
IOWA
Immunization Program

Annual Report 2013

Iowa Department of Public Health

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Introduction

The mission of the Iowa Immunization Program is to decrease vaccine-preventable diseases through education, advocacy and partnership. Vaccines have been hailed as one of the greatest public health achievements of the 20th century and one of the most economical health interventions known to man.

Infectious diseases once common in the U.S. are now rare because of the widespread use of vaccines. For every \$1 spent on each of the eleven vaccines given routinely to children, our country saves \$10.10 in medical costs by averting costs to treat diseases. Without routine vaccination, direct costs to the U.S. would be \$13.5 billion and \$68.8 billion in societal costs (a measurement of losses due to missed work, death and disability as well as direct medical costs). Annually, nearly 20 million cases of infectious diseases and 42,000 deaths are averted in the United States through timely vaccination. During the past decade many new vaccines have been introduced and added to the recommended immunization schedule, which helps protect both individuals and communities.

Achieving and maintaining high vaccination rates are two of the most important safeguards to prevent the spread of vaccine-preventable diseases. Immunization rates in Iowa are consistent with or exceed national averages. However, viruses and bacteria causing vaccine-preventable diseases still exist and can be passed on to people who are not protected by vaccines. Communities with pockets of unvaccinated and under-vaccinated populations are at increased risk for outbreaks of vaccine-preventable diseases. The Iowa Immunization Program provides immunization services throughout the state and includes the following programs: Adolescent Immunization, Adult Immunization, Immunization Registry Information System (IRIS), Vaccines for Children (VFC), Perinatal Hepatitis B, and Immunization Assessment.

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 2013 calendar year. It also serves as an annual informational resource for stakeholders, local partners, policy makers and the general public. Iowa-specific immunization coverage rates, funding sources, and program-specific data appear in tables and maps throughout the report. These tables and maps demonstrate not only immunization coverage levels, but also collaboration and work being done at the local level by public and private health care providers. This report also highlights special projects and initiatives to increase Iowans' access to vaccines.

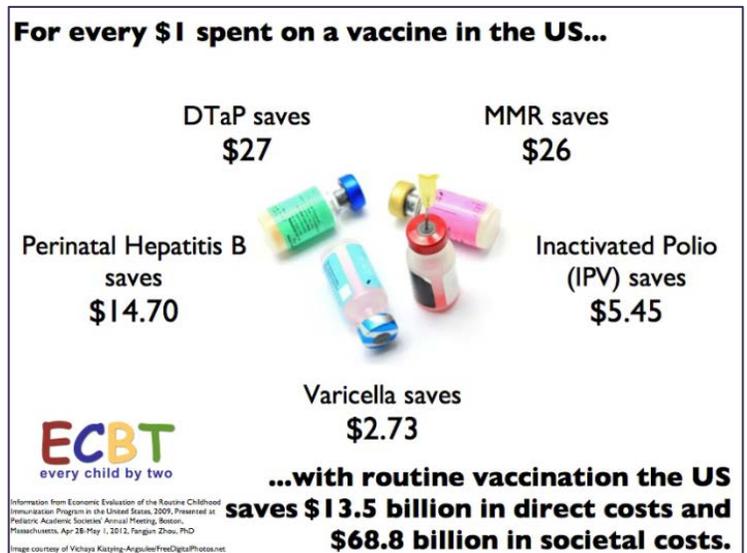


Figure 1: Direct Cost savings of vaccinations

Immunization Program Funding

In calendar year 2013, the Immunization Program received funds from the federal Vaccines for Children Program (VFC), federal 317 grant program, state funds, and Federal Prevention and Public Health funds totaling \$31,667,170 (Table 1).

Funding Source	Calendar Year 2013
Federal VFC	\$25,487,733
Federal 317	\$3,306,175
State	\$590,159
Federal PPHF	\$2,283,103
Total	\$31,667,170

Table 1: Calendar year 2013 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.

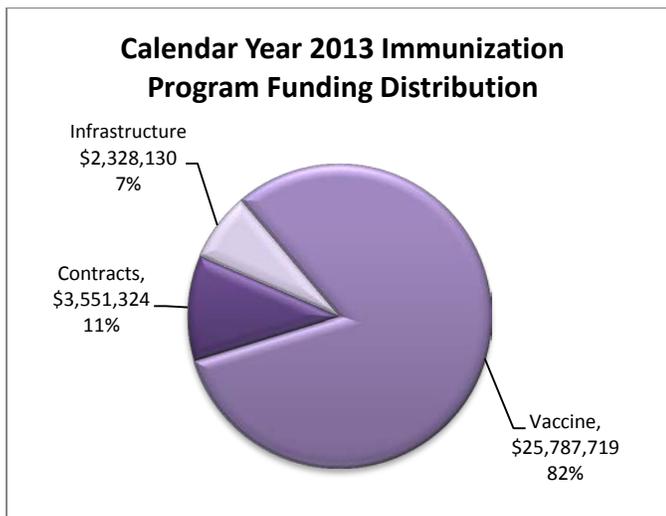


Figure 2: Calendar Year 2013 Immunization Program Funding Distribution

Vaccine Funds

The Immunization Program completes annual population estimates and vaccine forecasting for Iowa's population, which is used by CDC to determine vaccine funding for the upcoming year. 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 2013. Of the program's \$31 million dollar 2013 budget, over \$25 million was spent on vaccines.

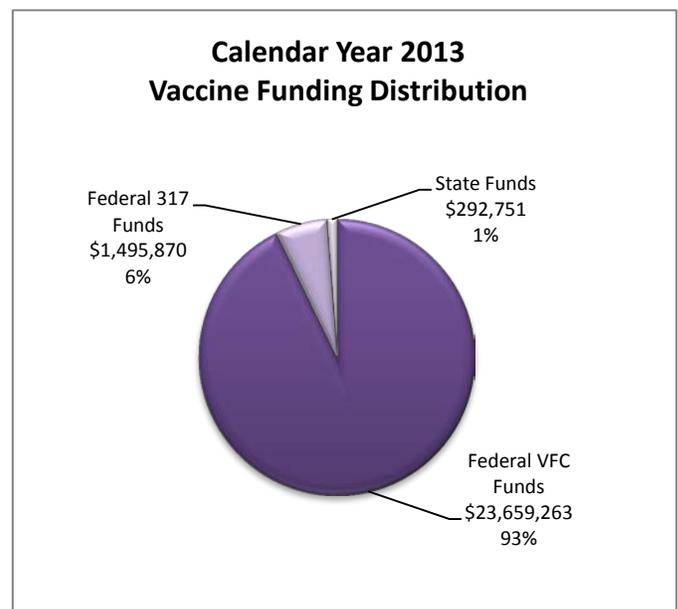


Figure 3: Calendar year 2013 vaccine funding distribution

In 2013, Iowa received \$23,659,263 from the federal VFC Program for vaccine. These funds account for 93 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 2013, Iowa received \$1,495,870 in 317 grant funds which comprises six percent of the program's total vaccine budget. In 2013, Iowa used federal 317 grant funds to vaccinate underinsured children served by select public health agencies.

In 2013, \$292,751 of state funds were used to purchase vaccine which comprised one percent of the program's total vaccine budget. State funds are used to pay for vaccines for children who do not meet VFC eligibility requirements.

Special Projects

Local Public Health Billing Project

In 2013, Iowa received a grant award from the Prevention and Public Health Fund (PPHF) to assist in implementing billing programs in Local Public Health Agencies (LPHA) throughout the state. The award assisted LPHA in overcoming barriers identified with initiating a billing program. Funds were used to contract with HS Medical Billing for the following activities: provide one-on-one consultation to 45 of Iowa's LPHA to establish successful billing programs; train LPHA staff on contracting, billing, credentialing, coding and other components of billing; and continue the LPHA Billing Hotline.

Adult Vaccination Special Project

The Immunization Program worked on year two activities with the PPHF grant to improve adult immunizations in Iowa. Award of these grant funds allows the Iowa Immunization Program to establish collaboration between employers, pharmacies, and local public health agencies to improve adult immunization rates.

