
	100.0%	100.0%

Q2: How strongly do you agree with... "My pre-school children's health can be protected by getting shots to prevent disease."

Q2 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Strongly agree	95	1913	2008	76.8%
Somewhat agree	104	409	513	19.6%
Somewhat disagree	34	17	51	2.0%
Strongly disagree	36	7	43	1.6%
Column total	269	2346	2615	
Column ttl %	10.3%	89.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
Strongly agree	35.3%	81.5%
Somewhat agree	38.7%	17.4%
Somewhat disagree	12.6%	0.7%
Strongly disagree	13.4%	0.3%
	100.0%	100.0%

Q3: How strongly do you agree with... "I believe I should follow a physician's recommendation to vaccinate my child."

Q3 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Strongly agree	56	1853	1909	73.1%
Somewhat agree	109	446	555	21.2%
Somewhat disagree	60	34	94	3.6%
Strongly disagree	43	12	55	2.1%
Column total	268	2345	2613	
Column ttl %	10.3%	89.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
Strongly agree	20.9%	79.0%
Somewhat agree	40.7%	19.0%
Somewhat disagree	22.4%	1.4%
Strongly disagree	16.0%	0.5%
	100.0%	100.0%

Q4: How strongly do you agree with... "My pre-school children are at risk of getting sick from childhood diseases...."
 ... such as measles, mumps, tuberculosis, whooping cough, etc."

MAIL SURVEY

Q4 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Strongly agree	39	529	568	34.4%
Somewhat agree	90	585	675	40.9%
Somewhat disagree	51	195	246	14.9%
Strongly disagree	17	146	163	9.9%
Column total	197	1455	1652	
Column ttl %	11.9%	88.1%		100.0%

Subgroup percentages

	NotAll	ImmAll
Strongly agree	19.8%	36.4%
Somewhat agree	45.7%	40.2%
Somewhat disagree	25.9%	13.4%
Strongly disagree	8.6%	10.0%
	100.0%	100.0%

Q4: How strongly do you agree with... "If my pre-school children don't get their immunizations, they will be at risk of getting sick...
 ... from childhood diseases such as measles, mumps, tuberculosis, whooping cough, etc."

TELEPHONE SURVEY (counts excluded from primary analysis because of differing question)

Q4 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Strongly agree	24	608	632	69.9%
Somewhat agree	18	212	230	25.4%
Somewhat disagree	12	17	29	3.2%
Strongly disagree	12	1	13	1.4%
Column total	66	838	904	
Column ttl %	7.3%	92.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
Strongly agree	36.4%	72.6%
Somewhat agree	27.3%	25.3%
Somewhat disagree	18.2%	2.0%
Strongly disagree	18.2%	0.1%
	100.0%	100.0%

Q5: How many children age 5 or under in your household have had all of the recommended shots for their age?

Q5 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
None	217	2	219	8.4%
1	47	1495	1542	59.0%
2	5	722	727	27.8%
3	0	114	114	4.4%
4	0	6	6	0.2%
5 or more	0	4	4	0.2%
Column total	269	2343	2612	
Column ttl %	10.3%	89.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
None	80.7%	0.1%
1	17.5%	63.8%
2	1.9%	30.8%
3	0.0%	4.9%
4	0.0%	0.3%
5 or more	0.0%	0.2%
	100.0%	100.0%

Q6: How many children age 5 or under in your household have not had all of the recommended shots for their age?

(NOTE: this question used to define the sample subgroups)

Q6 vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
None	0	2347	2347	89.7%
1	184	0	184	7.0%
2	76	0	76	2.9%
3	7	0	7	0.3%
4	2	0	2	0.1%
5 or more	0	0	0	0.0%
Column total	269	2347	2616	
Column ttl %	10.3%	89.7%		100.0%

Subgroup percentages

	NotAll	ImmAll
None	0.0%	100.0%
1	68.4%	0.0%
2	28.3%	0.0%
3	2.6%	0.0%
4	0.7%	0.0%
5 or more	0.0%	0.0%
	100.0%	100.0%

Q7: There are many reasons why people don't get shots for their children.

MAIL SURVEY: On the following list, please check all the reasons why you haven't taken some or all of your children for shots.

PHONE SURVEY: I am going to read a list of possible reasons. Please tell me which are reasons why you haven't taken some or all of your children for shots.

