IOWA DEPARTMENT OF PUBLIC HEALTH

DIVISION OF ACUTE DISEASE PREVENTON AND EMERGENCY RESPONSE

BUREAU OF IMMUNIZATION AND TUBERCULOSIS

IOWA

Immunization Program

Annual Report 2010

Iowa Department of Public Health

Dr. Marianette Miller-Meeks, B.S.N., M.Ed., M.D.

Department Director

Division of Acute Disease Prevention and Emergency Response

Mary Jones, BSEMS, MA

Department Deputy Director

Division Director

Bureau of Immunization and TB

Don Callaghan

Bureau Chief

IDPH Iowa Department of Public Health

Contents

Introduction

The Bureau of Immunization is part of the Division of Acute Disease Prevention and Emergency Response (ADPER) at the Iowa Department of Public Health (IDPH). The ADPER division provides support, technical assistance and consultation to local hospitals, public health agencies, community health centers, emergency medical service programs and local health care providers regarding infectious diseases, disease prevention and control, injury prevention and public health and health care emergency preparedness and response. The division encompasses the Center for Acute Disease Epidemiology (CADE), the Bureau of Immunization and Tuberculosis (ITB), the Bureau of Emergency Medical Services (EMS), the Bureau of Communication and Planning (CAP), the Office of Health Information Technology (HIT), and the Center for Disaster Operations and Response (CDOR).

The Bureau of Immunization and Tuberculosis includes the Immunization Program, the Tuberculosis Control Program, and the Refugee Health Program. The mission of the Immunization Program is to decrease vaccine-preventable diseases through education, advocacy and partnership. While there has been major advancement in expanding immunizations to many parts of Iowa's population, work must continue with public and private health care providers to promote the program's vision of healthy Iowans living in communities free of vaccine-preventable diseases. Accomplishing this goal will require achieving and maintaining high vaccination coverage levels, improving vaccination strategies among under-vaccinated populations, prompt reporting and thorough investigation of suspected disease cases, and rapid institution of control measures.

The Immunization Program is comprised of multiple programs that provide immunization services throughout the state: Adolescent Immunization Program, Adult Immunization Program, Immunization Registry Information System (IRIS), Vaccines for Children Program (VFC), Perinatal Hepatitis B Program, and Immunization Assessment Program.

Background

Vaccines are one of the most successful public health advances, according to the Morbidity and Mortality Weekly Report (MMWR). During the 20th century, the health and life expectancy of persons residing in the United States improved dramatically. Since 1900, the average lifespan of Americans has lengthened by more than 30 years; 25 years of this gain are attributable to advances in public health. Vaccines have resulted in the eradication of smallpox; elimination of poliomyelitis in the Americas; and control of measles, rubella, tetanus, diphtheria, Haemophilus influenza type b, and other infectious diseases in the United States and other parts of the world. The April 2, 1999 the Morbidity and Mortality Weekly Report (MMWR) profiled vaccinations as one of the *Ten Great Public Health Achievements in the United States from 1900-1999.* These achievements were identified based on the opportunity for prevention and the impact on death, illness, and disability in the United States.

Iowa's Immunization Program started in 1977 with two full time employees: a Centers for Disease Control and Prevention (CDC) Public Health Advisor and a clerical staff person. It was also in 1977 that Iowa law required children attending school and child care to be fully immunized. In 1977 alone, Iowa saw 4,333 cases of measles; 1,359 cases of mumps; and 179 cases of Rubella. Since then, the Immunization Program has grown in relation to funding, personnel, and resources. Many new vaccines have been developed and added to the recommended immunization schedule since the inception of the Immunization Program. The benefit of new and existing vaccines in vaccination programs across the United States saves approximately $10 billion in direct medical costs and saves society approximately $43 billion annually.

Purpose and Overview

The purpose of this report is to provide a summary of the activities and achievements of the Immunization Program and Iowa health care providers during the 2010 calendar year. This report provides Iowa-specific immunization coverage rates, funding sources, and program-specific data which appear in tables at the end of the report. These tables demonstrate not only immunization coverage levels, but also the collaboration and work being done at the local level with public health agencies and private health care providers. This report also highlights special projects and initiatives to increase vaccine access to Iowans.

The annual report is divided into the following sections: Funding; Special Projects; Immunization Registry Information System (IRIS); Vaccines for Children Program (VFC); Perinatal Hepatitis B; and Immunization Assessments. The annual report will serve as an informational resource for stakeholders, local partners, policy makers and the general public. To increase widespread distribution and availability, the entire report will be distributed electronically and will be available for download on the Immunization Program web page www.idph.state.ia.us/adper/immunization.asp.

Funding

In fiscal year 2010, the Immunization Program received funds from the federal Vaccines for Children Program (VFC), federal 317 grant program, federal American Recovery and Reinvestment Act (ARRA) funds and state funds totaling $29,019,979 (Figure 1).

Funding Source	FY 2010
Federal VFC	$20,333,538
Federal 317	$4,919,423
Federal ARRA	$3,009,882
State	$757,136
Total	**$29,019,979**

Figure 1: FY 2010 total program funds

Program expenditures are divided into three main categories: program infrastructure (staff salary and operating expenses), contracts with local public health agencies and immunization service providers, and vaccine purchases. The funding distribution for these three categories is illustrated in Figure 2.

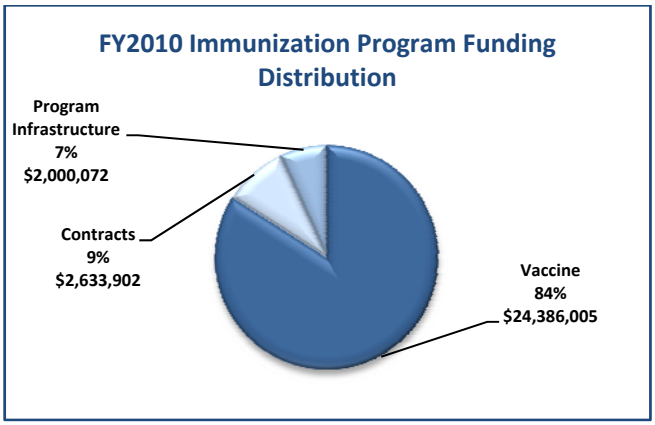

Figure 2: FY 2010 total funds distribution

Vaccine Funds

In 1985, there were seven vaccines in the routine childhood and adolescent immunization schedule compared to sixteen in 2010. In addition to the increase in the number of vaccines recommended, the cost of vaccines has continued to increase. In 1985, the cost to vaccinate a child was $45 compared to $1,482 in 2010. This represents an increase of $1,437, which is more than 31 times the cost in 1985.

Annually, the IDPH completes population estimates and vaccine forecasting for Iowa's population, which is used by CDC to determine vaccine funding for the upcoming year. Of the Immunization Program's $29 million dollar budget, over $24 million was spent on vaccines. The Immunization Program received funding for vaccines from the federal Vaccines for Children Program, federal 317 grant vaccine funds, federal ARRA funds and state funds. Figure 3 represents vaccine funding for FY 2010.

In 2010, Iowa received $19,584,478 from the federal Vaccines for Children Program for vaccine. These funds account for 80 percent of the program's total vaccine budget. These funds are used to immunize children birth through 18 years of age who meet the following criteria: Medicaid enrolled, uninsured, underinsured, American Indian or Alaskan Native.

The Immunization Program receives federal 317 vaccine funds through an annual grant process. In fiscal year 2010, Iowa received $2,655,866 in 317 grant funds which comprises 11 percent of the program's total vaccine budget. Federal 317 funds can be used to pay for vaccines for children who do not meet VFC eligibility or for adults at the discretion of the state. In Iowa, federal 317 grant funds are used to vaccinate underinsured children

served by local public health agencies and for adults who are high-risk for hepatitis A and B and are served by local public health agencies that have sexually transmitted disease (STD) clinics.

Iowa's Immunization Program received $1,682,265 in federal American Recovery and Reinvestment Act (ARRA) funds for the purchase of vaccine. These funds totaled 7 percent of the program's vaccine budget and were used to implement special immunization projects throughout the year.

State funds comprised two percent of the program's total vaccine budget. In 2010, $463,396 was received in state funding. State funds are used to pay for vaccines for children who do not meet VFC eligibility.