Grant activities included:

- Evaluate where Iowans receive influenza vaccines (e.g., local public health agencies, pharmacies, employee vaccination programs, or private physician offices) by adding questions to the Behavioral Risk Factor Surveillance System (BRFSS).
- Develop an employer vaccination resources toolkit through Safeguard Iowa Partnership (SIP) to include best practices and sample resources. The goals of the project are to provide education regarding the benefits of employer vaccination programs, enhance relationships with employers and community vaccinators and increase vaccination rates of employees.
- Develop an adult immunization media campaign through a contract with the Iowa Immunization Coalition (IIC). The IIC collaborated with LPHA to utilize the Coalition's media campaign and tools and to provide education to the public and health care providers regarding adult immunizations.
- Evaluate and increase immunization rates among health care workers (HCW) in long-term care facilities (LTCF) and ambulatory surgery centers (ASC). Immunization rates of HCW vary greatly by occupational group and demographics. Funds were utilized by Iowa Healthcare Collaborative to evaluate HCW immunization rates by expanding current strategies used with hospital settings to increase health care worker influenza vaccination rates. Baseline data indicates 76 percent of health care workers from ASC and LTCF were immunized for influenza during the 2012-13 influenza season.

Tdap Secondary School Requirement

The Iowa Department of Public Health (IDPH), Bureau of Immunization, completed the administrative rules process to require tetanus, diphtheria, and pertussis (Tdap) vaccine for students enrolling in 7th grade. The administrative rule change was effective January 16, 2013, and was implemented at the beginning of the 2013-2014 school year. The change requires a one-time booster dose of tetanus, diphtheria, and acellular pertussis-containing vaccine for applicants in grades 7 and above, if born on or after September 15, 2000, regardless of the interval since the last tetanus/diphtheria containing vaccine.

Immunization Education

2013 Immunization Conference

Nearly 800 health professionals attended the 2013 Iowa Department of Public Health (IDPH) Immunization Conference in Des Moines on June 12 and 13. The two-day 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 this year from 14 states. Conference speakers included Dr. Bill Foege, Bill and Melinda Gates Foundation; 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. Anne Schuchat, CDC National Immunization Program; Dr. Stephen Rinderknecht, Unity Point Health System; Dr. Gregory A. Poland, Vaccine Research Group at the Mayo Clinic in Rochester, Minnesota; Caroline Poland, Taylor University Counseling Center; and Dr. Tom Evans, Iowa Healthcare Collaborative.

Immunization Update Newsletter

The Immunization Update is a quarterly newsletter produced and distributed by the Iowa Immunization Program. This newsletter features important immunization information, vaccine recommendations, changes regarding the Vaccine for Children program, IRIS, and storage and handling guidelines. Health care providers will also find practical vaccination resources, a question and answer corner and training announcements.

Current and past issues of the newsletter can be found on the Immunization web site at <http://www.idph.state.ia.us/ImmTB/Immunization.aspx?prog=Imm&pg=Newsletters>
To receive Immunization Program updates directly, send a blank e-mail to: join-IMMUNIZATION@lists.ia.gov

Brochures and Print Materials

The Immunization Program offers educational materials for parents and health care providers. Materials include brochures, school/child care audit forms, IRIS postcards, temperature logs, posters and VFC program forms. Educational materials can be printed or ordered free of charge from the Health Protection Clearinghouse. In 2013, the Immunization Program shipped 160,966 pieces of educational materials which is an average of 3,100 items per week. Immunization educational materials may be ordered by one of the following options:

- Call 888-398-9696
- Online – Immunization Program webpage www.idph.state.ia.us/ImmTB/Immunization.aspx
- Fax the order form to 866-499-8846

Immunization Consultation

The Iowa Immunization Program staff is available Monday - Friday 8:00 a.m. - 4:30 p.m. for consultation regarding program activities and immunization related questions. Please refer to Appendix A, Immunization Staff Directory, for contact information.

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 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.

IRIS Trainings

IRIS staff provided more than 20 training opportunities throughout the year. Training opportunities included webinars on the following topics: monthly question and answer session, vaccine ordering and IRIS access/password reset. More than 1,200 IRIS users participated in these trainings.

IRIS Users and Organizations

Enrollment in IRIS is available to all health care providers in Iowa that administer immunizations. In 2013, 416 new providers enrolled in IRIS for a total of 2,044 participating health care provider sites. Sites include private health care clinics, local public health agencies, rural health clinics, hospitals, pharmacies, and long-term care centers. In 2013, 220 pharmacies enrolled in IRIS, comprising the largest organization type to enroll during the year. More than 400 public and private schools have access to IRIS, allowing school nurses to view and print students' immunization records.

Password reset functionality was a significant enhancement in 2013, which allows the more than 12,000 IRIS users to reset their own passwords. Forgotten password calls generated almost 40

percent of total call volume to the IRIS Help Desk. Iowa was the first states using a version of the Wisconsin Immunization Registry (WIR) to develop password reset functionality. Several other states have expressed interest in obtaining Iowa's code for this functionality.

IRIS - Interoperability Funding

In 2012, Iowa received funds from the Prevention and Public Health Fund (PPHF) to enhance interoperability between electronic health records (EHRs) and IRIS. Funds were used to contract with Hewlett Packard Enterprise Services (HPES) to make programming enhancements in IRIS, including HL7 2.5.1 file format and web services transport. Throughout 2013, the immunization program worked with multiple health care providers to begin sending electronic files to IRIS. During this time, 224 organizations began exchanging electronic immunization data with IRIS.

IRIS Quick Stats - 2013

- o Total number of immunizations in IRIS: **26,617,633**
- o Total number of clients/patients in IRIS: **2,943,749**
- o Number of organizations enrolled in IRIS: **2,044**
- o Total number of registered users: **12,232**

IRIS – VTrckS

The Centers for Disease Control and Prevention (CDC) implemented a new vaccine ordering and management system for all immunization projects. Iowa received funds from the PPHF in 2012 to develop a vaccine ordering module in IRIS that interfaces with CDC's Vaccine Tracking System

(VTrckS). The Immunization Program used these funds to contract with HPES to make enhancements to IRIS. Iowa transitioned to VTrckS April 1, 2013. Throughout 2013, IRIS staff trained health care providers regarding the new functionality.

The number of patients in IRIS has steadily increased, and nearly all Iowans have a record in IRIS (Table 2). More than 263,000 patient records were added in 2013, and IRIS contains more than 26.6 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.

Number of Patients in IRIS by Year			
Year	Patient Records in IRIS	Population of Iowa*	Percent of Population in IRIS
2008	1,740,291	2,997,608	58
2009	2,108,766	3,004,163	70
2010	2,436,632	3,009,907	81
2011	2,526,934	3,014,826	84
2012	2,680,949	3,018,988	89
2013	2,943,749	3,022,322	97

*Population CDC Wonder - <http://wonder.cdc.gov/population-projections.html>

Table 2: Number of patients in IRIS compared to Iowa's population

Vaccines for Children Program (VFC)

