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# IOWA

## *Immunization Program*

### **Annual Report 2011**

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**Iowa Department of Public Health**

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## Introduction

Immunizations are among public health's most significant achievements. Infectious diseases once common in the U.S., including polio, measles, diphtheria, pertussis, rubella, mumps, tetanus, and *Haemophilus influenzae* type b are now rare because of the widespread use of vaccines. During the past decade many new vaccines were introduced and added to the recommended immunization schedule. Routine childhood immunizations have helped protect both individuals and communities, each year saving nearly \$14 billion in direct medical costs and \$69 billion in costs to society.

Immunization rates in Iowa are consistent with national averages. Yet, vaccine-preventable diseases continue to threaten the health of Iowans when children, adolescents and adults are un-immunized or under-immunized.

The mission of the Iowa Immunization Program is to decrease vaccine-preventable diseases through education, advocacy and partnership. The Iowa Immunization Program provides immunization services throughout the state. Program initiatives fall into five broad components:

- Purchase and distribute vaccine to public and private health care providers
- Fund local public health agencies to support immunization clinics
- Manage the statewide Immunization Registry Information System (IRIS)
- Assess immunization records
- Educate health care providers and the public about vaccine-preventable diseases and benefits of immunization

The Immunization Program in Iowa works with public and private health care providers to improve and maintain the number of Iowans who are fully vaccinated.

## Overview

Iowa's Immunization Program manages and allocates resources to provide protection against vaccine-preventable diseases. The Immunization Program consists of the Adolescent Immunization, Adult Immunization, Immunization Registry Information System (IRIS), Vaccines for Children (VFC), Perinatal Hepatitis B, and Immunization Assessment Programs.

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 2011 calendar year. Iowa-specific immunization coverage rates, funding sources, and program-specific data appear in tables and maps at the end of the report. These tables and maps 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 underway to increase Iowans' access to vaccines.

The annual report is divided into the following sections: Funding, Special Projects and Events, Immunization Registry Information System (IRIS), Vaccines for Children Program (VFC), Perinatal Hepatitis B, and Immunization Assessments. The annual report serves as an informational resource for stakeholders, local partners, policy makers and the general public. To increase widespread distribution and availability, the report will be distributed electronically and will be available on the Immunization Program web page at <http://www.idph.state.ia.us/ImmTB/Immunization.aspx?prog=Imm&pg=ImmHome>.

## Funding

In calendar year 2011, the Immunization Program received funds from the federal Vaccines for Children Program (VFC), federal 317 grant program, state funds, and carryover funds from the federal American Recovery and Reinvestment Act (ARRA) totaling \$29,499,346 (Figure 1).

Funding Source	Calendar Year 2011
<i>Federal VFC</i>	\$25,800,167
<i>Federal 317</i>	\$2,423,367
<i>State</i>	\$629,562
<i>Federal ARRA</i>	\$646,250
<b><i>Total</i></b>	<b>\$29,499,346</b>

Figure 1: Calendar year 2011 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.

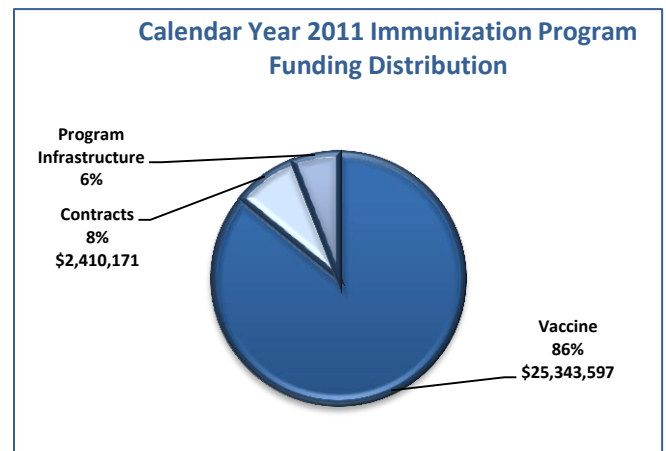


Figure 2: Calendar year 2011 distribution of program funds

## Vaccine Funds

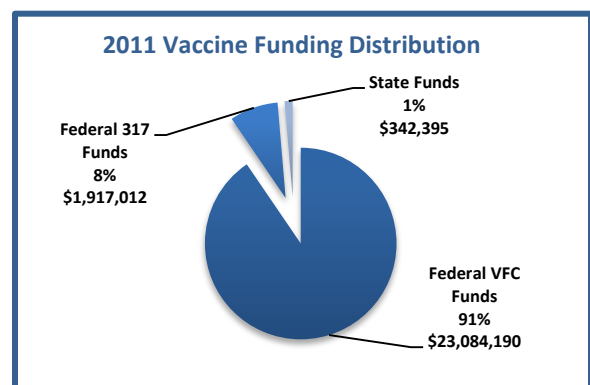
Annually, the Immunization Program completes population estimates and vaccine forecasting for Iowa's population, which is used by CDC to determine vaccine funding for the upcoming year. Of the program's \$29 million dollar budget, over \$25 million was spent on vaccines. The Immunization Program received funding for vaccines from the federal VFC Program, federal 317 grant vaccine funds, and state funds. Figure 3 includes the vaccine funding distribution for calendar year 2011.

In 2011, Iowa received \$23,084,190 from the federal VFC Program for vaccine. These funds account for 91 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 calendar year 2011, Iowa received \$1,917,012 in 317 grant funds which comprises eight 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.

State funds comprised one percent of the program's total vaccine budget. In 2011, \$342,395 was received in state funding. State funds are used to pay for vaccines for children who do not meet VFC eligibility.



**Figure 3: Calendar year 2011 vaccine funding distribution**

## Special Projects and Events

### Evaluation of the Iowa Seasonal Flu Vaccine Media Campaign

During the 2010/2011 influenza season, the Immunization Program launched a media campaign designed to encourage Iowans to be vaccinated against the flu. The “Flu Ends With U” campaign included a total of 16,011 advertisement spots across four mediums (cable TV, broadcast TV, radio, and online).

The Center of Social and Behavioral Research (CSBR) conducted research using the Behavioral Risk Factor Surveillance System (BRFSS). Interviews were completed with 2,698 individuals. The average age of the overall sample interviewed was 58 years with more females participating than males. Nearly two-thirds were married, about one-third said they were retired, and most respondents said they did not live with any children less than 18 years of age.

Most respondents who recalled seeing or hearing any flu-related messages and who were interviewed after the campaign was launched said the messages they recalled made them think positively about flu vaccination. In general, respondents tended to associate messages that encouraged flu vaccination with positive thoughts about the vaccine. Nearly three-fourths (73%) of respondents who recalled seeing or hearing any flu-related messages and who were interviewed after the campaign was launched said that after seeing or hearing a flu-related message they did at least one of the following: thought about the message, talked about the message with others, looked for more information about flu vaccine, encouraged others to be vaccinated, or were vaccinated personally.

About half of all respondents (49%) said they were vaccinated during the 2010/2011 flu season. Of these, most said they were vaccinated in October or November of 2010. This suggests that the launch date of the “The Flu Ends With U” campaign was well timed. Females and older respondents were more likely than other Iowans to report being vaccinated during the 2010/2011 season. Recall of messages specifically associated with the campaign was not associated with increased vaccination rates or perceived likelihood of future vaccination. However, recall of any message regarding influenza vaccine was associated with higher vaccination rates during the 2010/2011 season.

The Iowa Department of Public Health received the 2011 Gold Award for Excellence in Public Health Communication from the National Public Health Information Coalition for “The Flu Ends With U” campaign.

## 2011 Immunization Conference

On June 8-9, 2011, the Immunization Program held the 2011 Immunization Conference in Des Moines, which was attended by almost 800 health professionals. The conference focused on current immunization information and vaccine education for health care providers. The conference has grown from a group of about 20 local public health agency staff in 1994 to more than 765 attendees from 12 states.