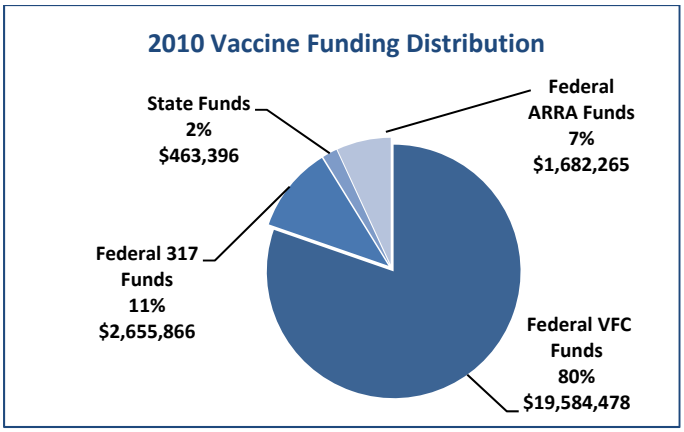

Figure 3: FY 2010 vaccine funding

Special Projects

Award of ARRA funds by CDC allowed the Iowa Immunization Program to initiate several projects with the intent of increasing immunization coverage across the state.

Hepatitis B Birth Dose Pilot Project

Hepatitis B vaccine was first recommended for administration to all infants in 1991 by the Advisory Committee on Immunization Practices (ACIP) as the primary strategy to eliminate hepatitis B virus transmission in the United States. The recommended timing of administration of the first dose of hepatitis B vaccine to infants has evolved since then to optimize prevention of perinatal and early childhood hepatitis B infections. In December 2005, ACIP recommended that all medically stable newborns receive their first dose of hepatitis B vaccine before hospital discharge. To measure hepatitis B vaccination coverage during the neonatal period, the CDC analyzed data from the 2006 National Immunization Survey. Iowa had one of the lowest birth dose initiation rates in the nation.

Since this data was collected many Iowa hospitals had begun to implement the birth dose as a standard of care in compliance with ACIP recommendations. To assist hospitals, the Immunization Program utilized federal stimulus funds to pilot a universal hepatitis B birth dose program where birth hospitals would enroll in the Vaccines for Children Program and be eligible for free vaccine for all infants delivered in their facility, regardless of insurance status.

The universal birth dose project benefited Iowa in several ways. Hospitals that were offering the universal birth dose at their own expense were eligible for free vaccine. The number of newborns in Iowa receiving the birth dose of hepatitis B vaccine increased, thus protecting these newborns from the consequences of hepatitis B infection. Most importantly, all Iowa newborns were eligible for hepatitis B vaccine at no cost.

2010-2011 Influenza Education Campaign

The Immunization Program used ARRA funds to develop and launch a media campaign to promote seasonal influenza vaccination. Iowa's efforts leveraged the national "Flu Ends with U" campaign with original materials specific to Iowa. The campaign began running on network and cable TV, radio and on-line across Iowa on October 18, 2010 and extended through December 31, 2010. Select local public health agencies worked with local television stations to promote influenza vaccination during the month of October. Campaign materials included:

- "The Flu ends with U" website www.TheFluEndsWithUIowa.com
- Web Banners - Two sizes of web banners for websites, both of which linked to the campaign website
- Posters with space for health care providers to write in clinic details
- Stickers that say "The flu ends with me" for patients following vaccination

The campaign included the purchase of 6,758 advertisements across all four mediums (cable TV, broadcast TV, radio, and online). The program received 9,235 advertisement spots provided free of charge, which is 237 percent more ads than paid for. The value of the free spots essentially increased the advertising budget by 55 percent.

Overall, the "Flu Ends with U" campaign included a total of 16,011 spots across all four mediums.

The campaign was evaluated using the Behavior Risk Factor Surveillance System (BRFSS) survey questions to determine effectiveness. The University of Northern Iowa is evaluating the BRFSS questions and campaign data to present their findings in July 2011.

School-Based Tdap Clinics

The Immunization Program utilized stimulus funds for the purchase of Tdap vaccine to be used at school-based vaccination clinics. The program's goal was to increase the percent of adolescents who receive Tdap from 38 percent to 50 percent. All children, regardless of insurance status or Vaccines for Children Program eligibility, were able to receive Tdap vaccine at no cost. Local public health agencies conducted school-based clinics and entered all doses administered into the Immunization Registry Information System (IRIS). Over 17,000 doses of Tdap were distributed to local public health agencies to conduct the school-based clinics.

Billing Project

The cost of vaccinating patients has increased with the addition of new vaccines and the expanded recommendations for existing vaccines. Vaccinating individuals at local public health agencies and billing third party payers can allow local immunization programs to more efficiently manage vaccine funding and reach additional populations or provide additional vaccines to patients that may not otherwise be vaccinated. The Immunization Program utilized ARRA funds to establish a contract to develop a public health action plan for local public health agencies to bill Medicare, Medicaid, and third party insurance companies for the delivery of immunization services.

This project will allow for the development of a billing plan that will result in saving program revenue, enable local public health agencies to reach additional populations, provide vaccines that are not currently offered and to take on new immunization initiatives to address immunization of special under-vaccinated populations with reduced access to vaccination services.

The Immunization Program has contracted with a third party medical billing company, HS Medical Billing, to draw upon their expertise to develop a billing strategy and tools for use by local public health agencies who are interested in billing for immunization services. This project will include collaboration with multiple stakeholders including LPHA, governmental agencies, and insurance companies.

Project activities include evaluating potential billing strategies, identifying barriers, creating tools and resources, developing training curriculum and an action plan to simplify the process of billing for immunization services provided by LPHA.

Immunization Registry Information System (IRIS)

Iowa's Immunization Registry Information System (IRIS) is critical in reducing the occurrence of vaccine-preventable illness through the careful tracking of immunizations provided by health care providers.

IRIS is a confidential, computerized repository of individual immunization records from public and private health care providers. IRIS helps keep patients on schedule for their recommended immunizations. IRIS is also able to record immunizations, contraindications, and reactions; validate patient immunization history and provide vaccine recommendations; produce reminder and recall notices; and manage vaccine inventory-all at no cost to participating health care providers.

IRIS benefits health care providers, schools, and all Iowans by consolidating immunization information from multiple providers. This reduces vaccine-preventable diseases, over vaccination, and allows health care providers to see up-to-date immunization records for their patients.

Enrollment in IRIS is open to all health care providers in Iowa that administer immunizations. In 2010, 142 new provider sites enrolled in IRIS for a total of 1,068 health care provider sites using IRIS statewide. Sites include private health care clinics, local public health agencies, rural health clinics, hospitals, pharmacies, and long-term care centers. This increase can partially be attributed to using IRIS to track doses of H1N1 influenza vaccine during the 2009-2010 influenza pandemic.

The number of patients in IRIS has more than doubled from 1.1 million in 2005 to 2.4 million records in 2010 (Figure 4). More than 327,866 patient records were added in 2010; and to date, IRIS contains records for nearly 20 million immunizations. In 2010, IRIS captured 99 percent of Iowa's population of children 4 months to 6 years of age with two or more immunizations in IRIS. This is an increase from 88 percent of this population that was captured in 2005 in IRIS.

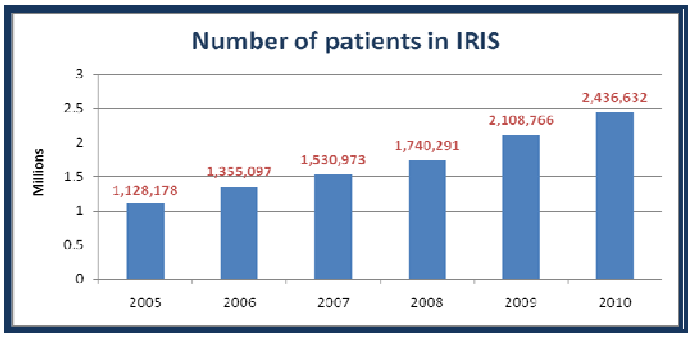

Figure 4: Number of unduplicated patients in IRIS

Vaccines for Children Program (VFC)

The Vaccines for Children program (VFC) was created by the Omnibus Budget Reconciliation Act of 1993 and was implemented in October 1994 as part of the President's Childhood Immunization Initiative. The VFC program is a federally funded program that provides vaccines at no cost to children from birth through 18 years of age who might not otherwise be vaccinated due to inability to pay. Children who are enrolled in Medicaid, are uninsured, underinsured, American Indian or Alaskan Native are eligible for VFC vaccines and are entitled to receive pediatric vaccines that are recommended by the Advisory Committee on Immunization Practices (ACIP).