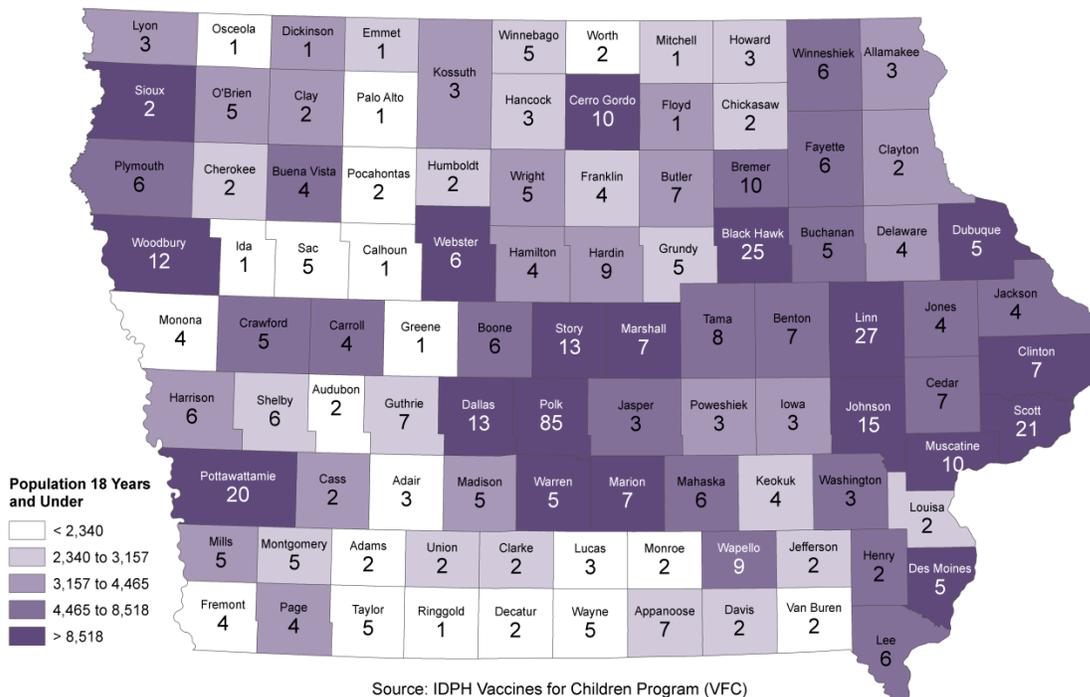


The Vaccines for Children (VFC) program is a federally funded program providing vaccines at no cost to eligible children from birth through 18 years of age. Eligible children include those who are: enrolled in Medicaid, uninsured, underinsured, American Indian or Alaskan Native. The VFC program provides vaccine for approximately 45 percent, or 343,831 of Iowa's children from birth through 18 years of age. In 2013, the Iowa VFC program distributed 643,815 doses of vaccine (Table 3), valued at more than \$25 million, to VFC-enrolled health care providers.

As of December 31, 2013, Iowa's VFC program had 599 participating providers enrolled throughout the state. 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, Federally Qualified Health Centers, and family planning clinics. Figure 4 includes the number of VFC providers by county and the number of children in the county, less than 18 years of age.

Vaccines	Doses Distributed
DT	73
DTaP	25,710
DTaP-IPV (Kinrix)	14,960
DTaP-IPV/Hib (Pentacel)	3,850
DTaP-IPV-Hep B (Pediatrix)	48,760
Tdap	29,110
Td	660
Hep A	53,760
Hep B	18,970
Hep A-Hep B (Twinrix)	1,340
Hep B/Hib (Comvax)	980
Hib	61,385
HPV	30,826
IPV	14,610
MMR	24,351
MMR-Varicella (MMRV)	17,290
MCV	19,690
PCV 13	76,610
Rotavirus	46,080
Varicella	29,450
Influenza	125,350
Total Doses Distributed	643,815

Table 3: 2013 VFC vaccine doses distributed



Source: IDPH Vaccines for Children Program (VFC)
Prepared by: IDPH Bureau of Information Management, GIS Services

Figure 4: Number of VFC Providers in Iowa by County and Population Less than 18 Years of Age

Hepatitis B Program

Perinatal Hepatitis B Program

Iowa's Perinatal Hepatitis B Program works to prevent transmission of hepatitis B infection from mothers to infants by conducting parent and health care provider education, case management of mothers and babies, distribution of hepatitis B vaccine and hepatitis B immune globulin (HBIG) and laboratory testing. Hepatitis B is a serious disease caused by the hepatitis B virus (HBV), which can be transmitted from an infected mother to her infant at birth. In 2012, there were 75 infants born to hepatitis B positive mothers, which is an additional three children from the previous year (Figure 5).

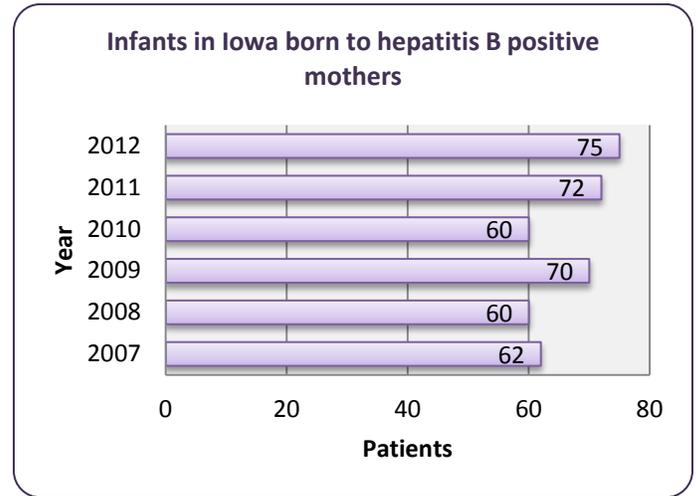


Figure 5: Iowa infants born to hepatitis B positive mothers

Universal Hepatitis B Vaccine Birth Dose Program

The Immunization Program provides hepatitis B vaccine to hospitals to universally administer the birth dose of hepatitis B vaccine to all newborns regardless of insurance coverage. In 2013, 22 of 79 birthing hospitals in Iowa were enrolled in the Universal Hepatitis B Vaccine Birth Dose Program. The 2012, 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 68.3 percent. Iowa ranks 48 out of the 63 assessed immunization projects. Despite the low ranking, the hepatitis B birth dose rate increased by 16 percentage points from 2010. The program continues initiatives 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, and encouraging birthing hospitals to enroll in the Immunization Action Coalition's (IAC) Hepatitis B Birth Dose Honor Roll.

Perinatal Hepatitis B Prevention Champions in Iowa

In 2013 the Immunization Action Coalition's (IAC) created the Hepatitis B Birth Dose Honor Roll. The Honor Roll was created to recognize hospitals and birth centers who achieved 90 percent or greater coverage rate of administering hepatitis B vaccine to newborns prior to discharge. To protect newborns from hepatitis B viral infection, birthing hospitals who qualify must also implement written policies, procedures, and protocols including:

- A standing order to administer the hepatitis B vaccine to all infants is included as a part of routine newborn admission orders.
- All newborns routinely receive hepatitis B vaccine after birth, prior to discharge.
- Mother's HBsAg screening test result is reviewed, and original result is included in her chart as well as the infant's chart.
- If an incorrect test was ordered or is missing, an HBsAg blood test is ordered ASAP on the mother.
- Infants born to HBsAg-positive mothers receive hepatitis B immune globulin (HBIG) and hepatitis B vaccine within 12 hours of birth.
- Notification to the state or county health department's perinatal hepatitis B prevention program prior to discharge for all mothers whose HBsAg test result is positive.
- Infants born to mothers whose HBsAg status is unknown receive hepatitis b vaccine within 12 hours of birth.
- Infants who weigh less than 2000 grams who are born to mothers whose HBsAg status is unknown receive HBIG within 12 hours of birth.

Congratulation to the following Iowa hospitals for their inclusion into IAC's Hepatitis B Birth Dose Honor Roll:

- Myrtue Medical Center, Harlan, IA
 - Reported a coverage rate of 94% from 7/1/2012 to 6/30/2013
- Greene County Medical Center, Jefferson, IA
 - Reported a coverage rate of 100% from 11/1/2012 to 10/31/2013
- Mary Greeley Medical Center, Ames, IA
 - Reported a coverage rate of 93% from 1/1/2013 to 12/31/2013

High-Risk Adult Hepatitis B Program

The Immunization Program in collaboration with the Hepatitis 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. In 2013, the Immunization Program distributed 1,350 doses of adult hepatitis A/hepatitis B vaccine (Twinrix) and 40 doses of adult hepatitis B vaccine to local public health agencies.

Immunization Assessments

Immunizations assessments serve as a means to evaluate immunization practices and progress towards achieving established goals. Immunization records are assessed to determine the percentage of patients who are age-appropriately vaccinated consistent with the recommended immunization schedule. Immunization assessment data are used to improve health care providers' standard immunization practices and immunization delivery systems and to guide strategies and policies, which directly impact the overall immunization rates of their patients.

School and Child Care Audits

Assessments of children attending elementary or secondary school or licensed child care centers are conducted annually 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. Local public health agencies perform annual audits of immunization records for students enrolled in public, private, and parochial K-12 schools and children in licensed child care centers. Audits for the 2012-2013 school year indicate 99.19 percent of children enrolled in kindergarten through 12th grade were compliant with the law and had an appropriate immunization certificate (Table 4), while 95.09 percent of children audited in child care centers were compliant with the law (Table 5).