Conference participants were presented with the latest immunization guidelines and program successes and challenges by renowned and foremost immunization experts. Speakers included Dr. Paul A. Offit, Chief of the Division of Infectious Diseases and the Director of the Vaccine Education Center at the Children's Hospital of Philadelphia; Dr. William Atkinson, CDC Immunization Program; Alison Singer, Founder and President of the Autism Science Foundation; Dr. Gregory A. Poland of the Vaccine Research Group at the Mayo Clinic in Rochester, Minnesota; and Dr. Luis Castagnini, Iowa Health Systems.

During the conference, the Iowa Immunization Champion awards were presented to five honorees. Those honored as Iowa's Immunization Champions were recognized for their significant contributions toward improving public health through their dedication and work in immunization. The following are the honorees and a brief description of their contributions.

- Iowa Healthcare Collaborative of Des Moines for their work to increase immunization rates among health care workers.
- Regional Medical Center OB Department in Manchester under the leadership of Assistant Manager Lee Ann Fenton for their Tdap cocooning project. In addition to the Tdap vaccine, the immunization program also includes the assessment and administration of MMR and seasonal influenza.
- Sara Kokke with Primary Health Care, Inc., East Side Center in Des Moines for her work in expanding recall services and increasing their immunization rates from 46 percent to 94 percent in 12 months.
- Lori Baldwin and Sue Nielsen with the Siouxland District Health Department in Sioux City for creating the Tri-State Immunization Coalition, educating coalition members about the importance of adolescent vaccinations and helping to coordinate the offering of Tdap to all ninth graders in Woodbury County.
- Mercy Medical Center Immunization Clinic and Heather Waters, Infection Preventionist and Control Manager from Cedar Rapids, for utilizing a LEAN process in their employee flu clinics transforming the once 45 minute wait into a 1 to 5 minute timeframe. Through her leadership and dedication, Mercy Medical Center has achieved an employee influenza vaccination rate of 95 percent.



## **Local Public Health Billing Project**

The Immunization Program received an American Recovery and Reinvestment Act (ARRA) grant for innovative projects to improve reimbursement in public health department clinics. The program contracted with HS Medical Billing to develop a billing system for Local Public Health Agencies to save program revenue, reach additional populations, provide vaccines not currently offered and to take on new immunization initiatives to reach special under-vaccinated populations with reduced access to vaccination services.

The Immunization Program and HS Medical Billing held four comprehensive billing training programs attended by 149 representatives of LPHAs. Seventy-seven of Iowa's 99 counties were represented at the meetings.

A toolkit was provided to each LPHA, which included the following:

- Guidelines for credentialing an agency and its providers with payer organizations
- Information, resources, and time requirements to implement a billing program
- Technology information regarding software selection, EHR technology and claim submission strategies
- Sample forms, policies and guidelines for billing requirements of the various third-party payers



## Immunization Registry Information System (IRIS)

Iowa's Immunization Registry Information System (IRIS) is a confidential, computerized repository of individual immunization

records from participating public and private health care providers. IRIS is critical in reducing the occurrence of vaccine-preventable diseases and over vaccination, and allows health care providers to search the database for patients' immunization records.

IRIS includes patient records from all ages and is used to keep patients on schedule for their recommended immunizations by storing immunization records; documenting vaccine contraindications and reactions; validating immunization history; providing vaccine recommendations; producing patient reminder and recall notices; and managing vaccine inventory.

In June, Iowa signed a contract with Hewlett Packard Enterprise Services (HPES) to implement a version of Wisconsin's Immunization Registry (WIR). Transitioning to the new application will include the following enhancements and increased functionality:

- Meet CDC Immunization Registry Functional Standards
- Exchange data with EHRs using HL7 messaging
- Link with Iowa Vital Records to create and remove patient records
- Enhanced automated de-duplication tool versus the current manual process
- Ad Hoc reporting feature increases health care provider access to data, and data is available in multiple file formats

- Immunization assessments allow health care providers to evaluate immunization rates for their patients
- Medical countermeasure module tracks resources during emergency and pandemic events
- Enhanced immunization evaluator provides information regarding vaccine(s) due or past due for patients
- Training modules with video clips included in the application
- Interface with the CDC vaccine ordering and distribution software, VTrckS
- Individual state enhancements can be shared among all of the 16 states using a version of the WIR application. Multistate problem solving and development of mutually beneficial enhancements
- Web-based application

Iowa will implement the new version of IRIS in June 2012.

Enrollment in IRIS is open to all health care providers in Iowa that administer immunizations. In 2011, 79 new provider sites enrolled in IRIS for a total of 1,140 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.

The number of patients in IRIS has nearly doubled from 1.5 million in 2007 to 2.5 million records in 2011 (Figure 4). More than 90,000 patient records were added in 2011 and IRIS contains nearly 22 million immunizations. IRIS includes records consisting of two or more immunizations for 93 percent of Iowa's children 4 months to 6 years of age.

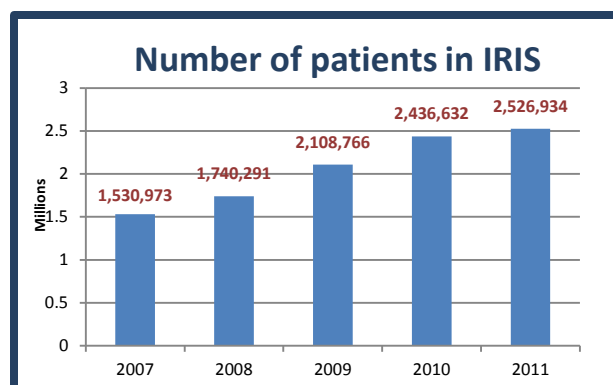


Figure 4: Number of unduplicated patients in IRIS

## Vaccines for Children Program (VFC)



The VFC program is a federally funded program that provides vaccines at no cost to eligible children from birth through 18 years of age. Eligible children include those who are enrolled in Medicaid, uninsured, underinsured, American Indian or Alaskan Native.

Iowa's VFC program has 598 participating providers and provides vaccine for approximately 45 percent or 759,097 of Iowa's children from birth to 18 years of age. Enrolled 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 2011, the Iowa VFC program distributed 622,997 doses of vaccine, valued at more than \$25.7 million, to VFC-enrolled health care providers. The number of doses distributed increased from 2010 by 10,096 doses at an additional cost of approximately \$4.1 million.

Figure 5 includes the type of vaccine and number of vaccine doses distributed in 2011 to Iowa's VFC program providers.

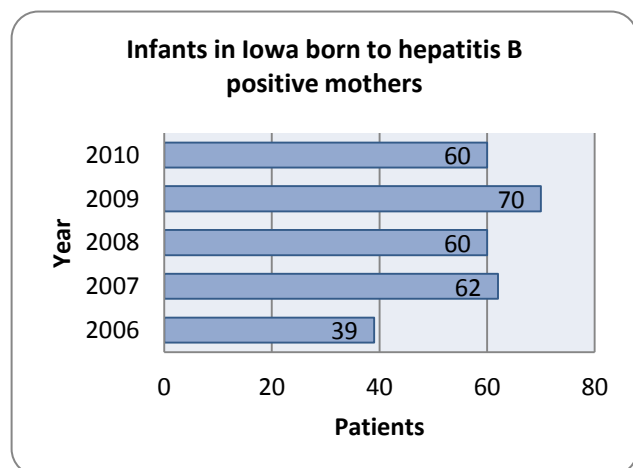
Vaccines	Doses Distributed
DT	37
DTaP	23,490
DTaP-IPV (Kinrix)	14,360
DTaP-IPV/Hib (Pentacel)	34,640
DTaP-IPV-Hep B (Pediarix)	27,780
Tdap	16,480
Td	550
Hep A	57,800
Hep B	34,530
Hep A-Hep B: (Twinrix)	2,120
Hep B/Hib: (Comvax)	220
Hib	38,390
HPV	25,330
IPV	13,030
MMR	39,690
MCV	17,440
PCV 7	0
PCV 13	79,970
Rotavirus	44,400
Varicella	44,260
Influenza	108,480
<b>Total Doses Distributed</b>	<b>622,997</b>

Figure 5: 2011 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 mother to 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. In 2010, there were 60 infants born to hepatitis B positive mothers (Figure 6).