With the program in its second decade, it is becoming increasingly recognized for its successes in raising immunization coverage rates among high-risk children and reducing disparities in access to health care.

The VFC program represents an unprecedented approach to improving vaccine availability by making federally purchased vaccine available to both public and private immunization providers.

The Iowa Department of Public Health has participated in the VFC Program since its inception. Iowa's VFC program has 597 providers enrolled and provides vaccine for approximately 68 percent of Iowa's children from birth to 18 years of age. These providers include local public health agencies, Indian Health Services, Women Infants and Children (WIC) clinics, private health care providers, hospitals, pharmacies, rural health clinics and Federally Qualified Health Centers.

In 2010, the Iowa VFC program distributed 633,093 doses of vaccine to VFC-enrolled health care providers which is valued at more than $21.6 million. Figure 5 includes the type of vaccine and number of vaccine doses distributed to Iowa's VFC program providers during this timeframe.

Vaccines	Doses Distributed
DTaP	24,535
DTaP-IPV (Kinrix)	10,040
DTaP-IPV/Hib (Pentacel)	39,835
DTaP-IPV-Hep B (Pediarix)	20,810
Tdap	24,410
Td	63
Hep A	57,370
Hep B	39,980
Hep A-Hep B: (Twinrix)	3,610
Hep B/Hib: (Comvax)	80
Hib	44,010
HPV	19,265
IPV	13,060
MMR	37,570
MCV	15,415
PCV 7	15,390
PCV 13	74,290
Rotavirus	44,040
Varicella	43,860
Influenza	105, 460
Total Doses Distributed	**633,093**

Figure 5: 2010 VFC vaccine doses distributed

Hepatitis B Program

Perinatal Hepatitis B Program

Hepatitis B is a serious disease caused by the hepatitis B virus (HBV). Hepatitis B can be transmitted from an infected mother to her child at birth. Iowa's Perinatal Hepatitis B Program works to prevent transmission of hepatitis B infection from the mother to the baby by conducting parent and health care provider education, case management of mothers and babies, administration of hepatitis B vaccine and hepatitis B immune globulin (HBIG) and laboratory testing. Case management of the infant begins at birth and follows the infant through post-serological testing to determine immunity to hepatitis B. In 2008, 98 percent of infant cases managed by the program had received HBIG and completed the hepatitis B vaccine series by 12 months of age. Of these infants, 71 percent received post-vaccination serological testing.

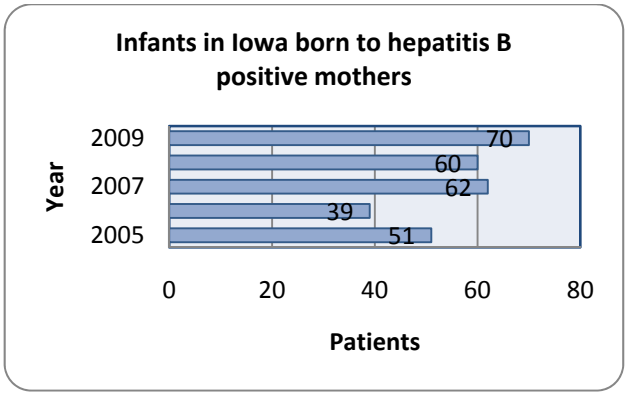

Figure 6: Iowa infants born to hepatitis B positive mothers.

In 2009, there were 70 infants born to hepatitis B positive mothers which is an increase of 10 infants from the preceding year (Figure 6). The increase in infants can partially be attributed to increased testing and reporting of hepatitis B positive pregnant women by health care providers.
The Immunization Program provides hepatitis B vaccine to hospitals to univerally administer the birth dose of hepatitis B vaccine. In 2010, 17 birthing hospitals in Iowa were enrolled in the Universal Hepatitis B Vaccine Birth Dose Program and were able to administer hepatitis B vaccine to all newborns regardless of insurance coverage.

The 2009, National Immunization Survey (NIS) for hepatitis B vaccine among infants birth to three days of age indicates that Iowa has a hepatitis B birth dose rate of 46.7 percent, which is an increase of 15.3 percent from 2008. Iowa ranks 46 out of the 50 assessed immunization projects.

The program has initiated several efforts to raise the percentage of Iowa infants who receive a birth dose of hepatitis B vaccine. Some of these initiatives include the Universal Hepatitis B Vaccine Birth Dose Program, promoting birthing hospital enrollment in the VFC program, partnering with the University of Iowa, College of Public Health to complete chart audits of birthing hospitals, and hepatitis B vaccine educational campaign and educational sessions at the 2009 Immunization Conference.

High-Risk Adult Hepatitis B Program

The Immunization Program provides hepatitis A and hepatitis B vaccine for high-risk patients seen at local public health agencies' sexually transmitted disease (STD) clinics. High-risk patients include injection drug users, men who have sex with men, persons with a current STD diagnosis, human immunodeficiency virus (HIV) or hepatitis C infected persons, and sexual partners of persons infected with HIV, hepatitis A, or hepatitis B.

The Immunization Program distributed 9,880 doses of adult hepatitis A/hepatitis B (Twinrix) vaccine, 435 doses of adult hepatitis A vaccine, and 405 doses of adult hepatitis B in 2010 to local public health agencies.

Immunization Assessments

Goals for immunizations have been set on many levels and serve to evaluate and achieve high levels of vaccine coverage to improve the health status of the population. Assessments give Iowa's providers valuable data that allow them to track their progress toward local, state, and national goals. Immunization records are assessed to determine the percentage of children who are vaccinated appropriately for their age. Immunization assessment data are used to improve health care providers' standard immunization practices, which directly impact the overall immunization rate of their patients. Assessment results can be used to guide strategies to improve immunization service delivery and policies regarding immunizations.

School and Child Care Audits

Local public health agencies (LPHA) perform annual audits of immunization records for children in licensed child care centers, and students enrolled in public, private, and parochial K-12 schools. Assessments of children attending licensed child care centers or elementary or secondary school are conducted to ensure attendees have received the required immunizations and have an appropriate Iowa Department of Public Health, Certificate of Immunization, Certificate of Immunization Exemption, or Provisional Certificate of Immunization. Audits for the 2009-2010 school year indicate 99.11 percent of children enrolled in kindergarten through 12th grade were compliant with the law and had a valid immunization certificate (Table 1), while 94.65 percent of children audited in child care centers were compliant with the law (Table 2).

County and State Immunization Rates

The Immunization Program uses data from the Immunization Registry Information System (IRIS) to calculate county and state immunization rates for 2-year-old children and adolescent populations. These data provide immunization rates based upon a standard vaccination series identified by the Advisory Committee on Immunization Practices (ACIP) and the Centers for Disease Control and Prevention (CDC).

The report includes patients that are served by both public and private health care providers. Data collected and analyzed includes patients that have a record in IRIS that have both a zip code and are assigned to a health care provider's immunization home. Immunization home is selected by a health care provider when they assume responsibility to provide immunization services to the patient.

The report for each age group includes the estimated number of children in the county, the number of records meeting the assessment criteria and the corresponding percent of records in IRIS. These data are used to calculate the percent of records in IRIS for each county which range from 19-102 percent with an average of 52 percent for 2-year-old children and range from 11-92 percent with an average of 61 percent for adolescents, 13-15 years of age. Counties that have a percentage greater than 100 percent can be attributed to the difference between the actual numbers of children in the county compared to the county population estimates. The evaluation of a larger sample size will provide a better understanding of the immunization coverage level in each county.

2-Year-Old Immunization Rates

The 2-year-old county immunization rate for the 4-3-1-3-3-1-4 series (4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV by 24 months of age) ranges from 39-90 percent, with a state immunization rate of 69 percent. The state immunization rate includes the assessment of 21,501 patient records which is approximately 52 percent of the 2-year-old population (Table 3).