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 adolescents 13 -15 years of age. 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 with a record in IRIS that have a zip code and are an 'active' patient within a health care provider organization. A patient's status becomes active in an organization when an immunization is administered or when the health care provider selects this status on a patient record.

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 percentage of records in IRIS. These data are used to calculate the percentage of records in IRIS for each county. The population percentage by county ranges from 23-135 percent with a state average of 70 percent for 2-year-old children and range from 29-111 percent with a state average of 81 percent for adolescents, 13-15 years of age. Rates 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 37 to 88 percent, with a state immunization rate of 71 percent. The state immunization rate includes the assessment of 31,539 patient records, which is approximately 83 percent of Iowa's 2-year-old population (Table 6).

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 eight to 66 percent, with an average state immunization rate of 39 percent. The state immunization rate includes the assessment of 110,214 patient records, which is approximately 91 percent of Iowa's 13-15-year-old population. The county immunization rate for HPV vaccine received by adolescent girls, 13-15 years of age, ranges from 10 to 44 percent, with an average state immunization rate of 25 percent. The county immunization rate for HPV vaccine received by adolescent males, 13-15 years of age, range from two to 30 percent, with an average state immunization rate of 10 percent (Table 7).

Conclusion

The Immunization Program's vision is healthy Iowans living in communities free of vaccine-preventable diseases. Iowa health care providers are on the forefront to achieve this vision by promoting vaccines and providing sound science-based immunization education to their patients.

As included in this report, many barriers have been overcome that once limited the widespread availability and use of vaccines. Vaccine-preventable diseases, once common, are now rare due to the availability of vaccines and the achievement of high immunization rates. Although there are many successes, pockets of unimmunized and under immunized people remain and are susceptible to vaccine-preventable diseases. We cannot rest on our past achievements and successes but must remain diligent in promoting and protecting the health of Iowans against vaccine preventable diseases. The Iowa Immunization Program is committed to promoting immunizations through the implementation of strategies to achieve and maintain high vaccination levels. Vaccines prevent diseases and save lives, immunize for a better life.

Tables and Maps

**Table 4: Iowa Department of Public Health - Immunization Program
Immunization Audit 2012-2013 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	806	21	4	3	4	834	838	99.52
Adams	453	0	4	5	13	462	475	97.26
Allamakee	2169	3	16	15	133	2203	2336	94.31
Appanoose	1879	40	3	8	6	1930	1936	99.69
Audubon	691	5	2	6	0	704	704	100.00
Benton	4058	47	15	67	2	4187	4189	99.95
Black Hawk	18549	209	50	107	249	18915	19164	98.70
Boone	3874	48	18	22	0	3962	3962	100.00
Bremer	4649	29	11	39	16	4728	4744	99.66
Buchanan	3063	38	8	303	22	3412	3434	99.36
Buena Vista	3754	158	52	16	28	3980	4008	99.30
Butler	2200	24	0	9	7	2233	2240	99.69
Calhoun	1467	9	5	4	10	1485	1495	99.33
Carroll	3686	30	28	36	0	3780	3780	100.00
Cass	2391	12	14	17	24	2434	2458	99.02
Cedar	3296	29	6	44	26	3375	3401	99.24
Cerro Gordo	6062	102	12	51	46	6227	6273	99.27
Cherokee	1680	28	11	15	0	1734	1734	100.00
Chickasaw	1920	12	5	59	0	1996	1996	100.00
Clarke	1625	41	4	10	24	1680	1704	98.59
Clay	2343	28	15	14	7	2400	2407	99.71
Clayton	2454	32	3	33	1	2522	2523	99.96
Clinton	7720	152	48	115	6	8035	8041	99.93
Crawford	3314	107	14	5	37	3440	3477	98.94
Dallas	14880	91	115	125	11	15211	15222	99.93
Davis	1276	7	19	2	0	1304	1304	100.00
Decatur	1072	30	10	60	39	1172	1211	96.78
Delaware	2858	6	10	6	1	2880	2881	99.97
Des Moines	6792	52	12	47	68	6903	6971	99.02
Dickinson	2397	16	43	26	0	2482	2482	100.00

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Dubuque	16844	135	52	187	34	17218	17252	99.80
Emmet	1437	22	5	9	1	1473	1474	99.93
Fayette	2827	91	13	30	0	2961	2961	100.00
Floyd	2505	47	3	84	32	2639	2671	98.80
Franklin	1714	44	2	8	10	1768	1778	99.44
Fremont	1141	20	4	8	8	1173	1181	99.32
Greene	1390	19	6	15	19	1430	1449	98.69
Grundy	2107	32	2	12	9	2153	2162	99.58
Guthrie	2064	28	13	17	16	2122	2138	99.25
Hamilton	2605	16	5	22	0	2648	2648	100.00
Hancock	1514	28	1	9	1	1552	1553	99.94
Hardin	2812	54	5	16	47	2887	2934	98.40
Harrison	2392	38	7	21	4	2458	2462	99.84
Henry	3290	17	11	21	30	3339	3369	99.11
Howard	1717	46	8	30	36	1801	1837	98.04
Humboldt	1502	54	1	19	11	1576	1587	99.31
Ida	1094	20	5	16	5	1135	1140	99.56
Iowa	2866	26	7	17	19	2916	2935	99.35
Jackson	2876	4	3	97	102	2980	3082	96.69
Jasper	5569	72	41	57	28	5739	5767	99.51
Jefferson	1660	144	8	167	0	1979	1979	100.00
Johnson	16071	546	52	277	195	16946	17141	98.86
Jones	2965	13	4	13	9	2995	3004	99.70
Keokuk	1717	31	2	7	0	1757	1757	100.00
Kossuth	2318	35	8	26	38	2387	2425	98.43
Lee	5391	73	19	26	6	5509	5515	99.89
Linn	36478	264	349	479	863	37570	38433	97.75
Louisa	2355	23	2	9	0	2389	2389	100.00
Lucas	1348	14	2	54	16	1418	1434	98.88
Lyon	1929	36	9	23	30	1997	2027	98.52
Madison	3243	41	14	59	6	3357	3363	99.82
Mahaska	3053	62	4	23	44	3142	3186	98.62
Marion	5827	53	47	90	210	6017	6227	96.63
Marshall	7038	209	14	19	7	7280	7287	99.90
Mills	2492	17	9	30	10	2548	2558	99.61
Mitchell	1578	2	1	54	110	1635	1745	93.70
Monona	1288	14	5	10	0	1317	1317	100.00
Monroe	1131	7	7	6	3	1151	1154	99.74
Montgomery	1681	16	1	2	15	1700	1715	99.13

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Muscatine	7078	51	24	65	69	7218	7287	99.05
O'Brien	2514	32	12	17	18	2575	2593	99.31
Osceola	749	7	4	3	1	763	764	99.87
Page	2362	18	3	17	162	2400	2562	93.68
Palo Alto	1629	23	4	13	1	1669	1670	99.94
Plymouth	4471	67	21	35	48	4594	4642	98.97
Pocahontas	1001	24	9	9	0	1043	1043	100.00
Polk	76120	571	435	586	290	77712	78002	99.63
Pottawattamie	15654	95	65	70	0	15884	15884	100.00
Poweshiek	2768	12	7	28	26	2815	2841	99.08
Ringgold	723	3	0	3	0	729	729	100.00
Sac	1486	27	15	18	6	1546	1552	99.61
Scott	28769	266	54	511	4	29600	29604	99.99
Shelby	1951	24	10	14	13	1999	2012	99.35
Sioux	6462	129	68	170	80	6829	6909	98.84
Story	11019	128	51	142	33	11340	11373	99.71
Tama	3105	26	11	28	5	3170	3175	99.84
Taylor	923	16	4	8	12	951	963	98.75
Union	1979	9	4	8	66	2000	2066	96.81
Van Buren	874	21	2	43	102	940	1042	90.21
Wapello	5405	83	13	13	153	5514	5667	97.30
Warren	8910	150	79	94	42	9233	9275	99.55
Washington	3960	123	36	151	117	4270	4387	97.33
Wayne	926	9	7	12	1	954	955	99.90
Webster	5339	144	3	22	19	5508	5527	99.66
Winnebago	2266	5	20	16	1	2307	2308	99.96
Winneshiek	2861	8	12	50	65	2931	2996	97.83
Woodbury	18709	227	54	112	28	19102	19130	99.85
Worth	933	10	0	2	0	945	945	100.00
Wright	2307	41	20	14	35	2382	2417	98.55
Total	496460	6168	2355	5612	4151	510595	514746	99.19