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

The Immunization Program provides hepatitis B vaccine to hospitals to universally administer the birth dose of hepatitis B vaccine. In 2011, 22 of 77 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 2010, National Immunization Survey (NIS) for hepatitis B vaccine among infants birth to 3 days of age indicates Iowa has a hepatitis B birth dose rate of 52 percent. Iowa ranks 45 out of the 50 assessed immunization projects. Despite the low ranking, the hepatitis B birth dose rate has increased by six percentage points from 2009, and the program has initiated efforts to increase the number of Iowa infants who receive a birth dose of vaccine. These efforts include the Universal Hepatitis B Vaccine Birth Dose Program, promoting birthing hospitals' enrollment in the VFC program, partnering with the University of Iowa, College of Public Health to complete chart audits of birthing hospitals and a hepatitis B vaccine educational campaign.

### 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 1,870 doses of adult hepatitis A/hepatitis B (Twinrix) vaccine, 120 doses of adult hepatitis A vaccine, and 10 doses of adult hepatitis B in 2011 to local public health agencies to vaccinate these patients.

## Immunization Assessments

Immunization goals have been set on many levels and serve to evaluate and achieve high levels of vaccine coverage to improve the health status of Iowa's population. Assessments give Iowa health care 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 students enrolled in public, private, and parochial K-12 schools and children in licensed child care centers. Assessments of children attending elementary or secondary school or licensed child care 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 2010-2011 school year indicate 99.08 percent of children enrolled in kindergarten through 12<sup>th</sup> grade were compliant with the law and had a valid immunization certificate (Table 1), while 93.19 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 served by both public and private health care providers. Data collected and analyzed include patients with 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 percentage of records in IRIS for each county. They range from 30 - 124 percent with an average of 67 percent for 2-year-old children and range from 47 - 136 percent with an average of 96 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.

## 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 32 - 81 percent, with a state immunization rate of 64 percent. The state immunization rate includes the assessment of 27,402 patient records which is approximately 67 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 4 - 58 percent, with an average state immunization rate of 23 percent. The state immunization rate includes the assessment of 109,992 patient records which is approximately 96 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 6 - 34 percent, with an average state immunization rate of 21 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 science-based education. Many of the barriers that once limited the widespread availability of vaccines have been overcome. Numerous tools are available to assist health care providers to communicate accurate information about vaccines and ensure vaccines are safe and effective. Among the many successes, there are pockets of unimmunized and under immunized people that are susceptible to vaccine-preventable diseases. Iowa's Immunization Program must continue to promote the importance of immunizations and implement strategies to achieve and maintain high vaccination levels. High vaccination levels will allow the program to attain the vision of healthy Iowans living in communities free of vaccine-preventable diseases.

## Tables and Maps

**Table 1:** Iowa Department of Public Health - Immunization Program  
Immunization Audit 2010-2011 School Year  
K-12 Summary Report by County

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Adair	651	12	0	0	6	663	669	99.10%
Adams	490	2	4	4	6	500	506	98.81%
Allamakee	2160	0	13	10	141	2183	2324	93.93%
Appanoose	1923	30	1	2	15	1956	1971	99.24%
Audubon	761	5	1	6	0	773	773	100.00%
Benton	4240	38	8	49	23	4335	4358	99.47%
Black Hawk	18906	138	37	73	479	19154	19633	97.56%
Boone	3855	159	12	17	0	4043	4043	100.00%
Bremer	4482	12	17	26	21	4537	4558	99.54%
Buchanan	3001	46	6	178	32	3231	3263	99.02%
Buena Vista	3656	221	54	11	128	3942	4070	96.86%
Butler	1700	26	0	3	0	1729	1729	100.00%
Calhoun	1724	15	3	8	1	1750	1751	99.94%
Carroll	3779	31	35	28	1	3873	3874	99.97%
Cass	2394	23	9	13	36	2439	2475	98.55%
Cedar	3322	21	6	23	71	3372	3443	97.94%
Cerro Gordo	6391	56	13	27	71	6487	6558	98.92%
Cherokee	1568	36	10	10	0	1624	1624	100.00%
Chickasaw	2104	18	5	27	0	2154	2154	100.00%
Clarke	1548	47	5	14	26	1614	1640	98.41%
Clay	2410	24	11	13	14	2458	2472	99.43%
Clayton	1912	11	2	22	1	1947	1948	99.95%
Clinton	7862	129	45	87	8	8123	8131	99.90%
Crawford	3145	128	15	5	4	3293	3297	99.88%
Dallas	13821	70	60	95	19	14046	14065	99.86%
Davis	1165	9	1	10	0	1185	1185	100.00%
Decatur	1000	19	8	66	28	1093	1121	97.50%
Delaware	2931	7	10	7	7	2955	2962	99.76%
Des Moines	6411	63	54	31	66	6559	6625	99.00%
Dickinson	2361	8	46	14	1	2429	2430	99.96%
Dubuque	16324	92	63	139	97	16618	16715	99.42%

**Table 1 continued: 2010-2011 School Year; K-12 Summary**

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Emmet	1610	25	12	12	0	1659	1659	100.00%
Fayette	3477	106	15	115	1	3713	3714	99.97%
Floyd	2477	26	0	71	54	2574	2628	97.95%
Franklin	1702	30	3	18	14	1753	1767	99.21%
Fremont	1153	10	4	4	42	1171	1213	96.54%
Greene	1461	19	3	11	28	1494	1522	98.16%
Grundy	2606	43	2	8	4	2659	2663	99.85%
Guthrie	2096	33	15	6	6	2150	2156	99.72%
Hamilton	2652	38	5	16	2	2711	2713	99.93%
Hancock	1555	103	7	6	4	1671	1675	99.76%
Hardin	2427	69	2	21	30	2519	2549	98.82%
Harrison	2683	36	3	16	20	2738	2758	99.27%
Henry	3395	25	10	16	24	3446	3470	99.31%
Howard	1817	50	9	50	9	1926	1935	99.53%
Humboldt	1490	46	6	17	32	1559	1591	97.99%
Ida	1120	24	3	12	4	1159	1163	99.66%
Iowa	3030	23	10	16	16	3079	3095	99.48%
Jackson	3133	2	4	55	122	3194	3316	96.32%
Jasper	5796	82	53	33	23	5964	5987	99.62%
Jefferson	1670	124	8	136	0	1938	1938	100.00%
Johnson	15198	360	49	236	139	15843	15982	99.13%
Jones	3071	12	0	22	1	3105	3106	99.97%
Keokuk	1768	46	2	1	0	1817	1817	100.00%
Kossuth	2185	56	9	23	5	2273	2278	99.78%
Lee	5381	74	16	18	0	5489	5489	100.00%
Linn	36505	411	291	403	865	37610	38475	97.75%
Louisa	2512	26	5	6	64	2549	2613	97.55%
Lucas	1391	22	7	45	7	1465	1472	99.52%
Lyon	1871	29	5	19	7	1924	1931	99.64%
Madison	3218	36	28	34	2	3316	3318	99.94%
Mahaska	3145	60	3	15	19	3223	3242	99.41%
Marion	5923	44	39	37	274	6043	6317	95.66%
Marshall	7022	90	6	12	28	7130	7158	99.61%
Mills	2531	49	7	19	25	2606	2631	99.05%
Mitchell	1662	11	3	39	76	1715	1791	95.76%
Monona	1292	8	5	8	6	1313	1319	99.55%
Monroe	1149	0	6	6	6	1161	1167	99.49%