Adolescent, 13-15-Year-Old Immunization Rates

The adolescent, 13-15-year-old county immunization rate for the 3-1-2-1-2 (3 Hep B, 1 Meningococcal, 2 MMR, 1 Td or Tdap, 2 Varicella) series ranges from 3-59 percent, with an average state immunization rate of 22 percent. The state immunization rate includes the assessment of 72,346 patient records which is approximately 61 percent of the 13-15-year-old population. The county immunization rate for HPV vaccine received by adolescent girls, 13-15 year of age ranges from 4 - 46 percent, with an average state immunization rate of 26 percent (Table 4).

Conclusion

Vaccine preventable diseases that were common 40 years ago are now rare due to the development of new vaccines and achievement of high immunization rates. By virtue of their absence, these diseases are no longer reminders of the benefits of immunizations. We cannot rest on our past achievements and success. We must remain diligent in our efforts to promote vaccines and provide sound scientific-based education. Barriers to immunization services need to be removed by providing infrastructure to health care providers, expanding access to vaccination in health care settings and promoting public awareness of vaccines. Implementation of these strategies and maintaining high vaccination levels will promote the Immunization Program's overall vision of healthy Iowans living in communities free of vaccine-preventable diseases.

Tables

Table 1: Iowa Department of Public Health - Immunization Program
Immunization Audit 2009-2010 School Year
K-12 Summary Report by County

County Name	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Adair	865	4	1	0	5	870	875	99.43%
Adams	470	5	2	6	2	483	485	99.59%
Allamakee	2256	0	5	11	138	2272	2410	94.27%
Appanoose	1963	7	1	2	15	1973	1988	99.25%
Audubon	818	7	1	6	4	832	836	99.52%
Benton	3905	32	6	38	10	3981	3991	99.75%
Black Hawk	18855	65	54	72	636	19046	19682	96.77%
Boone	3931	49	18	12	0	4010	4010	100.00%
Bremer	4494	10	14	26	34	4544	4578	99.26%
Buchanan	3107	22	8	161	42	3298	3340	98.74%
Buena Vista	3691	140	39	7	36	3877	3913	99.08%
Butler	1671	14	1	3	6	1689	1695	99.65%
Calhoun	1739	6	2	3	1	1750	1751	99.94%
Carroll	3823	19	29	16	0	3887	3887	100.00%
Cass	2639	7	6	8	42	2660	2702	98.45%
Cedar	3339	33	6	18	0	3396	3396	100.00%
Cerro Gordo	6425	32	9	25	89	6491	6580	98.65%
Cherokee	1583	33	7	4	0	1627	1627	100.00%
Chickasaw	2140	16	3	18	0	2177	2177	100.00%
Clarke	1556	40	4	12	10	1612	1622	99.38%
Clay	2416	10	14	12	1	2452	2453	99.96%
Clayton	1976	16	3	19	1	2014	2015	99.95%
Clinton	7885	117	39	83	1	8124	8125	99.99%
Crawford	3384	122	25	10	7	3541	3548	99.80%
Dallas	13349	64	79	90	85	13582	13667	99.38%
Davis	1217	10	4	10	0	1241	1241	100.00%
Decatur	1104	12	7	57	15	1180	1195	98.74%
Delaware	3011	6	5	6	0	3028	3028	100.00%
Des Moines	6631	69	9	29	53	6738	6791	99.22%
Dickinson	2501	6	40	9	0	2556	2556	100.00%

Table 1 continued: 2009-2010 School Year; K-12 Summary

County Name	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Dubuque	16489	89	56	126	46	16760	16806	99.73%
Emmet	1172	5	4	12	1	1193	1194	99.92%
Fayette	3563	117	22	108	0	3810	3810	100.00%
Floyd	2638	1	3	55	44	2697	2741	98.39%
Franklin	1735	35	3	16	20	1789	1809	98.89%
Fremont	1216	2	4	5	28	1227	1255	97.77%
Greene	1515	19	2	9	1	1545	1546	99.94%
Grundy	2649	34	3	5	4	2691	2695	99.85%
Guthrie	2074	6	13	5	31	2098	2129	98.54%
Hamilton	2660	24	5	13	2	2702	2704	99.93%
Hancock	1615	34	7	5	8	1661	1669	99.52%
Hardin	2483	87	1	7	13	2578	2591	99.50%
Harrison	2575	22	14	12	21	2623	2644	99.21%
Henry	3347	6	9	15	29	3377	3406	99.15%
Howard	1687	20	5	55	9	1767	1776	99.49%
Humboldt	1503	55	6	22	23	1586	1609	98.57%
Ida	958	29	44	14	7	1005	1012	99.31%
Iowa	2916	27	8	18	36	2969	3005	98.80%
Jackson	3248	1	2	40	99	3291	3390	97.08%
Jasper	5065	27	38	21	244	5151	5395	95.48%
Jefferson	1693	35	3	60	0	1791	1791	100.00%
Johnson	15045	174	38	160	178	15417	15595	98.86%
Jones	3053	11	9	9	16	3082	3098	99.48%
Keokuk	1463	33	0	1	1	1497	1498	99.93%
Kossuth	2284	47	8	22	9	2361	2370	99.62%
Lee	5547	67	14	16	1	5644	5645	99.98%
Linn	35526	178	162	376	736	36242	36978	98.01%
Louisa	2512	23	6	4	1	2545	2546	99.96%
Lucas	1400	29	6	33	0	1468	1468	100.00%
Lyon	1883	12	7	16	11	1918	1929	99.43%
Madison	3227	27	16	45	0	3315	3315	100.00%
Mahaska	3145	71	2	11	15	3229	3244	99.54%
Marion	5519	19	24	15	140	5577	5717	97.55%
Marshall	7160	90	6	9	6	7265	7271	99.92%
Mills	2542	29	6	10	25	2587	2612	99.04%
Mitchell	1648	2	1	43	116	1694	1810	93.59%
Monona	1276	22	0	6	0	1304	1304	100.00%

Table 1 continued: 2009-2010 School Year; K-12 Summary

County Name	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Monroe	1126	1	5	5	12	1137	1149	98.96%
Montgomery	1551	51	0	5	0	1607	1607	100.00%
Muscatine	7172	23	30	69	56	7294	7350	99.24%
O'Brien	2491	48	5	12	19	2556	2575	99.26%
Osceola	761	1	8	0	0	770	770	100.00%
Page	2701	6	1	7	32	2715	2747	98.84%
Palo Alto	1528	3	3	6	0	1540	1540	100.00%
Plymouth	4784	52	20	12	4	4868	4872	99.92%
Pocahontas	854	14	8	2	0	878	878	100.00%
Polk	72509	700	304	335	297	73848	74145	99.60%
Pottawattamie	15814	161	102	47	22	16124	16146	99.86%
Poweshiek	2805	4	5	20	90	2834	2924	96.92%
Ringgold	688	8	0	0	1	696	697	99.86%
Sac	1442	12	10	13	18	1477	1495	98.80%
Scott	28089	244	42	362	6	28737	28743	99.98%
Shelby	2054	7	7	4	19	2072	2091	99.09%
Sioux	6278	64	76	138	14	6556	6570	99.79%
Story	10930	157	54	87	20	11228	11248	99.82%
Tama	2625	23	13	11	49	2672	2721	98.20%
Taylor	952	27	5	9	8	993	1001	99.20%
Union	2006	0	0	8	28	2014	2042	98.63%
Van Buren	872	30	1	16	79	919	998	92.08%
Wapello	5596	44	9	6	189	5655	5844	96.77%
Warren	8529	76	64	49	26	8718	8744	99.70%
Washington	3905	65	15	113	73	4098	4171	98.25%
Wayne	972	1	17	9	10	999	1009	99.01%
Webster	5357	66	3	11	33	5437	5470	99.40%
Winnebago	2384	3	6	4	0	2397	2397	100.00%
Winneshiek	3086	4	21	47	59	3158	3217	98.17%
Woodbury	18944	341	53	65	123	19403	19526	99.37%
Worth	956	5	3	0	2	964	966	99.79%
Wright	2247	17	4	18	56	2286	2342	97.61%
Totals	490783	4740	1852	3662	4499	501037	505536	99.11%

Table 2: Iowa Department of Public Health, Immunization Program
Immunization Audit 2009-2010 School Year
Child Care Immunization by County Summary Report