NOTE: Only "NotAll" sample included in this analysis

	Response counts			Selected as % of those answering	95% CI of percent selected
	Not selected	Selected	Row ttl		
For religious reasons	248	18	266	6.8%	3.9-10.0%
The number of shots given at one time bothers me	124	142	266	53.4%	46.8-58.7%
I'm afraid my child(ren) will become autistic	174	92	266	34.6%	28.8-40.1%
I don't know where to get the shots	264	2	266	0.8%	0-1.8%
I can't afford the shots	257	9	266	3.4%	1.2-5.4%
I think preschool shots for children are unnecessary	225	41	266	15.4%	11.1-19.7%
I think preschool shots for children can cause illness instead of preventing it	203	63	266	23.7%	18.4-28.5%
I have transportation problems	261	5	266	1.9%	0.2-3.4%
It takes too long before I can get someone to administer the vaccine	265	1	266	0.4%	0-1.1%
Another reason	84	182	266	68.4%	61.8-73.0%
(2nd) other reason - PHONE ONLY	54	13	67	19.4%	9.4-28.3%

Q8: In the past five years, where did you get information regarding your children's health care? (Check all that apply)

	Response counts and subtotals					
	NotAll subgroup			ImmAll subgroup		
	Not selected	Selected	Subgrp row ttl	Not selected	Selected	Subgrp row ttl
Family physician (MD or DO)	66	196	262	779	1544	2323
Chiropractor	222	47	269	2241	106	2347
Pediatrician	107	162	269	595	1752	2347
Nurse practitioner	167	102	269	1651	696	2347
Herbalist	239	30	269	2297	50	2347
Nurse midwife	191	78	269	2136	211	2347
Naturopathic medicine professional	212	57	269	2300	47	2347
Parents	154	115	269	1371	976	2347
Friends	114	155	269	1320	1027	2347
Staff at hospital	202	67	269	1559	788	2347
News sources	167	102	269	1721	626	2347
Internet sources	123	146	269	1488	859	2347
Other	168	101	269	2017	330	2347

Selected as % of responses				
NotAll subgroup	95% CI	ImmAll subgroup	95% CI	Overall
74.8%	69.5-80.1%	66.5%	64.5-68.4%	67.3%
17.5%	12.9-22.0%	4.5%	3.7-5.4%	5.8%
60.2%	54.3-66.1%	74.6%	72.9-76.4%	73.2%
37.9%	32.1-43.8%	29.7%	27.8-31.5%	30.5%
11.2%	7.4-14.9%	2.1%	1.5-2.7%	3.1%
29.0%	23.5-34.5%	9.0%	7.8-10.1%	11.0%
21.2%	16.3-26.1%	2.0%	1.4-2.6%	4.0%
42.8%	36.8-48.7%	41.6%	39.6-43.6%	41.7%
57.6%	51.7-63.6%	43.8%	41.7-45.8%	45.2%
24.9%	19.7-30.1%	33.6%	31.7-35.5%	32.7%
37.9%	32.1-43.8%	26.7%	24.9-28.5%	27.8%
54.3%	48.3-60.3%	36.6%	34.6-38.6%	38.4%
37.5%	31.7-43.4%	14.1%	12.7-15.5%	16.5%

Stat. signif.*
NotAll vs ImmAll
p < .05
p < .05
p < .05
p < .05
p < .05
p < .05
p < .05
Not sig (p > .10)
p < .05
p < .05
p < .05
p < .05

* Chi-square test

Q9: Which ONE of the following was most helpful regarding the immunization of your children? (Check only one)

Q9 vs ImmunizedAll
Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Family physician (MD or DO)	57	664	721	28.8%
Chiropractor	2	4	6	0.2%
Pediatrician	73	1380	1453	58.0%
Nurse practitioner	10	52	62	2.5%
Herbalist	0	2	2	0.1%
Nurse midwife	4	4	8	0.3%
Naturopathic medicine professional	9	4	13	0.5%
Parents	3	12	15	0.6%
Friends	13	18	31	1.2%
Staff at hospital	0	10	10	0.4%
News sources	8	15	23	0.9%
Internet sources	19	41	60	2.4%
Other	38	62	100	4.0%
Column total	236	2268	2504	
Column ttl %	9.4%	90.6%		100.0%

	NotAll	ImmAll
Family physician (MD or DO)	24.2%	29.3%
Chiropractor	0.8%	0.2%
Pediatrician	30.9%	60.8%
Nurse practitioner	4.2%	2.3%
Herbalist	0.0%	0.1%
Nurse midwife	1.7%	0.2%
Naturopathic medicine professional	3.8%	0.2%
Parents	1.3%	0.5%
Friends	5.5%	0.8%
Staff at hospital	0.0%	0.4%
News sources	3.4%	0.7%
Internet sources	8.1%	1.8%
Other	16.1%	2.7%
	100.0%	100.0%

There is a statistically significant difference in the patterns of response between NotAll and ImmAll subgroups (p<.01, based on chi-square test.,

Q10A: How do you prefer to get healthcare information (your most preferred method)?