**Table 1 continued: 2010-2011 School Year; K-12 Summary**

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Montgomery	1702	44	1	6	17	1753	1770	99.04%
Muscatine	7047	39	19	60	130	7165	7295	98.22%
O'Brien	2549	41	8	14	3	2612	2615	99.89%
Osceola	741	0	7	0	6	748	754	99.20%
Page	2550	28	4	12	212	2594	2806	92.44%
Palo Alto	1666	4	2	10	0	1682	1682	100.00%
Plymouth	4677	51	15	16	9	4759	4768	99.81%
Pocahontas	839	7	9	5	9	860	869	98.96%
Polk	71028	501	328	318	55	72175	72230	99.92%
Pottawattamie	15062	220	80	47	34	15409	15443	99.78%
Poweshiek	2659	3	4	13	124	2679	2803	95.58%
Ringgold	682	6	0	0	2	688	690	99.71%
Sac	1469	46	10	8	0	1533	1533	100.00%
Scott	28178	225	41	428	1	28872	28873	100.00%
Shelby	1990	17	11	9	19	2027	2046	99.07%
Sioux	6359	66	71	149	32	6645	6677	99.52%
Story	10648	170	64	97	19	10979	10998	99.83%
Tama	2630	32	11	18	22	2691	2713	99.19%
Taylor	940	32	6	13	4	991	995	99.60%
Union	1977	5	3	4	31	1989	2020	98.47%
Van Buren	970	29	3	17	116	1019	1135	89.78%
Wapello	5340	83	11	6	241	5440	5681	95.76%
Warren	8508	103	82	62	39	8755	8794	99.56%
Washington	3844	75	17	107	65	4043	4108	98.42%
Wayne	906	10	11	6	9	933	942	99.04%
Webster	5624	84	4	18	57	5730	5787	99.02%
Winnebago	2300	15	9	9	5	2333	2338	99.79%
Winneshiek	3011	2	14	48	47	3075	3122	98.49%
Woodbury	18819	236	48	90	61	19193	19254	99.68%
Worth	919	11	1	0	1	931	932	99.89%
Wright	2264	30	10	16	24	2320	2344	98.98%
Total	489069	5959	2113	4206	4655	501347	506002	99.08%

**Table 2:** Iowa Department of Public Health, Immunization Program  
Immunization Audit 2010-2011 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	128	8	2	0	0	138	138	100.00%
Adams	62	0	0	0	25	62	87	71.26%
Allamakee	299	6	0	3	98	308	406	75.86%
Appanoose	291	6	2	3	8	302	310	97.42%
Audubon	80	5	0	1	1	86	87	98.85%
Benton	510	74	0	3	59	587	646	90.87%
Black Hawk	3324	9	1	25	661	3359	4020	83.56%
Boone	442	31	1	0	0	474	474	100.00%
Bremer	617	19	5	7	52	648	700	92.57%
Buchanan	656	26	1	4	7	687	694	98.99%
Buena Vista	391	86	14	0	7	491	498	98.59%
Butler	392	21	0	4	0	417	417	100.00%
Calhoun	272	17	0	0	2	289	291	99.31%
Carroll	702	76	4	2	2	784	786	99.75%
Cass	415	3	2	2	42	422	464	90.95%
Cedar	326	10	0	1	67	337	404	83.42%
Cerro Gordo	1369	8	2	12	205	1391	1596	87.16%
Cherokee	286	46	0	2	0	334	334	100.00%
Chickasaw	318	17	1	3	0	339	339	100.00%
Clarke	382	21	0	0	6	403	409	98.53%
Clay	478	43	1	1	14	523	537	97.39%
Clayton	500	43	2	2	44	547	591	92.55%
Clinton	1397	119	9	13	39	1538	1577	97.53%
Crawford	471	72	2	0	14	545	559	97.50%
Dallas	1783	112	13	9	52	1917	1969	97.36%
Davis	153	18	0	2	21	173	194	89.18%
Decatur	189	7	0	1	32	197	229	86.03%
Delaware	359	19	2	2	7	382	389	98.20%
Des Moines	1109	13	0	5	234	1127	1361	82.81%
Dickinson	544	21	8	8	34	581	615	94.47%
Dubuque	2608	46	4	18	94	2676	2770	96.61%

**Table 2 continued: Child Care Immunization Audits; 2010-2011**

County	Valid Certificates	Provisional	Exemptions Medical	Exemptions Religious	Invalid Certificates	Total with Certificates	Total Enrollment	Percent with Certificates
Emmet	287	42	3	1	0	333	333	100.00%
Fayette	572	84	5	2	2	663	665	99.70%
Floyd	265	0	0	17	50	282	332	84.94%
Franklin	321	22	3	1	1	347	348	99.71%
Fremont	138	6	1	4	52	149	201	74.13%
Greene	198	30	0	1	12	229	241	95.02%
Grundy	412	40	2	0	14	454	468	97.01%
Guthrie	204	20	2	0	3	226	229	98.69%
Hamilton	369	14	0	0	11	383	394	97.21%
Hancock	196	18	0	1	0	215	215	100.00%
Hardin	528	40	0	1	4	569	573	99.30%
Harrison	185	19	3	1	1	208	209	99.52%
Henry	382	4	1	1	91	388	479	81.00%
Howard	370	25	0	4	1	399	400	99.75%
Humboldt	265	30	0	2	27	297	324	91.67%
Ida	177	14	0	1	1	192	193	99.48%
Iowa	331	39	0	3	13	373	386	96.63%
Jackson	408	0	6	6	127	420	547	76.78%
Jasper	742	105	7	3	24	857	881	97.28%
Jefferson	264	52	0	16	0	332	332	100.00%
Johnson	2783	18	10	16	517	2827	3344	84.54%
Jones	378	33	0	2	0	413	413	100.00%
Keokuk	224	26	0	1	0	251	251	100.00%
Kossuth	510	39	2	5	31	556	587	94.72%
Lee	825	79	4	3	14	911	925	98.49%
Linn	199	15	2	3	23	219	242	90.50%
Louisa	307	35	0	0	3	342	345	99.13%
Lucas	166	5	0	0	0	171	171	100.00%
Lyon	244	30	2	10	16	286	302	94.70%
Madison	360	34	0	2	0	396	396	100.00%
Mahaska	519	37	1	0	5	557	562	99.11%
Marion	693	7	3	7	208	710	918	77.34%
Marshall	711	94	2	6	9	813	822	98.91%
Mills	414	8	0	2	70	424	494	85.83%
Mitchell	386	12	0	0	25	398	423	94.09%
Monona	261	17	0	2	6	280	286	97.90%
Monroe	156	7	0	3	1	166	167	99.40%

**Table 2 continued: Child Care Immunization Audits; 2010-2011**

County	Valid Certificates	Provisional	Exemptions Medical	Exemptions Religious	Invalid Certificates	Total with Certificates	Total Enrollment	Percent with Certificates
Montgomery	215	50	1	0	3	266	269	98.88%
Muscatine	1027	8	0	4	108	1039	1147	90.58%
O'Brien	352	86	2	3	8	443	451	98.23%
Osceola	134	13	0	0	6	147	153	96.08%
Page	403	1	2	5	162	411	573	71.73%
Palo Alto	348	11	0	3	2	362	364	99.45%
Plymouth	690	69	1	7	22	767	789	97.21%
Pocahontas	139	13	4	2	28	158	186	84.95%
Polk	13607	198	354	97	1217	14256	15473	92.13%
Pottawattamie	1693	50	1	7	216	1751	1967	89.02%
Poweshiek	416	0	0	3	29	419	448	93.53%
Ringgold	184	13	0	0	1	197	198	99.49%
Sac	252	32	9	2	2	295	297	99.33%
Scott	3930	301	11	98	39	4340	4379	99.11%
Shelby	292	9	1	1	24	303	327	92.66%
Sioux	1077	137	8	11	23	1233	1256	98.17%
Story	1719	189	2	9	45	1919	1964	97.71%
Tama	458	28	0	1	1	487	488	99.80%
Taylor	157	15	0	0	1	172	173	99.42%
Union	346	4	1	4	69	355	424	83.73%
Van Buren	102	18	1	1	7	122	129	94.57%
Wapello	780	121	1	6	62	908	970	93.61%
Warren	1074	85	7	8	21	1174	1195	98.24%
Washington	428	66	0	2	23	496	519	95.57%
Wayne	130	5	0	0	25	135	160	84.38%
Webster	1137	101	1	6	49	1245	1294	96.21%
Winnebago	441	24	3	1	7	469	476	98.53%
Winneshiek	450	0	0	17	99	467	566	82.51%
Woodbury	2505	335	4	13	50	2857	2907	98.28%
Worth	100	1	0	0	0	101	101	100.00%
Wright	327	1	0	1	72	329	401	82.04%
Total	71516	4086	549	572	5610	76723	82333	93.19%