**Table 5: Iowa Department of Public Health, Immunization Program
Immunization Audit 2012-2013 School Year
Child Care Immunization by County Summary Report**

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Adair	127	1	4	0	0	132	132	100.00
Adams	116	0	0	0	7	116	123	94.31
Allamakee	96	0	0	1	13	97	110	88.18
Appanoose	229	9	3	1	10	242	252	96.03
Audubon	82	4	0	0	0	86	86	100.00
Benton	617	19	4	7	22	647	669	96.71
Black Hawk	3376	11	8	17	341	3412	3753	90.91
Boone	508	20	1	6	0	535	535	100.00
Bremer	594	13	2	5	26	614	640	95.94
Buchanan	654	14	0	1	3	669	672	99.55
Buena Vista	427	42	17	0	10	486	496	97.98
Butler	398	25	0	2	17	425	442	96.15
Calhoun	325	7	1	4	8	337	345	97.68
Carroll	751	45	4	2	26	802	828	96.86
Cass	541	4	1	5	56	551	607	90.77
Cedar	430	21	0	5	9	456	465	98.06
Cerro Gordo	1516	42	1	9	92	1568	1660	94.46
Cherokee	333	16	3	1	0	353	353	100.00
Chickasaw	340	3	1	3	0	347	347	100.00
Clarke	358	8	0	0	2	366	368	99.46
Clay	434	5	1	5	4	445	449	99.11
Clayton	534	3	3	4	19	544	563	96.63
Clinton	1441	55	8	9	29	1513	1542	98.12
Crawford	520	32	1	1	13	554	567	97.71
Dallas	2338	14	7	23	75	2382	2457	96.95
Davis	222	7	0	0	6	229	235	97.45
Decatur	467	27	4	0	12	498	510	97.65
Delaware	390	8	0	1	5	399	404	98.76
Des Moines	1026	8	0	5	105	1039	1144	90.82
Dickinson	609	18	8	11	42	646	688	93.90
Dubuque	1482	37	1	11	45	1531	1576	97.14
Emmet	294	24	0	0	2	318	320	99.38
Fayette	581	42	2	2	0	627	627	100.00

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Floyd	339	1	1	12	37	353	390	90.51
Franklin	392	26	0	1	6	419	425	98.59
Fremont	194	6	1	3	5	204	209	97.61
Greene	307	17	0	4	11	328	339	96.76
Grundy	340	19	2	2	2	363	365	99.45
Guthrie	211	2	1	0	4	214	218	98.17
Hamilton	141	4	0	0	0	145	145	100.00
Hancock	252	15	0	2	9	269	278	96.76
Hardin	553	32	2	3	22	590	612	96.41
Harrison	204	8	0	1	0	213	213	100.00
Henry	395	5	0	1	34	401	435	92.18
Howard	411	12	1	1	0	425	425	100.00
Humboldt	246	17	0	0	12	263	275	95.64
Ida	115	6	1	2	2	124	126	98.41
Iowa	358	9	0	1	17	368	385	95.58
Jackson	334	1	0	11	55	346	401	86.28
Jasper	854	47	8	8	41	917	958	95.72
Jefferson	320	51	1	14	82	386	468	82.48
Johnson	3515	23	15	27	393	3580	3973	90.11
Jones	386	14	0	2	9	402	411	97.81
Keokuk	179	14	1	0	5	194	199	97.49
Kossuth	513	21	0	5	17	539	556	96.94
Lee	992	25	3	2	8	1022	1030	99.22
Linn	233	9	2	2	60	246	306	80.39
Louisa	316	5	0	0	2	321	323	99.38
Lucas	196	7	1	2	0	206	206	100.00
Lyon	286	17	0	12	8	315	323	97.52
Madison	285	30	0	2	8	317	325	97.54
Mahaska	508	32	0	4	8	544	552	98.55
Marion	781	4	1	8	77	794	871	91.16
Marshall	1139	79	1	7	18	1226	1244	98.55
Mills	384	2	0	3	86	389	475	81.89
Mitchell	361	0	0	0	71	361	432	83.56
Monona	255	8	1	1	0	265	265	100.00
Monroe	156	4	0	3	0	163	163	100.00
Montgomery	231	42	1	0	10	274	284	96.48
Muscatine	1066	14	1	5	56	1086	1142	95.10
O'Brien	412	30	1	2	18	445	463	96.11
Osceola	177	7	0	0	0	184	184	100.00

County	Valid Certificate	Provisional	Medical Exemptions	Religious Exemptions	Invalid	Total with Certificates	Total Enrollment	Percent with Certificates
Page	508	4	1	1	97	514	611	84.12
Palo Alto	300	9	1	4	0	314	314	100.00
Plymouth	695	47	1	9	16	752	768	97.92
Pocahontas	114	19	2	2	8	137	145	94.48
Polk	14646	113	77	123	1047	14959	16006	93.46
Pottawattamie	2066	27	5	8	157	2106	2263	93.06
Poweshiek	395	1	2	2	25	400	425	94.12
Ringgold	160	5	0	2	0	167	167	100.00
Sac	353	30	3	2	8	388	396	97.98
Scott	4666	135	16	113	17	4930	4947	99.66
Shelby	296	2	1	1	10	300	310	96.77
Sioux	1053	102	2	12	62	1169	1231	94.96
Story	1747	59	5	9	10	1820	1830	99.45
Tama	333	21	0	3	0	357	357	100.00
Taylor	156	13	0	0	5	169	174	97.13
Union	476	4	0	2	54	482	536	89.93
Van Buren	93	3	0	1	28	97	125	77.60
Wapello	727	58	0	1	31	786	817	96.21
Warren	1100	56	7	7	19	1170	1189	98.40
Washington	607	66	3	8	34	684	718	95.26
Wayne	131	1	0	1	14	133	147	90.48
Webster	955	78	2	1	47	1036	1083	95.66
Winnebago	371	6	2	1	26	380	406	93.60
Winneshiek	613	3	3	18	49	637	686	92.86
Woodbury	2545	122	4	11	65	2682	2747	97.63
Worth	55	0	0	0	0	55	55	100.00
Wright	329	2	1	0	68	332	400	83.00
Total	75983	2235	269	636	4089	79123	83212	95.09

**Table 6: Iowa Department of Public Health, Immunization Program
2013 County Immunization Assessment
2-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series**

County	County Population Born in 2011 Estimate ¹	Total Records Analyzed from IRIS ²	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 ³	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ⁴
Adair	67	64	96	75	94	91	91	92	86	80	73	8
Adams	47	37	79	62	84	81	81	81	81	62	62	14
Allamakee	167	156	93	70	90	86	91	87	80	77	60	9
Appanoose	142	157	111	78	94	89	94	83	88	68	54	8
Audubon	59	54	92	76	96	89	93	98	89	78	76	4
Benton	268	202	75	78	94	90	93	95	89	87	75	9
Black Hawk	1665	1686	101	84	96	89	94	94	89	86	79	5
Boone	294	282	96	82	95	91	95	96	91	89	79	6
Bremer	242	271	112	85	96	93	95	94	92	87	80	6
Buchanan	288	236	82	83	94	90	92	92	89	84	79	3
Buena Vista	289	342	118	65	90	83	92	87	82	74	60	10
Butler	163	157	96	90	99	94	97	96	94	94	85	5
Calhoun	111	110	99	87	96	91	96	95	91	90	85	4
Carroll	266	268	101	75	97	94	96	94	94	79	71	7
Cass	151	150	99	85	95	90	93	93	90	83	82	5
Cedar	201	134	67	69	88	81	87	86	76	72	62	3
Cerro Gordo	451	484	107	86	96	94	96	94	94	88	79	7
Cherokee	125	135	108	82	96	93	93	94	92	88	77	4
Chickasaw	138	132	96	80	94	90	92	90	88	84	73	5
Clarke	136	111	82	72	89	86	90	88	86	77	68	7
Clay	185	199	108	89	97	95	97	98	94	90	87	4
Clayton	179	125	70	78	98	90	94	98	86	82	76	2
Clinton	555	575	104	73	91	89	91	92	90	82	68	9
Crawford	248	287	116	75	94	91	92	93	91	77	73	5
Dallas	1056	434	41	79	94	89	90	91	88	81	71	5
Davis	137	83	61	60	81	84	78	83	81	64	55	6

¹ Source from <http://wonder.cdc.gov/bridged-race-population.html>.

² Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and with a status of Active in an organization.

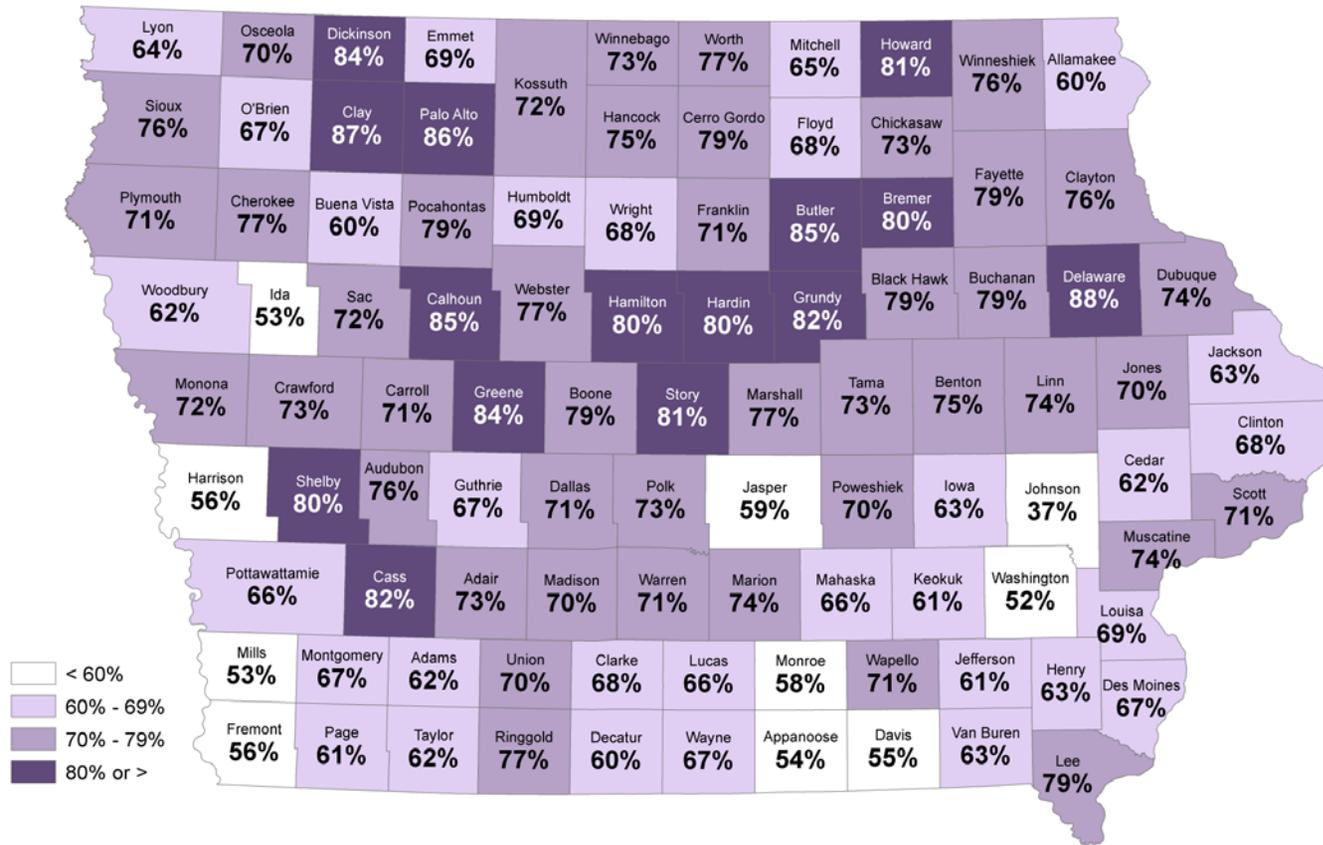
³ Up-To-Date are children who have completed the 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV by 24 months of age.

⁴ 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.

County	County Population Born in 2011 Estimate ¹	Total Records Analyzed from IRIS ²	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 ³	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ⁴
Decatur	92	67	73	73	84	90	87	84	85	76	60	7
Delaware	181	142	79	91	99	96	99	98	94	92	88	3
Des Moines	470	487	104	75	94	88	93	91	89	80	67	5
Dickinson	167	161	96	85	97	95	97	98	93	84	84	5
Dubuque	1168	253	22	77	93	89	84	93	88	76	74	2
Emmet	114	113	99	71	90	86	84	92	84	78	69	11
Fayette	257	216	84	83	96	93	96	94	93	88	79	4
Floyd	173	195	113	78	92	91	92	87	85	77	68	6
Franklin	130	115	89	78	90	92	91	90	91	81	71	9
Fremont	82	45	55	60	89	73	82	87	71	58	56	18
Greene	88	83	94	84	100	100	100	99	100	90	84	6
Grundy	148	125	85	85	95	90	95	93	89	89	82	4
Guthrie	114	98	86	71	92	87	91	96	87	80	67	8
Hamilton	162	166	103	83	96	95	97	95	89	92	80	2
Hancock	91	87	96	86	95	91	93	92	91	80	75	8
Hardin	169	182	108	82	98	95	98	93	93	88	80	3
Harrison	156	109	70	66	88	82	89	84	79	72	56	8
Henry	228	215	94	67	88	86	86	91	84	69	63	6
Howard	122	106	87	85	96	92	96	94	89	83	81	8
Humboldt	109	122	112	75	93	90	94	95	88	83	69	10
Ida	91	76	84	55	89	71	89	88	70	61	53	8
Iowa	185	97	52	70	88	84	87	86	81	76	63	7
Jackson	210	151	72	70	95	88	94	81	86	75	63	13
Jasper	371	325	88	67	88	83	86	88	82	70	59	6
Jefferson	148	122	82	68	91	83	86	88	83	66	61	2
Johnson	1685	852	51	41	53	53	53	51	50	44	37	3
Jones	185	139	75	82	94	87	93	90	86	80	70	4
Keokuk	117	117	100	72	91	86	88	83	82	71	61	3
Kossuth	152	149	98	76	94	93	95	95	92	78	72	8
Lee	409	275	67	83	94	90	93	93	91	83	79	4
Linn	2765	1997	72	81	92	86	91	91	85	81	74	4
Louisa	109	102	94	75	93	86	91	87	84	77	69	7
Lucas	91	83	91	77	89	87	92	87	87	73	66	18
Lyon	159	100	63	69	90	84	89	89	78	70	64	9
Madison	174	120	69	77	93	89	83	94	83	84	70	12
Mahaska	288	274	95	74	90	88	91	86	88	77	66	5
Marion	381	358	94	79	93	89	92	91	90	83	74	5