County	Valid Certificates	Provisional	Exemptions Medical	Exemptions Religious	Invalid Certificates	Total with Certificates	Total Enrollment	Percent with Certificates
Adair	297	2	2	0	1	301	302	99.67%
Adams	102	1	0	0	7	103	110	93.64%
Allamakee	320	6	1	3	63	330	393	83.97%
Appanoose	261	0	2	0	18	263	281	93.59%
Audubon	89	2	0	0	1	91	92	98.91%
Benton	653	8	0	2	10	663	673	98.51%
Black Hawk	0	0	0	0	0	0	0	0.00%
Boone	467	20	2	1	7	490	497	98.59%
Bremer	630	6	4	4	24	644	668	96.41%
Buchanan	537	30	1	3	7	571	578	98.79%
Buena Vista	350	69	13	0	61	432	493	87.63%
Butler	348	14	0	0	9	362	371	97.57%
Calhoun	225	5	0	3	3	233	236	98.73%
Carroll	697	31	2	0	4	730	734	99.46%
Cass	338	3	3	1	42	345	387	89.15%
Cedar	385	78	1	1	0	465	465	100.00%
Cerro Gordo	1528	4	0	11	102	1543	1645	93.80%
Cherokee	311	23	1	3	0	338	338	100.00%
Chickasaw	303	25	0	2	4	330	334	98.80%
Clarke	364	12	0	1	2	377	255	147.84%
Clay	444	8	3	1	7	456	463	98.49%
Clayton	368	16	1	4	5	389	394	98.73%
Clinton	1469	91	11	11	33	1582	1615	97.96%
Crawford	414	46	5	0	13	465	478	97.28%
Dallas	1866	46	6	6	58	1924	1982	97.07%
Davis	161	5	1	3	29	170	199	85.43%
Decatur	130	14	0	0	19	144	163	88.34%
Delaware	379	16	1	2	4	398	402	99.00%
Des Moines	835	10	0	7	239	852	1091	78.09%
Dickinson	492	11	8	2	23	513	536	95.71%
Dubuque	2107	19	3	19	35	2148	2183	98.40%
Emmet	210	16	1	3	2	230	232	99.14%

Table 2 continued: Child Care Immunization Audits; 2009-2010

County	Valid Certificates	Provisional	Exemptions Medical	Exemptions Religious	Invalid Certificates	Total with Certificates	Total Enrollment	Percent with Certificates
Fayette	529	73	7	1	43	610	653	93.42%
Floyd	205	35	1	13	30	254	284	89.44%
Franklin	297	29	3	0	3	329	332	99.10%
Fremont	147	7	1	0	38	155	193	80.31%
Greene	253	13	0	0	0	266	266	100.00%
Grundy	398	34	0	0	7	432	439	98.41%
Guthrie	151	1	0	1	12	153	165	92.73%
Hamilton	353	18	0	0	3	371	374	99.20%
Hancock	256	5	0	1	2	262	264	99.24%
Hardin	546	38	2	1	7	587	594	98.82%
Harrison	171	5	2	0	13	178	191	93.19%
Henry	415	5	1	2	87	423	510	82.94%
Howard	262	11	0	3	3	276	279	98.92%
Humboldt	222	26	2	0	25	250	275	90.91%
Ida	124	19	0	0	13	143	156	91.67%
Iowa	300	45	1	4	8	350	358	97.77%
Jackson	464	1	2	14	89	481	570	84.39%
Jasper	758	68	4	5	50	835	885	94.35%
Jefferson	227	21	0	5	8	253	261	96.93%
Johnson	3110	27	13	18	282	3168	3450	91.83%
Jones	397	1	0	3	17	401	418	95.93%
Keokuk	215	32	0	0	0	247	247	100.00%
Kossuth	447	30	1	4	62	482	544	88.60%
Lee	835	44	0	3	22	882	904	97.57%
Linn	340	3	2	7	10	352	362	97.24%
Louisa	268	22	1	0	5	291	296	98.31%
Lucas	193	1	0	0	3	194	197	98.48%
Lyon	283	30	1	11	19	325	344	94.48%
Madison	338	13	1	2	0	354	354	100.00%
Mahaska	472	39	1	1	18	513	531	96.61%
Marion	698	4	2	4	59	708	767	92.31%
Marshall	641	71	2	3	16	717	733	97.82%
Mills	421	2	0	1	68	424	492	86.18%
Mitchell	376	0	0	1	45	377	422	89.34%
Monona	234	29	1	0	1	264	265	99.62%
Monroe	149	0	0	2	9	151	160	94.38%
Montgomery	211	9	1	0	1	221	222	99.55%

Table 2 continued: Child Care Immunization Audits; 2009-2010

County	Valid Certificates	Provisional	Exemptions Medical	Exemptions Religious	Invalid Certificates	Total with Certificates	Total Enrollment	Percent with Certificates
Muscatine	1056	3	0	0	111	1059	1170	90.51%
O'Brien	372	74	2	3	15	451	466	96.78%
Osceola	164	20	0	0	5	184	189	97.35%
Page	369	1	0	4	40	374	414	90.34%
Palo Alto	313	8	3	4	0	328	328	100.00%
Plymouth	662	45	3	4	14	714	728	98.08%
Pocahontas	148	22	3	0	0	173	173	100.00%
Polk	12920	59	71	92	1039	13142	14181	92.67%
Pottawattamie	1673	30	7	2	200	1712	1912	89.54%
Poweshiek	359	0	1	2	35	362	397	91.18%
Ringgold	198	6	0	0	1	204	205	99.51%
Sac	276	1	12	3	27	292	319	91.54%
Scott	3673	184	9	73	64	3939	4003	98.40%
Shelby	292	2	1	1	39	296	335	88.36%
Sioux	1163	62	8	6	25	1239	1264	98.02%
Story	1646	100	9	6	13	1761	1774	99.27%
Tama	463	20	0	0	4	483	487	99.18%
Taylor	142	13	0	0	10	155	165	93.94%
Union	303	0	1	3	69	307	376	81.65%
Van Buren	149	12	0	1	9	162	171	94.74%
Wapello	764	99	3	6	46	872	918	94.99%
Warren	793	28	3	0	55	824	879	93.74%
Washington	445	63	0	2	6	510	516	98.84%
Wayne	134	4	0	0	12	138	150	92.00%
Webster	1016	109	0	3	37	1128	1165	96.82%
Winnebago	381	1	0	3	11	385	396	97.22%
Winneshiek	483	0	0	17	76	500	576	86.81%
Woodbury	2653	161	9	7	51	2830	2881	98.23%
Worth	98	2	0	0	0	100	100	100.00%
Wright	354	0	0	0	26	354	380	93.16%
Totals	66248	2577	269	445	3950	69539	73365	94.78%

Table 3: Iowa Department of Public Health, Immunization Program
2010 County Immunization Assessment
2-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series

County	County Population born in 2008 Estimate*	Total Records Analyzed from IRIS**	Percent of Population in IRIS	4 DTaP Coverage Percent	3 Polio Coverage Percent	1 MMR Coverage Percent	3 Hib Coverage Percent	3 Hep B Coverage Percent	1 Varicella Coverage Percent	4 PCV Coverage Percent	Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ***	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ****
ADAIR	83	50	60%	84%	94%	100%	94%	92%	98%	84%	74%	10%
ADAMS	40	28	70%	64%	96%	100%	93%	89%	96%	86%	57%	14%
ALLAMAKEE	185	38	21%	74%	92%	92%	95%	84%	82%	87%	53%	3%
APPANOOSE	175	95	54%	63%	84%	86%	84%	67%	82%	59%	39%	4%
AUDUBON	64	59	92%	86%	92%	95%	93%	90%	95%	92%	81%	5%
BENTON	306	203	66%	80%	96%	91%	95%	92%	88%	91%	71%	5%
BLACK HAWK	1,801	1,122	62%	85%	94%	91%	93%	91%	90%	90%	75%	6%
BOONE	316	178	56%	82%	95%	90%	92%	88%	87%	86%	72%	4%
BREMER	284	184	65%	87%	96%	91%	93%	92%	87%	89%	74%	8%
BUCHANAN	307	195	64%	81%	93%	89%	91%	93%	88%	86%	75%	7%
BUENA VISTA	309	311	101%	66%	91%	84%	89%	84%	75%	55%	48%	11%
BUTLER	192	125	65%	82%	98%	89%	95%	93%	85%	92%	71%	6%
CALHOUN	95	97	102%	78%	94%	95%	88%	86%	93%	82%	68%	8%
CARROLL	273	230	84%	85%	94%	93%	96%	89%	92%	88%	77%	5%
CASS	181	159	88%	86%	96%	94%	96%	95%	92%	88%	84%	5%
CEDAR	224	73	33%	77%	96%	84%	95%	82%	81%	85%	64%	3%
CERRO GORDO	563	220	39%	77%	97%	95%	97%	93%	94%	81%	68%	14%
CHEROKEE	107	103	96%	80%	94%	86%	93%	96%	83%	83%	76%	7%
CHICKASAW	151	109	72%	82%	97%	93%	98%	94%	87%	82%	74%	10%
CLARKE	149	74	50%	82%	95%	92%	95%	86%	89%	82%	73%	1%
CLAY	221	189	86%	89%	99%	97%	99%	97%	96%	95%	86%	5%
CLAYTON	205	92	45%	92%	98%	96%	98%	92%	96%	93%	86%	2%
CLINTON	632	167	26%	71%	90%	80%	87%	86%	80%	76%	59%	10%
CRAWFORD	248	231	93%	71%	92%	87%	85%	89%	86%	67%	60%	6%