**Table 3:** Iowa Department of Public Health, Immunization Program  
2011 County Immunization Assessment  
2-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series

County	County Population born in 2009 Estimate*	Total Records Analyzed from IRIS <sup>¶</sup>	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 <sup>#</sup>	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent <sup>†</sup>
ADAIR	74	53	72%	68%	85%	89%	85%	85%	87%	70%	66%	4%
ADAMS	36	34	94%	82%	94%	88%	94%	79%	85%	79%	56%	9%
ALLAMAKEE	199	140	70%	64%	86%	84%	84%	86%	79%	72%	56%	9%
APPANOOSE	165	131	79%	81%	94%	92%	95%	67%	92%	79%	50%	6%
AUDUBON	80	63	79%	73%	95%	87%	95%	89%	84%	83%	67%	10%
BENTON	319	167	52%	84%	92%	88%	92%	87%	89%	89%	78%	2%
BLACK HAWK	1779	1,404	79%	78%	91%	86%	92%	89%	85%	84%	72%	5%
BOONE	316	199	63%	77%	90%	81%	90%	87%	80%	29%	71%	4%
BREMER	281	204	73%	72%	86%	73%	86%	82%	73%	78%	62%	6%
BUCHANAN	320	234	73%	76%	90%	86%	89%	86%	85%	81%	71%	7%
BUENA VISTA	293	312	107%	63%	85%	83%	86%	77%	78%	72%	48%	5%
BUTLER	178	149	84%	79%	91%	85%	92%	89%	85%	82%	73%	3%
CALHOUN	100	123	123%	78%	92%	90%	92%	89%	89%	86%	70%	7%
CARROLL	278	291	105%	77%	90%	86%	90%	86%	86%	76%	73%	4%
CASS	174	171	98%	80%	94%	89%	94%	95%	89%	81%	76%	4%
CEDAR	212	97	45%	62%	91%	77%	92%	89%	70%	71%	53%	6%
CERRO GORDO	498	491	99%	75%	89%	86%	89%	87%	86%	76%	69%	6%
CHEROKEE	107	130	122%	80%	96%	92%	95%	90%	90%	85%	72%	5%
CHICKASAW	160	129	81%	71%	87%	84%	87%	83%	80%	74%	64%	6%
CLARKE	143	92	64%	78%	91%	87%	92%	90%	86%	76%	75%	4%
CLAY	211	200	95%	87%	96%	94%	96%	94%	92%	91%	81%	3%
CLAYTON	211	120	57%	72%	86%	80%	86%	82%	77%	68%	62%	3%
CLINTON	598	516	86%	66%	87%	80%	88%	83%	79%	75%	56%	10%
CRAWFORD	237	293	124%	63%	86%	81%	86%	80%	80%	69%	56%	5%

**Table 3 continued: 2-Year-Old Coverage**

County	County Population born in 2009 Estimate*	Total Records Analyzed from IRIS <sup>¶</sup>	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 <sup>#</sup>	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent <sup>†</sup>
DALLAS	994	357	36%	68%	84%	80%	84%	79%	80%	69%	62%	7%
DAVIS	138	99	72%	60%	85%	79%	84%	70%	76%	65%	46%	4%
DECATUR	110	78	71%	56%	85%	87%	86%	78%	85%	65%	49%	4%
DELAWARE	196	123	63%	79%	93%	86%	93%	92%	87%	87%	73%	2%
DES MOINES	525	469	89%	69%	91%	86%	91%	87%	86%	79%	64%	7%
DICKINSON	185	156	84%	80%	93%	91%	92%	89%	86%	78%	74%	4%
DUBUQUE	1229	399	33%	60%	85%	77%	85%	82%	76%	68%	58%	2%
EMMET	143	121	85%	53%	73%	83%	73%	74%	74%	60%	51%	7%
FAYETTE	230	240	104%	73%	93%	85%	93%	88%	82%	83%	63%	6%
FLOYD	203	185	91%	70%	84%	82%	83%	77%	77%	70%	62%	2%
FRANKLIN	133	127	96%	68%	88%	84%	89%	91%	83%	80%	61%	9%
FREMONT	88	74	84%	62%	86%	73%	85%	70%	76%	64%	46%	7%
GREENE	104	94	90%	79%	93%	90%	93%	90%	88%	84%	77%	7%
GRUNDY	135	134	99%	81%	90%	89%	93%	87%	87%	83%	72%	2%
GUTHRIE	124	78	63%	73%	90%	85%	86%	79%	82%	79%	65%	3%
HAMILTON	168	170	101%	75%	91%	90%	92%	81%	86%	75%	62%	6%
HANCOCK	128	119	93%	76%	92%	88%	92%	86%	87%	80%	68%	6%
HARDIN	216	183	85%	78%	92%	87%	94%	87%	87%	81%	70%	7%
HARRISON	172	135	79%	64%	81%	79%	81%	71%	77%	65%	53%	6%
HENRY	241	206	86%	68%	91%	87%	87%	89%	84%	70%	65%	6%
HOWARD	125	130	104%	83%	93%	92%	92%	91%	88%	84%	72%	5%
HUMBOLDT	118	127	108%	75%	91%	84%	90%	89%	82%	76%	69%	6%
IDA	81	86	106%	66%	87%	86%	88%	81%	80%	73%	60%	8%
IOWA	206	120	58%	59%	89%	79%	90%	84%	73%	70%	54%	7%
JACKSON	205	142	69%	62%	88%	81%	87%	73%	80%	70%	51%	11%
JASPER	430	292	68%	62%	81%	74%	83%	80%	73%	61%	54%	6%
JEFFERSON	164	126	77%	64%	87%	83%	85%	79%	76%	67%	52%	5%
JOHNSON	1736	514	30%	39%	82%	67%	83%	78%	47%	58%	32%	6%
JONES	242	123	51%	79%	92%	85%	91%	89%	83%	79%	71%	3%