County	County Population Born in 2011 Estimate ¹	Total Records Analyzed from IRIS ²	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 ³	Late Up-To-Date 4-3-1-3-3-1-4 Coverage Percent ⁴
Marshall	573	576	101	82	95	93	96	94	91	83	77	5
Mills	148	129	87	64	81	77	81	71	78	73	53	4
Mitchell	113	84	74	71	95	89	94	88	86	73	65	6
Monona	80	64	80	77	94	91	91	91	86	80	72	6
Monroe	79	73	92	71	88	81	89	75	82	75	58	10
Montgomery	108	116	107	72	91	89	91	90	88	71	67	2
Muscatine	561	480	86	78	93	86	90	92	85	82	74	6
O'Brien	156	153	98	71	95	86	94	93	85	75	67	13
Osceola	59	57	976	75	89	84	89	89	84	72	70	7
Page	188	185	98	72	89	85	88	79	84	75	61	6
Palo Alto	94	111	118	87	99	98	99	98	98	93	86	5
Plymouth	286	228	80	80	94	87	88	91	86	84	71	5
Pocahontas	67	80	119	81	96	95	95	96	93	86	79	8
Polk	6458	5415	84	79	92	89	88	91	88	80	73	6
Pottawattamie	1230	1041	85	71	92	83	91	86	83	78	66	6
Poweshiek	185	186	101	73	90	87	91	90	84	80	70	5
Ringgold	56	35	63	80	97	97	100	97	94	91	77	9
Sac	106	98	93	74	97	91	98	93	91	79	72	7
Scott	2273	2272	100	77	94	89	92	92	87	82	71	9
Shelby	111	119	107	82	96	91	87	93	91	86	80	6
Sioux	516	494	96	83	97	95	97	94	91	86	76	6
Story	917	886	97	85	97	93	96	94	92	91	81	5
Tama	203	202	100	80	91	90	92	92	86	82	73	6
Taylor	51	69	135	65	93	90	88	93	88	68	62	14
Union	137	162	118	75	95	93	93	94	90	85	70	8
Van Buren	87	67	77	66	90	84	88	88	87	70	63	6
Wapello	456	476	104	79	94	91	89	89	91	79	71	7
Warren	508	430	85	78	95	89	87	93	88	82	71	6
Washington	242	174	72	60	84	76	76	80	71	68	52	5
Wayne	77	72	94	78	89	89	92	81	86	72	67	7
Webster	416	431	104	81	95	92	95	95	90	86	77	7
Winnebago	97	88	91	77	86	89	86	88	90	78	73	5
Winneshiek	187	185	99	84	96	95	96	92	93	87	76	6
Woodbury	1540	763	50	66	88	84	87	90	83	71	62	7
Worth	69	70	101	83	97	94	96	97	94	84	77	6
Wright	143	173	121	73	95	86	96	95	84	78	68	6
Total	37948	31539	83	77	92	88	90	90	87	80	71	6

Figure 5: 2013 County Immunization Assessment Map
2-Year-Old Coverage of Selected Vaccination Series ⁵



⁵ Shows coverage for 4 DTaP, 3 Polio, 1 MMR, 3 Hib, 3 Hep B, 1 Varicella, 4 PCV vaccine series by 24 months of age.

**Table 7: Iowa Department of Public Health, Immunization Program
2013 County Adolescent Immunization Assessment
13-15-Year-Old Coverage of Individual Vaccines and Selected Vaccination Series**

County	County Population 2009 Estimate ⁶	Total Records Analyzed from IRIS ⁷	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 ⁸	13- to 15-Yr-Old Female Records	3 HPV Female Coverage Percent	13- to 15-Yr-Old Male Records	3 HPV Male Coverage Percent
Adair	285	227	80	95	68	94	1	78	73	54	115	37	106	17
Adams	137	133	97	78	28	79	2	53	41	20	57	32	73	7
Allamakee	541	593	110	88	39	86	2	52	52	28	291	11	277	4
Appanoose	453	435	96	66	26	68	1	64	28	14	217	20	185	2
Audubon	231	195	84	96	47	92	2	86	59	41	100	33	95	13
Benton	1135	1030	91	88	68	88	1	73	66	52	480	35	532	12
Black Hawk	4506	4951	110	93	73	92	1	77	71	58	2390	38	2451	18
Boone	1119	969	87	88	72	87	1	76	60	49	459	29	491	15
Bremer	921	896	97	84	68	83	1	77	61	42	430	35	438	16
Buchanan	973	967	100	90	64	92	2	81	70	53	448	38	502	21
Buena Vista	834	917	110	88	30	87	3	56	47	20	447	15	438	7
Butler	593	585	99	85	59	87	2	77	62	39	283	32	298	14
Calhoun	319	381	119	88	55	86	0	79	37	24	201	20	174	5
Carroll	838	877	105	83	41	83	1	80	36	23	437	16	434	4
Cass	499	597	120	96	73	94	2	78	77	66	305	35	286	28
Cedar	763	589	77	80	49	83	1	73	51	29	285	33	275	10
Cerro Gordo	1596	1752	110	92	68	86	1	75	66	54	834	33	899	13
Cherokee	423	415	98	93	61	93	0	68	68	47	200	35	209	19
Chickasaw	471	465	99	88	61	88	1	83	58	41	231	26	229	13
Clarke	369	394	107	88	59	84	1	64	51	38	195	28	196	14
Clay	656	618	94	90	44	83	0	57	35	22	309	16	305	7
Clayton	700	495	71	78	29	71	0	71	35	19	235	15	243	6
Clinton	1976	1706	86	87	39	85	0	72	42	28	835	16	844	4
Crawford	738	690	94	89	49	88	2	75	59	36	303	28	378	17
Dallas	3354	1810	54	85	64	82	1	71	57	42	818	26	930	8
Davis	427	331	78	88	23	86	0	56	29	17	191	11	133	4

⁶ Source from <http://wonder.cdc.gov/bridged-race-population.html>.

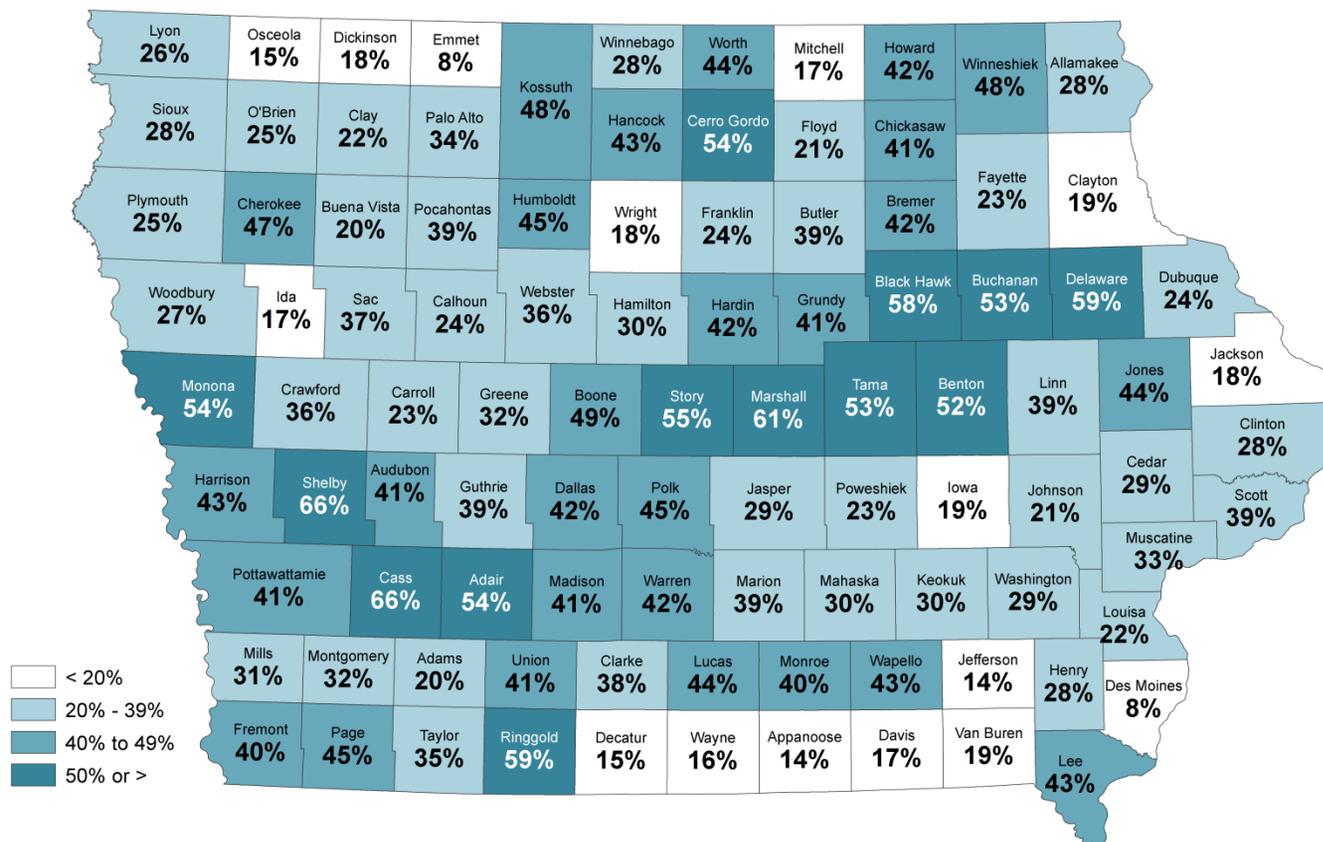
⁷ Data retrieved from Iowa's Immunization Registry Information System (IRIS) by county zip codes and with a status of Active in an organization.