Table 3 continued: 2-Year-Old Coverage

County	County Population born in 2008 Estimate*	Total Records Analyzed from IRIS**	Percent of Population in IRIS	4 DTaP Coverage Percent	3 Polio Coverage Percent	1 MMR Coverage Percent	3 Hib Coverage Percent	3 Hep B Coverage Percent	1 Varicella Coverage Percent	4 PCV Coverage Percent	Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ***	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ****
DALLAS	994	299	30%	78%	93%	89%	94%	90%	86%	77%	67%	6%
DAVIS	145	41	28%	78%	100%	90%	90%	93%	78%	76%	56%	7%
DECATUR	122	72	59%	79%	92%	93%	96%	83%	90%	83%	64%	8%
DELAWARE	211	132	63%	88%	98%	95%	97%	95%	94%	92%	82%	8%
DES MOINES	554	427	77%	78%	95%	91%	95%	93%	91%	84%	72%	6%
DICKINSON	191	162	85%	88%	94%	94%	93%	94%	91%	85%	84%	1%
DUBUQUE	1,260	243	19%	83%	95%	93%	93%	93%	91%	81%	78%	5%
EMMET	119	75	63%	69%	77%	89%	77%	83%	83%	71%	69%	5%
FAYETTE	230	142	62%	80%	94%	90%	94%	92%	87%	79%	73%	5%
FLOYD	209	139	67%	76%	92%	93%	91%	86%	86%	76%	65%	4%
FRANKLIN	157	73	47%	75%	99%	88%	78%	89%	90%	85%	52%	14%
FREMONT	92	48	52%	65%	90%	81%	83%	75%	83%	71%	52%	6%
GREENE	102	103	101%	79%	95%	92%	93%	93%	92%	83%	75%	4%
GRUNDY	147	88	60%	81%	95%	89%	95%	89%	85%	89%	72%	8%
GUTHRIE	117	70	60%	77%	94%	90%	90%	97%	89%	86%	71%	10%
HAMILTON	178	120	67%	83%	96%	91%	94%	92%	87%	83%	76%	1%
HANCOCK	121	76	63%	84%	97%	91%	99%	95%	88%	88%	78%	7%
HARDIN	210	176	84%	80%	96%	94%	94%	90%	91%	86%	69%	4%
HARRISON	199	102	51%	75%	92%	88%	91%	83%	84%	79%	61%	10%
HENRY	242	215	89%	74%	93%	92%	89%	92%	92%	74%	65%	5%
HOWARD	127	106	84%	75%	91%	87%	85%	90%	83%	79%	69%	5%
HUMBOLDT	104	122	117%	80%	97%	93%	96%	86%	93%	83%	62%	7%
IDA	88	46	52%	78%	100%	87%	96%	96%	83%	85%	74%	7%
IOWA	173	104	60%	71%	93%	88%	90%	83%	77%	70%	55%	7%
JACKSON	214	62	29%	58%	97%	90%	92%	76%	92%	65%	47%	13%
JASPER	433	225	52%	66%	84%	83%	88%	86%	84%	70%	58%	8%
JEFFERSON	170	89	52%	81%	97%	89%	94%	88%	87%	83%	64%	4%
JOHNSON	1,720	352	21%	70%	90%	84%	88%	85%	77%	78%	59%	6%
JONES	241	143	59%	76%	95%	91%	90%	92%	90%	87%	65%	8%

Table 3 continued: 2-Year-Old Coverage

County	County Population born in 2008 Estimate*	Total Records Analyzed from IRIS**	Percent of Population in IRIS	4 DTaP Coverage Percent	3 Polio Coverage Percent	1 MMR Coverage Percent	3 Hib Coverage Percent	3 Hep B Coverage Percent	1 Varicella Coverage Percent	4 PCV Coverage Percent	Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ***	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ****
KEOKUK	121	74	61%	66%	91%	91%	89%	82%	84%	68%	53%	7%
KOSSUTH	173	82	47%	73%	93%	90%	76%	89%	93%	78%	61%	11%
LEE	418	184	44%	83%	97%	89%	97%	91%	93%	88%	77%	7%
LINN	2,915	1,324	45%	78%	93%	86%	90%	89%	83%	83%	66%	8%
LOUISA	156	80	51%	70%	85%	86%	88%	79%	83%	78%	53%	5%
LUCAS	127	50	39%	88%	92%	96%	98%	86%	94%	88%	82%	4%
LYON	166	67	40%	81%	99%	97%	99%	94%	93%	88%	67%	7%
MADISON	215	137	64%	82%	97%	91%	94%	94%	83%	87%	75%	4%
MAHASKA	294	79	27%	80%	91%	92%	91%	71%	92%	73%	58%	3%
MARION	425	125	29%	75%	94%	90%	94%	89%	90%	78%	66%	8%
MARSHALL	616	595	97%	84%	96%	93%	94%	92%	91%	85%	75%	7%
MILLS	190	85	45%	78%	93%	84%	92%	80%	84%	76%	62%	5%
MITCHELL	122	44	36%	89%	98%	98%	95%	86%	84%	82%	57%	5%
MONONA	86	59	69%	75%	95%	92%	90%	88%	85%	88%	68%	15%
MONROE	103	33	32%	70%	97%	85%	94%	85%	82%	82%	61%	3%
MONTGOMERY	132	30	23%	60%	90%	83%	90%	90%	83%	63%	53%	13%
MUSCATINE	635	323	51%	72%	92%	87%	90%	85%	79%	85%	60%	7%
OBRIEN	177	161	91%	73%	98%	96%	98%	96%	93%	81%	68%	7%
OSCEOLA	70	57	81%	91%	100%	100%	100%	98%	100%	96%	88%	2%
PAGE	167	91	55%	86%	96%	93%	95%	89%	90%	90%	80%	2%
PALO ALTO	122	112	92%	85%	98%	96%	98%	96%	95%	93%	82%	6%
PLYMOUTH	323	168	52%	79%	93%	92%	95%	92%	88%	84%	68%	5%
POCAHONTAS	78	63	81%	89%	95%	97%	95%	92%	89%	86%	76%	6%
POLK	6,995	2,833	41%	82%	94%	90%	93%	90%	88%	84%	73%	6%
POTTAWATTAMIE	1,248	906	73%	74%	92%	83%	91%	82%	83%	82%	64%	4%
POWESHIEK	193	133	69%	80%	95%	90%	96%	95%	91%	83%	73%	5%
RINGGOLD	54	35	65%	83%	91%	97%	94%	91%	94%	89%	80%	9%
SAC	101	100	99%	77%	94%	89%	94%	89%	85%	76%	64%	11%
SCOTT	2,332	1,479	63%	75%	93%	86%	92%	87%	86%	78%	62%	10%