**Table 3 continued: 2-Year-Old Coverage**

County	County Population born in 2009 Estimate*	Total Records Analyzed from IRIS <sup>¶</sup>	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 <sup>#</sup>	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent <sup>†</sup>
KEOKUK	120	105	88%	72%	92%	90%	94%	76%	86%	80%	54%	1%
KOSSUTH	170	149	88%	66%	89%	87%	87%	83%	85%	68%	61%	10%
LEE	383	172	45%	75%	91%	87%	92%	88%	87%	78%	69%	6%
LINN	2950	1,260	43%	75%	92%	83%	92%	87%	82%	79%	67%	5%
LOUISA	143	104	73%	57%	77%	78%	86%	73%	72%	68%	48%	5%
LUCAS	102	71	70%	63%	87%	83%	87%	87%	83%	70%	61%	7%
LYON	164	98	60%	67%	88%	85%	87%	88%	82%	69%	60%	10%
MADISON	220	154	70%	79%	93%	92%	92%	88%	88%	84%	73%	4%
MAHASKA	288	228	79%	74%	93%	92%	94%	72%	90%	69%	51%	8%
MARION	412	382	93%	84%	97%	90%	96%	90%	92%	85%	76%	5%
MARSHALL	633	651	103%	77%	93%	88%	92%	91%	87%	79%	73%	6%
MILLS	192	116	60%	68%	84%	74%	84%	71%	72%	72%	53%	9%
MITCHELL	137	81	59%	72%	86%	85%	86%	85%	78%	69%	62%	6%
MONONA	90	66	73%	58%	80%	76%	80%	77%	76%	68%	55%	5%
MONROE	95	76	80%	82%	91%	92%	93%	70%	95%	80%	57%	3%
MONTGOMERY	122	132	108%	69%	91%	88%	90%	52%	83%	64%	40%	3%
MUSCATINE	626	458	73%	61%	89%	80%	88%	85%	72%	74%	50%	6%
OBRIEN	183	175	96%	71%	95%	92%	95%	85%	91%	75%	63%	11%
OSCEOLA	80	56	70%	82%	95%	93%	95%	86%	88%	88%	71%	4%
PAGE	170	192	113%	71%	84%	83%	84%	74%	78%	76%	58%	6%
PALO ALTO	120	110	92%	81%	95%	94%	96%	96%	93%	87%	78%	9%
PLYMOUTH	327	213	65%	75%	92%	89%	92%	88%	89%	82%	67%	6%
POCAHONTAS	87	68	78%	74%	90%	87%	90%	88%	81%	85%	71%	7%
POLK	6840	3,611	53%	73%	87%	82%	87%	84%	82%	76%	66%	5%
POTTAWATTAMIE	1248	1,070	86%	72%	89%	80%	88%	78%	80%	78%	62%	4%
POWESHIEK	186	191	103%	70%	90%	87%	90%	87%	87%	76%	65%	2%
RINGGOLD	63	44	70%	77%	89%	86%	91%	86%	77%	82%	66%	2%
SAC	115	116	101%	72%	87%	91%	87%	77%	81%	78%	59%	3%
SCOTT	2340	1,818	78%	70%	91%	83%	91%	86%	83%	77%	61%	8%

**Table 3 Continued: 2-Year-Old Coverage**

County	County Population born in 2009 Estimate*	Total Records Analyzed from IRIS <sup>¶</sup>	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 <sup>#</sup>	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent <sup>†</sup>
SHELBY	113	119	105%	79%	90%	87%	90%	87%	88%	77%	74%	3%
SIOUX	520	462	89%	77%	94%	91%	94%	91%	88%	81%	71%	7%
STORY	1037	508	49%	80%	92%	90%	92%	90%	88%	86%	74%	5%
TAMA	243	176	72%	72%	94%	90%	94%	91%	89%	80%	68%	5%
TAYLOR	74	46	62%	76%	96%	89%	96%	87%	89%	80%	67%	7%
UNION	164	157	96%	79%	91%	90%	92%	89%	87%	83%	73%	7%
VAN BUREN	94	69	73%	67%	84%	77%	84%	81%	70%	58%	51%	10%
WAPELLO	477	508	107%	73%	94%	90%	93%	86%	90%	76%	63%	8%
WARREN	587	361	62%	78%	91%	86%	91%	87%	85%	82%	69%	4%
WASHINGTON	296	170	57%	54%	81%	78%	81%	74%	61%	67%	41%	4%
WAYNE	85	67	79%	75%	87%	91%	88%	69%	90%	76%	58%	7%
WEBSTER	487	443	91%	78%	93%	90%	93%	89%	89%	83%	74%	5%
WINNEBAGO	121	103	85%	67%	84%	83%	84%	84%	80%	71%	60%	6%
WINNESHIEK	197	190	96%	79%	92%	88%	92%	86%	83%	83%	69%	4%
WOODBURY	1647	862	52%	60%	84%	76%	84%	83%	76%	64%	56%	4%
WORTH	88	71	81%	72%	86%	89%	83%	87%	89%	70%	68%	7%
WRIGHT	168	173	103%	77%	92%	87%	92%	92%	84%	75%	70%	8%
Total	40,742	27,402	67%	72%	89%	84%	89%	85%	82%	76%	64%	6%

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

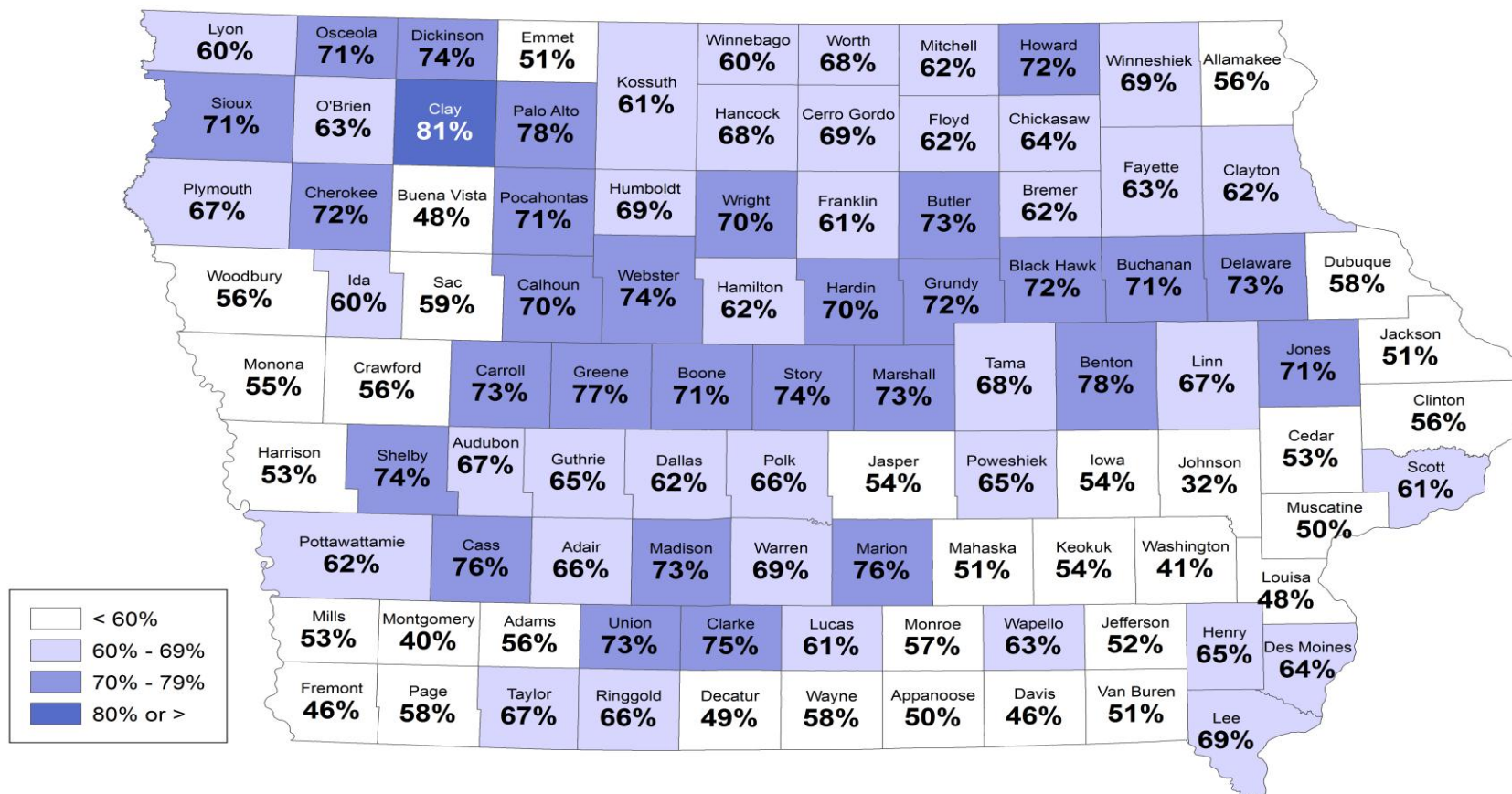
<sup>¶</sup> Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and in an Immunization Home

<sup>#</sup> 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

<sup>†</sup> 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



**2011 County Immunization Assessment**  
**2 Year Old Children - By 24 Months of Age**  
 Coverage for 4 DTap, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV Vaccine Series



**Table 4:** Iowa Department of Public Health, Immunization Program  
2011 County Adolescent Immunization Assessment  
13-15-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series