⁸ "Up-to-Date" refers to adolescents 13- to 15-year-olds that have completed the 3 Hep B, 1 Meng, 2 MMR, 1 Td or Tdap, 2 Varicella series.

County	County Population 2009 Estimate ⁶	Total Records Analyzed from IRIS ⁷	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 ⁸	13- to 15-Yr-Old Female Records	3 HPV Female Coverage Percent	13- to 15-Yr-Old Male Records	3 HPV Male Coverage Percent
Decatur	310	244	79	89	27	86	2	52	23	15	113	12	129	7
Delaware	751	636	85	90	68	90	1	80	75	59	296	39	329	18
Des Moines	1552	1553	100	90	12	84	1	59	45	8	776	12	762	3
Dickinson	600	624	104	95	29	92	0	58	29	18	303	17	316	10
Dubuque	3813	1404	37	75	32	66	1	40	38	24	668	17	699	10
Emmet	374	312	83	74	31	57	2	60	18	8	149	27	161	12
Fayette	789	757	96	91	33	90	1	77	55	23	373	24	373	10
Floyd	636	577	91	82	36	70	1	59	34	21	279	16	289	4
Franklin	397	364	92	85	38	84	1	69	47	24	187	31	176	9
Fremont	290	239	82	79	58	80	1	64	58	40	118	24	113	14
Greene	401	399	100	87	54	86	2	73	47	32	181	23	214	13
Grundy	490	439	90	86	56	86	0	80	56	41	212	24	218	12
Guthrie	452	494	109	92	53	91	2	75	60	39	223	16	257	8
Hamilton	671	654	98	94	43	94	1	65	45	30	329	22	319	6
Hancock	473	457	97	93	59	91	2	74	62	43	196	23	250	9
Hardin	689	680	99	86	60	85	1	78	62	42	312	31	354	11
Harrison	591	507	86	77	76	73	1	75	53	43	245	34	252	16
Henry	856	812	95	92	39	88	1	61	56	28	394	16	412	7
Howard	385	427	111	82	59	78	1	79	53	42	211	29	213	16
Humboldt	368	418	114	91	57	89	1	76	61	45	198	29	205	14
Ida	261	215	82	87	29	85	3	51	40	17	110	12	104	11
Iowa	633	486	77	85	41	82	0	66	37	19	218	18	245	5
Jackson	809	395	49	76	32	70	1	70	37	18	179	22	183	7
Jasper	1399	1012	72	71	50	66	0	64	41	29	486	16	491	7
Jefferson	503	381	76	79	29	73	1	50	25	14	192	17	181	8
Johnson	4123	2683	65	68	38	65	1	47	41	21	1260	19	1350	10
Jones	751	660	88	80	66	81	1	75	58	44	332	21	324	3
Keokuk	429	390	91	78	52	77	1	65	48	30	199	22	183	10
Kossuth	590	602	102	96	60	93	0	71	64	48	307	19	285	3
Lee	1343	1010	75	87	53	85	0	72	62	43	488	27	492	14
Linn	8972	7558	84	80	58	78	1	68	51	39	3545	24	3656	9
Louisa	529	457	86	85	31	81	2	54	37	22	214	20	225	12
Lucas	376	324	86	82	65	81	0	73	56	44	156	26	162	19
Lyon	521	454	87	77	43	75	1	66	48	26	219	11	216	3
Madison	730	724	99	85	62	81	2	78	59	41	325	25	388	6
Mahaska	917	666	73	73	59	67	0	75	41	30	310	21	318	12
Marion	1426	1398	98	84	62	81	1	73	52	39	664	20	629	4

County	County Population 2009 Estimate ⁶	Total Records Analyzed from IRIS ⁷	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 ⁸	13- to 15-Yr-Old Female Records	3 HPV Female Coverage Percent	13- to 15-Yr-Old Male Records	3 HPV Male Coverage Percent
Marshall	1684	1958	116	96	72	94	1	76	75	61	883	38	974	20
Mills	651	542	83	62	57	62	1	67	42	31	283	27	251	9
Mitchell	473	336	71	71	60	75	0	79	25	17	170	25	157	4
Monona	352	330	94	95	64	94	1	79	79	54	164	44	162	28
Monroe	321	266	83	82	60	80	1	84	68	40	115	27	143	7
Montgomery	446	421	94	78	67	75	0	73	44	32	201	32	216	10
Muscatine	1871	1437	77	78	51	72	1	67	50	33	693	27	671	8
O'Brien	561	554	99	92	50	91	0	67	47	25	259	31	291	18
Osceola	245	252	103	90	21	81	0	49	29	15	129	10	121	2
Page	592	604	102	84	70	84	0	66	64	45	296	24	292	13
Palo Alto	328	360	110	91	42	89	0	74	56	34	170	17	188	11
Plymouth	1102	934	85	87	37	82	0	58	45	25	434	17	486	11
Pocahontas	261	252	97	90	56	87	0	78	54	39	124	23	128	22
Polk	18278	18457	101	83	68	81	2	71	59	45	8775	25	9213	8
Pottawattamie	3747	3009	80	76	63	74	1	68	56	41	1510	37	1435	14
Poweshiek	668	683	102	88	43	86	0	74	36	23	302	21	363	5
Ringgold	218	193	89	95	72	94	1	78	73	59	88	40	102	6
Sac	405	361	89	87	50	84	1	78	53	37	169	24	189	12
Scott	6756	7109	105	82	52	80	1	71	54	39	3373	23	3589	9
Shelby	510	564	111	97	79	94	1	81	75	66	254	36	303	30
Sioux	1467	1447	99	86	37	85	2	73	48	28	684	14	750	8
Story	2493	2622	105	90	67	85	1	77	66	55	1233	27	1305	10
Tama	789	774	98	89	71	91	1	76	68	53	360	35	387	14
Taylor	273	238	87	87	50	85	1	80	55	35	108	38	125	10
Union	508	566	111	93	57	89	1	60	60	41	287	31	266	8
Van Buren	289	275	95	88	29	84	1	56	43	19	142	20	131	7
Wapello	1275	1467	115	82	61	79	1	58	66	43	707	25	737	10
Warren	2222	2037	92	80	65	82	1	77	57	42	940	25	1079	6
Washington	949	741	78	83	48	80	2	52	54	29	340	22	392	14
Wayne	235	174	74	72	33	71	1	79	33	16	89	27	82	5
Webster	1381	1521	110	90	54	90	1	64	50	36	737	22	771	8
Winnebago	399	378	95	79	37	73	0	72	42	28	170	14	189	6
Winneshiek	728	655	90	92	59	89	1	83	66	48	322	30	327	17
Woodbury	4306	3456	80	82	37	71	1	47	38	27	1660	20	1733	13
Worth	336	278	83	91	60	83	0	78	59	44	150	24	126	13
Wright	521	533	102	89	35	89	2	73	44	18	289	23	241	5
Total	121697	110214	91	84	56	82	1	69	54	39	52673	25	54809	10

Figure 6: 2013 County Immunization Assessment Map
13- 15-Year-Old Coverage of Selected Vaccination Series ⁹



⁹ Shows coverage for 3 Hep B, 1 Meningitis, 2 MMR, 1 Td or Tdap and 2 Varicella vaccine series.

Appendix A: Immunization Program Directory

Immunization Program Directory

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