Table 3 Continued: 2-Year-Old Coverage

County	County Population born in 2008 Estimate*	Total Records Analyzed from IRIS**	Percent of Population in IRIS	4 DTaP Coverage Percent	3 Polio Coverage Percent	1 MMR Coverage Percent	3 Hib Coverage Percent	3 Hep B Coverage Percent	1 Varicella Coverage Percent	4 PCV Coverage Percent	Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ***	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ****
SHELBY	134	40	30%	95%	100%	98%	98%	98%	95%	95%	90%	3%
SIOUX	511	297	58%	76%	94%	93%	94%	91%	88%	82%	66%	5%
STORY	1,036	541	52%	87%	96%	95%	96%	93%	91%	92%	81%	3%
TAMA	220	182	83%	78%	96%	92%	93%	91%	89%	88%	70%	5%
TAYLOR	71	40	56%	70%	93%	88%	93%	90%	85%	80%	68%	15%
UNION	162	146	90%	78%	97%	95%	94%	95%	90%	84%	69%	8%
VAN BUREN	93	65	70%	72%	95%	92%	94%	91%	89%	72%	62%	8%
WAPELLO	504	254	50%	74%	94%	90%	92%	83%	88%	74%	61%	9%
WARREN	559	379	68%	80%	93%	90%	94%	93%	89%	79%	71%	7%
WASHINGTON	289	175	61%	63%	87%	82%	86%	84%	71%	70%	57%	5%
WAYNE	78	50	64%	74%	84%	94%	96%	82%	90%	76%	64%	8%
WEBSTER	476	435	91%	74%	95%	90%	93%	89%	88%	83%	65%	9%
WINNEBAGO	127	57	45%	68%	86%	88%	89%	79%	84%	67%	60%	4%
WINNESHIEK	206	90	44%	88%	96%	90%	92%	96%	90%	86%	78%	6%
WOODBURY	1,671	663	40%	80%	95%	91%	93%	94%	91%	83%	74%	7%
WORTH	78	26	33%	77%	100%	100%	96%	100%	96%	77%	73%	8%
WRIGHT	174	168	97%	85%	96%	93%	96%	93%	92%	88%	77%	2%
Totals	41,124	21,501	52%	79%	94%	90%	93%	89%	87%	82%	69%	7%

* Source from http://wonder.cdc.gov/bridged-race-population.html

** Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and in an Immunization Home

*** Up-To-Date are children who have completed the 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV by 24 months of age

**** Late Up-To-Date are children who have completed the 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV after 24 months of age

Table 4: Iowa Department of Public Health, Immunization Program
2010 County Adolescent Immunization Assessment
13-15-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series

County	County Population 2009 Estimate 13-15-year olds*	Total Records Entered In IRIS**	Percent of Population in IRIS	3 Hep B Coverage Percent	1 Meningitis Coverage Percent	2 MMR Coverage Percent	1 Td Coverage Percent	1 Tdap Coverage Percent	2 Varicella Coverage Percent	Up-to-Date 3-1-2-1-2 Coverage Percent***	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
ADAIR	291	174	60%	89%	49%	85%	0%	68%	45%	32%	84	31%
ADAMS	150	52	35%	87%	58%	83%	0%	60%	42%	31%	29	48%
ALLAMAKEE	549	509	93%	90%	26%	84%	5%	30%	19%	8%	250	10%
APPANOOSE	492	159	32%	64%	21%	60%	3%	32%	12%	8%	63	19%
AUDUBON	276	166	60%	95%	55%	92%	6%	78%	46%	37%	84	36%
BENTON	1243	709	57%	77%	54%	75%	2%	69%	41%	28%	317	36%
BLACK HAWK	4347	3653	84%	86%	66%	86%	3%	70%	54%	41%	1849	38%
BOONE	1027	736	72%	82%	67%	76%	1%	71%	32%	27%	347	42%
BREMER	999	677	68%	60%	50%	60%	3%	60%	27%	14%	335	36%
BUCHANAN	886	582	66%	77%	53%	77%	2%	72%	49%	36%	280	33%
BUENA VISTA	857	634	74%	85%	40%	82%	6%	49%	28%	14%	307	16%
BUTLER	562	379	67%	61%	47%	64%	2%	63%	29%	17%	184	40%
CALHOUN	376	321	85%	78%	57%	70%	1%	71%	13%	9%	152	19%
CARROLL	949	612	65%	59%	25%	54%	2%	62%	13%	6%	286	18%
CASS	540	427	79%	95%	52%	89%	2%	63%	60%	47%	205	31%
CEDAR	809	324	40%	63%	44%	62%	2%	61%	21%	13%	157	29%
CERRO GORDO	1650	1191	72%	89%	56%	78%	1%	70%	45%	34%	593	35%
CHEROKEE	479	343	72%	94%	66%	92%	2%	66%	51%	43%	175	42%
CHICKASAW	537	354	66%	88%	45%	87%	1%	76%	43%	26%	184	29%
CLARKE	377	309	82%	78%	48%	78%	3%	54%	29%	18%	149	26%
CLAY	611	365	60%	89%	42%	67%	1%	45%	24%	13%	175	17%
CLAYTON	707	241	34%	88%	24%	73%	2%	56%	28%	12%	122	14%
CLINTON	1977	917	46%	84%	33%	81%	2%	55%	25%	15%	428	21%

Table 4 continued: 13-15 Year-Old coverage

County	County Population 2009 Estimate 13-15-year-olds*	Total Records Entered In IRIS**	Percent of Population in IRIS	3 Hep B Coverage Percent	1 Meningitis Coverage Percent	2 MMR Coverage Percent	1 Td Coverage Percent	1 Tdap Coverage Percent	2 Varicella Coverage Percent	Up-to-Date 3-1-2-1-2 Coverage Percent***	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
CRAWFORD	719	482	67%	90%	29%	80%	5%	50%	29%	14%	248	30%
DALLAS	2564	1047	41%	60%	47%	62%	2%	56%	25%	16%	446	24%
DAVIS	379	221	58%	88%	14%	89%	3%	30%	12%	4%	89	9%
DECATUR	295	237	80%	90%	38%	88%	1%	43%	15%	10%	123	18%
DELAWARE	813	521	64%	85%	51%	78%	2%	64%	59%	32%	276	18%
DES MOINES	1546	908	59%	90%	20%	81%	2%	46%	20%	8%	455	13%
DICKINSON	528	451	85%	96%	19%	94%	2%	24%	13%	10%	212	13%
DUBUQUE	3776	1203	32%	91%	30%	75%	3%	34%	26%	16%	587	13%
EMMET	434	89	21%	89%	17%	83%	0%	40%	6%	6%	44	16%
FAYETTE	871	495	57%	78%	14%	66%	3%	50%	21%	6%	218	14%
FLOYD	701	481	69%	81%	21%	66%	1%	35%	12%	6%	236	13%
FRANKLIN	458	239	52%	62%	31%	60%	1%	62%	29%	12%	122	24%
FREMONT	311	146	47%	84%	77%	88%	0%	80%	68%	56%	64	42%
GREENE	362	304	84%	81%	36%	77%	2%	54%	19%	16%	143	20%
GRUNDY	523	328	63%	73%	43%	70%	2%	65%	33%	22%	172	31%
GUTHRIE	457	275	60%	83%	32%	80%	4%	47%	30%	15%	128	23%
HAMILTON	633	521	82%	93%	34%	93%	4%	47%	18%	13%	241	19%
HANCOCK	458	305	67%	92%	43%	91%	3%	73%	40%	26%	142	24%
HARDIN	707	405	57%	65%	55%	69%	4%	72%	32%	22%	207	34%
HARRISON	665	265	40%	72%	48%	57%	3%	59%	26%	14%	125	50%
HENRY	776	577	74%	90%	25%	88%	2%	40%	22%	12%	310	14%
HOWARD	392	344	88%	83%	52%	68%	3%	61%	29%	19%	175	34%
HUMBOLDT	382	354	93%	85%	50%	81%	3%	64%	33%	22%	160	32%
IDA	265	165	62%	90%	27%	87%	2%	33%	18%	8%	81	23%
IOWA	708	246	35%	76%	35%	76%	1%	63%	23%	11%	111	30%
JACKSON	844	98	12%	84%	38%	84%	0%	55%	22%	15%	48	19%
JASPER	1503	731	49%	66%	42%	61%	2%	48%	23%	14%	311	18%
JEFFERSON	559	246	44%	81%	15%	74%	2%	23%	11%	5%	103	10%
JOHNSON	3788	939	25%	79%	52%	73%	5%	69%	43%	23%	446	34%
JONES	815	585	72%	67%	63%	59%	3%	66%	28%	19%	275	25%