County	County Population 2009 Estimate 13-15 year old*	Total Records Entered In IRIS <sup>#</sup>	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 <sup>¶</sup>	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
ADAIR	250	228	91%	88%	54%	81%	0%	66%	50%	37%	120	27%
ADAMS	145	138	95%	78%	30%	75%	2%	37%	29%	12%	65	26%
ALLAMAKEE	528	631	120%	87%	29%	80%	4%	31%	28%	10%	300	12%
APPANOOSE	440	417	95%	68%	13%	59%	2%	29%	9%	4%	182	12%
AUDUBON	262	237	91%	89%	45%	84%	5%	66%	41%	31%	116	22%
BENTON	1123	912	81%	81%	53%	79%	2%	64%	48%	30%	410	32%
BLACK HAWK	4405	5365	122%	89%	60%	88%	2%	62%	55%	41%	2633	33%
BOONE	990	916	93%	79%	62%	75%	1%	66%	38%	30%	445	32%
BREMER	923	823	89%	68%	53%	66%	3%	59%	35%	20%	402	31%
BUCHANAN	881	986	112%	78%	46%	78%	2%	63%	47%	33%	430	29%
BUENA VISTA	835	1110	133%	82%	28%	76%	4%	34%	28%	13%	511	14%
BUTLER	546	526	96%	71%	48%	72%	2%	60%	39%	21%	262	32%
CALHOUN	348	453	130%	75%	49%	67%	2%	64%	17%	10%	227	17%
CARROLL	820	889	108%	68%	28%	60%	1%	58%	14%	6%	414	14%
CASS	497	588	118%	91%	51%	84%	2%	64%	58%	47%	283	27%
CEDAR	757	530	70%	67%	35%	62%	2%	51%	24%	14%	252	24%
CERRO GORDO	1573	1645	105%	87%	58%	77%	1%	67%	49%	38%	794	29%
CHEROKEE	453	464	102%	90%	56%	82%	1%	58%	50%	39%	225	34%
CHICKASAW	486	492	101%	86%	41%	82%	1%	65%	36%	21%	220	25%
CLARKE	355	399	112%	81%	38%	76%	2%	43%	31%	18%	188	18%
CLAY	629	637	101%	84%	34%	67%	1%	36%	22%	11%	298	12%
CLAYTON	640	561	88%	75%	18%	63%	3%	47%	24%	10%	251	7%
CLINTON	1939	1448	75%	81%	30%	75%	1%	54%	25%	16%	686	14%
CRAWFORD	705	832	118%	82%	34%	74%	4%	53%	34%	19%	399	24%

**Table 4 continued: 13-15 Year-Old coverage**

County	County Population 2009 Estimate 13-15 year-old*	Total Records Entered In IRIS <sup>#</sup>	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 <sup>†</sup>	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
DALLAS	2872	1752	61%	69%	47%	67%	2%	57%	32%	21%	760	22%
DAVIS	420	400	95%	79%	13%	74%	2%	37%	14%	6%	195	10%
DECATUR	276	353	128%	83%	28%	72%	3%	33%	13%	9%	185	11%
DELAWARE	722	708	98%	87%	53%	80%	1%	63%	65%	40%	366	26%
DES MOINES	1546	1700	110%	80%	14%	71%	2%	50%	22%	6%	847	10%
DICKINSON	519	612	118%	93%	16%	84%	2%	19%	10%	6%	289	9%
DUBUQUE	3718	1731	47%	87%	24%	60%	2%	30%	24%	15%	831	11%
EMMET	348	437	126%	78%	15%	61%	2%	44%	10%	4%	214	11%
FAYETTE	769	741	96%	76%	21%	65%	2%	56%	31%	9%	310	17%
FLOYD	655	645	99%	78%	25%	63%	1%	37%	18%	10%	310	12%
FRANKLIN	426	393	92%	68%	29%	66%	2%	62%	32%	15%	184	22%
FREMONT	286	237	83%	83%	52%	80%	2%	55%	49%	33%	100	26%
GREENE	355	412	116%	81%	36%	75%	1%	54%	26%	19%	181	29%
GRUNDY	439	431	98%	77%	45%	75%	2%	64%	42%	26%	215	25%
GUTHRIE	419	523	125%	81%	32%	75%	4%	56%	31%	19%	238	17%
HAMILTON	606	669	110%	92%	33%	88%	3%	45%	23%	16%	313	16%
HANCOCK	447	480	107%	92%	44%	89%	4%	66%	49%	28%	217	25%
HARDIN	610	686	113%	71%	46%	71%	1%	63%	38%	24%	325	26%
HARRISON	630	524	83%	62%	55%	52%	3%	58%	30%	21%	252	34%
HENRY	747	851	114%	85%	25%	80%	2%	46%	32%	16%	420	12%
HOWARD	373	453	121%	79%	43%	64%	3%	58%	32%	20%	221	26%
HUMBOLDT	364	420	115%	84%	48%	79%	2%	60%	45%	30%	187	27%
IDA	260	277	107%	84%	28%	76%	2%	34%	25%	12%	135	20%
IOWA	672	492	73%	81%	24%	67%	0%	50%	18%	8%	242	20%
JACKSON	816	425	52%	84%	15%	59%	1%	33%	22%	6%	191	13%
JASPER	1416	1068	75%	65%	38%	57%	1%	47%	25%	16%	458	13%
JEFFERSON	554	364	66%	76%	17%	61%	2%	23%	14%	9%	170	11%
JOHNSON	3834	2558	67%	80%	29%	64%	4%	41%	31%	15%	1138	16%
JONES	727	659	91%	72%	64%	69%	2%	68%	37%	28%	317	21%

**Table 4 continued: 13-15 Year-Old coverage**

County	County Population 2009 Estimate 13-15 year-old*	Total Records Entered in IRIS <sup>#</sup>	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 <sup>¶</sup>	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
KEOKUK	390	349	90%	74%	33%	60%	1%	41%	21%	12%	174	17%
KOSSUTH	585	657	112%	94%	31%	87%	2%	56%	42%	19%	322	16%
LEE	1331	1032	78%	85%	38%	71%	1%	48%	36%	24%	481	23%
LINN	8130	6483	80%	78%	51%	71%	1%	57%	37%	28%	3031	23%
LOUISA	494	535	108%	75%	20%	68%	2%	31%	18%	9%	260	13%
LUCAS	379	298	79%	73%	48%	72%	1%	59%	42%	29%	150	25%
LYON	461	431	94%	75%	30%	66%	2%	55%	34%	13%	207	7%
MADISON	714	644	90%	71%	53%	65%	2%	69%	38%	26%	314	26%
MAHASKA	860	636	74%	73%	43%	59%	1%	53%	22%	17%	286	16%
MARION	1276	1429	112%	77%	49%	69%	2%	61%	27%	20%	655	15%
MARSHALL	1519	1994	131%	90%	60%	86%	2%	59%	54%	42%	878	33%
MILLS	670	598	89%	54%	41%	46%	1%	51%	27%	18%	289	24%
MITCHELL	456	377	83%	59%	37%	54%	3%	58%	8%	5%	191	19%
MONONA	317	372	117%	91%	42%	81%	1%	55%	49%	30%	186	23%
MONROE	296	273	92%	62%	49%	55%	1%	69%	34%	19%	108	28%
MONTGOMERY	412	507	123%	66%	46%	56%	2%	50%	19%	11%	245	24%
MUSCATINE	1723	1292	75%	75%	33%	57%	3%	41%	25%	14%	610	17%
OBRIEN	536	589	110%	80%	44%	70%	2%	50%	17%	9%	280	26%
OSCEOLA	250	279	111%	88%	29%	73%	1%	31%	12%	6%	127	9%
PAGE	512	611	119%	74%	45%	70%	3%	47%	36%	20%	303	19%
PALO ALTO	290	395	136%	89%	24%	83%	3%	52%	27%	12%	185	16%
PLYMOUTH	1102	1018	92%	83%	27%	73%	1%	46%	25%	15%	485	16%
POCAHONTAS	264	272	103%	79%	50%	76%	3%	58%	36%	25%	132	26%
POLK	16521	16226	98%	70%	55%	68%	3%	59%	40%	28%	7692	22%
POTTAWATTAMIE	3349	3240	97%	62%	48%	55%	1%	56%	33%	23%	1574	29%
POWESHIEK	652	740	114%	80%	26%	75%	1%	44%	11%	6%	336	12%
RINGGOLD	185	218	118%	89%	54%	81%	0%	61%	52%	45%	102	28%
SAC	404	394	98%	84%	31%	74%	3%	48%	27%	11%	197	20%
SCOTT	6466	6841	106%	69%	40%	63%	1%	56%	34%	24%	3280	21%