Q10A vs ImmunizedAll

Response counts and overall percentages

	Q2 vs Imm	ImmAll	Row total	Row ttl %
E-mail	13	85	98	3.9%
U.S. mail	30	285	315	12.5%
Phone	2	10	12	0.5%
Public health website	23	68	91	3.6%
Public Service Announcements on TV/radio	6	54	60	2.4%
Through my day care center	2	21	23	0.9%
Through my doctor	159	1752	1911	76.1%
Column total	235	2275	2510	
Column ttl %	9.4%	90.6%		100.0%

Subgroup percentages

	NotAll	ImmAll
E-mail	5.5%	3.7%
U.S. mail	12.8%	12.5%
Phone	0.9%	0.4%
Public health website	9.8%	3.0%
PSAs on TV/radio	2.6%	2.4%
Through my day care center	0.9%	0.9%
Through my doctor	67.7%	77.0%
	100.0%	100.0%

There is a statistically significant difference in the patterns of response between NotAll and ImmAll subgroups ($p < .01$, based on chi-square test.)

Q10B: What is your second-most-preferred method to get healthcare information?

Q10B vs ImmunizedAll

Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
E-mail	23	207	230	10.2%
U.S. mail	48	613	661	29.5%
Phone	4	81	85	3.8%
Public health website	44	371	415	18.5%
Public Service Announcements on TV/radio	30	329	359	16.0%
Through my day care center	12	173	185	8.2%
Through my doctor	49	260	309	13.8%
Column total	210	2034	2244	
Column ttl %	9.4%	90.6%		100.0%

Subgroup percentages

	NotAll	ImmAll
E-mail	11.0%	10.2%
U.S. mail	22.9%	30.1%
Phone	1.9%	4.0%
Public health website	21.0%	18.2%
PSAs on TV/radio	14.3%	16.2%
Through my day care center	5.7%	8.5%
Through my doctor	23.3%	12.8%
	100.0%	100.0%

There is a statistically significant difference in the patterns of response between NotAll and ImmAll subgroups ($p < .01$, based on chi-square test.)

Q12: My age is:

Q12 vs ImmunizedAll
Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
under 18	0	3	3	0.1%
18-24	16	183	199	7.7%
25-34	130	1254	1384	53.6%
35-44	111	837	948	36.7%
over 44	5	45	50	1.9%
Column total	262	2322	2584	
Column ttl %	10.1%	89.9%		100.0%

Subgroup percentages

	NotAll	ImmAll
under 18	0.0%	0.1%
18-24	6.1%	7.9%
25-34	49.6%	54.0%
35-44	42.4%	36.0%
over 44	1.9%	1.9%
	100.0%	100.0%

Q13: The highest level of education I have completed so far is:

Q13 vs ImmunizedAll
Response counts and overall percentages

	NotAll	ImmAll	Row total	Row ttl %
Less than High School graduate	6	50	56	2.1%
GED	5	58	63	2.4%
High School diploma	27	441	468	18.0%
Some college, did not graduate	38	427	465	17.8%
2-year degree, college or voc/tech school	27	347	374	14.3%
Bachelor's degree	115	732	847	32.5%
Graduate degree (Master's, PhD)	47	287	334	12.8%
Column total	265	2342	2607	
Column ttl %	10.2%	89.8%		100.0%

Subgroup percentages

	NotAll	ImmAll
Less than High School graduate	2.3%	2.1%
GED	1.9%	2.5%
High School diploma	10.2%	18.8%
Some college, not graduate	14.3%	18.2%
2-year degree	10.2%	14.8%
Bachelor's degree	43.4%	31.3%
Graduate degree (Master's, PhD)	17.7%	12.3%
	100.0%	100.0%

Breakdowns: household characteristics

Age of respondent vs Number of preschool children in household

Response counts and overall percentages						
	Under 25	25-34	35-44	Over 44	Row total	Row ttl %
1 child under 5	133	837	615	40	1625	62.9%
2 children	60	466	279	7	812	31.4%
3 or more	9	81	54	3	147	5.7%
Column total	202	1384	948	50	2584	
Column ttl %	7.8%	53.6%	36.7%	1.9%		100.0%

Subgroup percentages				
	Under 25	25-34	35-44	Over 44
1 child under 5	65.8%	60.5%	64.9%	80.0%
2 children	29.7%	33.7%	29.4%	14.0%
3 or more	4.5%	5.9%	5.7%	6.0%
	100.0%	100.0%	100.0%	100.0%

Age of respondent vs Respondent education level

Response counts and overall percentages						
	Under 25	25-34	35-44	Over 44	Row total	Row ttl %
High school or less	115	314	138	5	572	22.1%
Some college	81	474	261	18	834	32.3%
Bachelor's or more	5	596	549	27	1177	45.6%
Column total	201	1384	948	50	2583	
Column ttl %	7.8%	53.6%	36.7%	1.9%		100.0%

Subgroup percentages				
	Under 25	25-34	35-44	Over 44
High school or less	57.2%	22.7%	14.6%	10.0%
Some college	40.3%	34.2%	27.5%	36.0%
Bachelor's or more	2.5%	43.1%	57.9%	54.0%
	100.0%	100.0%		