Table 4 continued: 13-15 Year-Old coverage

County	County Population 2009 Estimate 13-15-year-olds*	Total Records Entered In IRIS**	Percent of Population in IRIS	3 Hep B Coverage Percent	1 Meningitis Coverage Percent	2 MMR Coverage Percent	1 Td Coverage Percent	1 Tdap Coverage Percent	2 Varicella Coverage Percent	Up-to-Date 3-1-2-1-2 Coverage Percent***	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
KEOKUK	420	196	47%	78%	39%	66%	3%	47%	23%	13%	102	18%
KOSSUTH	687	490	71%	94%	28%	91%	2%	62%	38%	16%	237	21%
LEE	1383	505	37%	91%	44%	87%	3%	56%	42%	28%	263	32%
LINN	8168	5399	66%	78%	56%	72%	1%	60%	35%	26%	2535	27%
LOUISA	553	329	60%	86%	25%	79%	2%	30%	15%	8%	165	17%
LUCAS	457	126	28%	82%	55%	81%	1%	63%	39%	24%	62	37%
LYON	509	236	46%	86%	33%	86%	1%	62%	30%	11%	112	4%
MADISON	672	397	59%	69%	57%	65%	2%	71%	37%	26%	207	37%
MAHASKA	879	318	36%	78%	47%	66%	1%	55%	28%	18%	149	25%
MARION	1340	688	51%	76%	44%	67%	3%	56%	19%	13%	319	22%
MARSHALL	1732	1048	61%	93%	75%	91%	3%	75%	60%	51%	480	46%
MILLS	722	182	25%	68%	62%	64%	2%	70%	46%	37%	94	45%
MITCHELL	498	209	42%	47%	30%	42%	4%	60%	7%	4%	105	28%
MONONA	339	178	53%	88%	49%	87%	0%	62%	59%	43%	87	28%
MONROE	340	92	27%	73%	53%	66%	4%	63%	40%	23%	47	28%
MONTGOMERY	474	219	46%	84%	45%	62%	1%	50%	16%	11%	107	29%
MUSCATINE	1825	805	44%	78%	35%	63%	2%	51%	27%	16%	368	25%
OBRIEN	545	380	70%	85%	56%	78%	3%	65%	13%	7%	187	33%
OSCEOLA	255	215	84%	91%	18%	82%	2%	25%	9%	3%	94	13%
PAGE	613	299	49%	84%	28%	80%	4%	30%	26%	12%	155	12%
PALO ALTO	341	172	50%	92%	31%	90%	5%	58%	33%	20%	78	26%
PLYMOUTH	1092	743	68%	91%	30%	85%	2%	46%	24%	15%	365	18%
POCAHONTAS	279	215	77%	81%	57%	77%	5%	67%	24%	14%	100	17%
POLK	16406	12189	74%	68%	55%	65%	3%	60%	34%	23%	5865	26%
POTTAWATTAMIE	3466	1948	56%	60%	54%	54%	1%	61%	31%	21%	992	40%
POWESHIEK	646	255	40%	82%	29%	83%	1%	41%	11%	4%	118	17%
RINGGOLD	196	132	67%	89%	69%	88%	4%	74%	68%	59%	68	40%
SAC	426	271	64%	83%	30%	79%	3%	42%	19%	6%	135	17%

Table 4 continued: 13-15 Year-Old coverage

County	County Population 2009 Estimate 13-15-year-olds*	Total Records Entered In IRIS**	Percent of Population in IRIS	3 Hep B Coverage Percent	1 Meningitis Coverage Percent	2 MMR Coverage Percent	1 Td Coverage Percent	1 Tdap Coverage Percent	2 Varicella Coverage Percent	Up-to-Date 3-1-2-1-2 Coverage Percent***	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
SCOTT	6546	4665	71%	67%	44%	63%	2%	61%	33%	22%	2274	24%
SHELBY	513	206	40%	97%	66%	92%	1%	74%	63%	50%	111	42%
SIOUX	1328	1232	93%	77%	38%	73%	5%	59%	29%	14%	627	8%
STORY	2243	1334	60%	79%	65%	75%	2%	73%	53%	47%	639	25%
TAMA	810	494	61%	77%	62%	77%	2%	71%	44%	33%	230	40%
TAYLOR	285	169	59%	83%	42%	76%	1%	46%	41%	24%	87	32%
UNION	434	364	84%	90%	34%	78%	2%	37%	34%	20%	182	21%
VAN BUREN	311	218	70%	82%	13%	76%	1%	33%	24%	6%	115	22%
WAPELLO	1343	1077	80%	81%	49%	76%	3%	55%	38%	28%	529	24%
WARREN	1924	1627	85%	57%	46%	58%	1%	67%	29%	18%	820	30%
WASHINGTON	904	569	63%	81%	30%	77%	6%	42%	31%	13%	286	19%
WAYNE	253	66	26%	88%	48%	82%	3%	62%	55%	33%	35	37%
WEBSTER	1469	1149	78%	80%	53%	79%	3%	60%	31%	20%	562	35%
WINNEBAGO	427	127	30%	89%	46%	83%	2%	63%	38%	31%	55	24%
WINNESHIEK	780	485	62%	86%	39%	82%	2%	74%	42%	27%	251	30%
WOODBURY	4531	2817	62%	85%	25%	71%	2%	25%	19%	14%	1339	16%
WORTH	328	152	46%	89%	52%	75%	3%	70%	48%	32%	67	42%
WRIGHT	489	317	65%	75%	35%	70%	3%	55%	12%	7%	155	25%
State of Iowa Totals	118,104	72,346	61%	77%	47%	72%	2%	58%	33%	22%	35,013	26%

* Source from http://wonder.cdc.gov/bridged-race-population.html

** Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and in an Immunization Home.

*** Up-to-Date are Adolescents 13 - 15 Year Olds that have completed the 3 Hep B, 1 Meng, 2 MMR, 1 Td or Tdap, 2 Varicella Series

Immunization Program Directory

Immunization Program 1-800-831-6293		Fax 1-800-831-6292	
Immunization Program			
Bureau Chief	Don Callaghan	515-281-7301	Donald.Callaghan@idph.iowa.gov
Program Manager	Brent Spear	515-725-2081	Brent.Spear@idph.iowa.gov
Program Secretary	Becky Danilson	515-281-4923	Rebecca.Dailson@idph.iowa.gov
Nurse Consultant/Vaccine Storage & Handling	Terri Thornton	515-281-4938	Teresa.Thornton@idph.iowa.gov
Hepatitis B Program Coordinator/Nurse Consultant	Bethany Kintigh	515-281-7228	Bethany.Kintigh@idph.iowa.gov
CDC Public Health Advisor	Marnell Kretschmer	515-281-4917	Marnell.Kretschmer@idph.iowa.gov
Immunization Services Contracts/Fiscal Liaison	Rose Anthony	515-281-5424	Rose.Anthony@idph.iowa.gov
IRIS Help Desk			
IRIS Coordinator	Kim Tichy	515-281-4288	Kimberly.Tichy@idph.iowa.gov
IRIS Help Desk Staff	Tory King	515-281-7992	Tory.King@idph.iowa.gov
IRIS Help Desk Staff	Cindy Oliver	515-281-6983	Cindy.Oliver@idph.iowa.gov
IRIS Help Desk		800-374-3958	
Vaccine For Children Program			
VFC Program Coordinator	Tina Patterson	515-281-7053	Tina.Patterson@idph.iowa.gov
Vaccine Distribution Coordinator	Janean Iddings	515-281-7787	Janean.Iddings@idph.iowa.gov
Immunization Assessments			
Assessments /Adolescent Program Coordinator	Kelly Rooney-Kozak	515-281-0916	Kelly.Rooney-Kozak@idph.iowa.gov
Assessments/Nurse Consultants	Sharon Monroe	515-473-2473	Sharon.Monroe@idph.iowa.gov
Assessments/Nurse Consultants	Alison Monsma	515-494-4442	Alison.Monsma@idph.iowa.gov
Assessments/Nurse Consultants	John Fiedler	515-954-9859	John.Fiedler@idph.iowa.gov