**Table 4 continued: 13-15 Year-Old coverage**

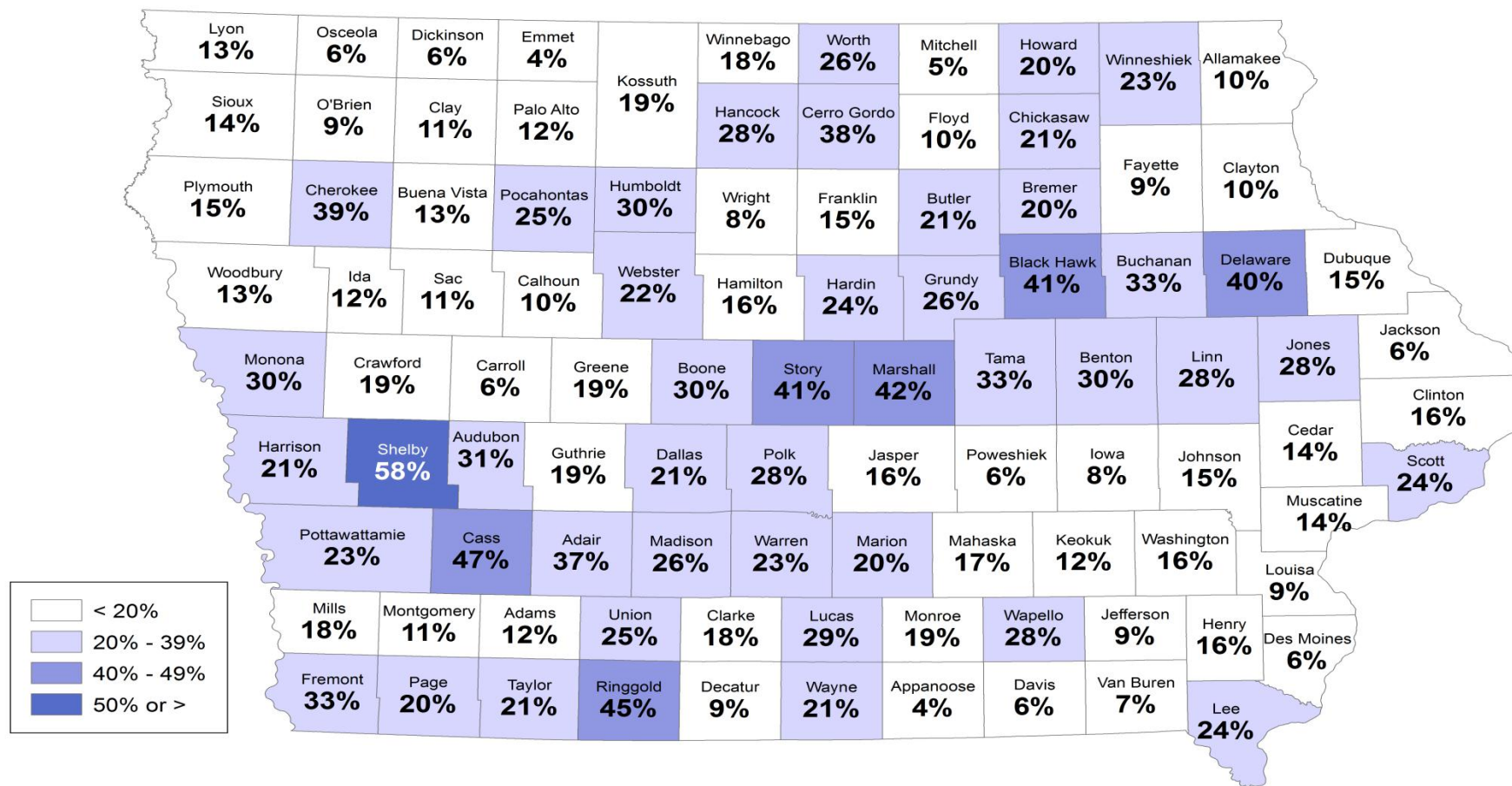
County	County Population 2009 Estimate 13-15year-old*	Total Records Entered In IRIS <sup>#</sup>	Percent of Population in IRIS	3 Hep B Coverage Percent	1 Meningitis Coverage Percent	2 MMR Coverage Percent	1 Td Coverage Percent	1 Tdap Coverage Percent	2 Varicella Coverage Percent	Up-to-Date 3-1-2-1-2 Coverage Percent <sup>¶</sup>	13-15 Yr Old Female Records	3 HPV Female Coverage Percent
SHELBY	488	543	111%	95%	71%	91%	1%	75%	66%	58%	271	28%
SIOUX	1308	1456	111%	76%	31%	69%	4%	47%	28%	14%	726	6%
STORY	2285	2171	95%	79%	55%	72%	2%	63%	48%	41%	1008	22%
TAMA	780	763	98%	80%	56%	78%	1%	64%	47%	33%	349	32%
TAYLOR	256	277	109%	81%	40%	71%	2%	47%	36%	21%	130	28%
UNION	464	493	106%	90%	41%	81%	2%	42%	42%	25%	265	18%
VAN BUREN	274	308	112%	81%	13%	73%	3%	37%	26%	7%	156	19%
WAPELLO	1238	1623	131%	71%	49%	66%	2%	53%	38%	28%	787	21%
WARREN	2035	2032	100%	63%	47%	64%	1%	65%	36%	23%	965	22%
WASHINGTON	874	780	89%	81%	30%	74%	4%	41%	36%	16%	396	17%
WAYNE	210	133	63%	80%	36%	68%	3%	44%	43%	21%	67	16%
WEBSTER	1409	1660	118%	81%	48%	78%	4%	54%	33%	22%	807	28%
WINNEBAGO	409	352	86%	82%	28%	71%	1%	39%	28%	18%	158	13%
WINNESHIEK	716	749	105%	83%	35%	77%	1%	67%	38%	23%	362	25%
WOODBURY	4390	4842	110%	83%	22%	64%	3%	23%	20%	13%	2313	13%
WORTH	294	293	100%	84%	46%	72%	1%	64%	39%	26%	147	28%
WRIGHT	470	559	119%	74%	29%	66%	2%	50%	15%	8%	272	19%
Total	114,800	109,992	96%	77%	43%	70%	2%	53%	35%	23%	52,183	21%

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

<sup>#</sup> Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and in an Immunization Home.

<sup>¶</sup> 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

2011 County Adolescent Immunization Assessment  
13 - 15 Year Old Adolescents  
Coverage for 3 Hep B, 1 Meningitis, 2 MMR, 1 Td or Tdap and 2 Varicella Vaccine Series



## Immunization Program Directory

<b>Immunization Program</b> <a href="http://www.idph.state.ia.us/ImmTb/immunization.aspx">www.idph.state.ia.us/ImmTb/immunization.aspx</a> <b>1-800-831-6293</b> <b>Fax 1-800-831-6292</b>			
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Tory King	IRIS Help Desk Staff	515-281-7992	<a href="mailto:Tory.King@idph.iowa.gov">Tory.King@idph.iowa.gov</a>
Cindy Oliver	IRIS Help Desk Staff	515-281-6983	<a href="mailto:Cindy.Oliver@idph.iowa.gov">Cindy.Oliver@idph.iowa.gov</a>
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