



# CARE FOR KIDS



Early & Periodic Screening, Diagnosis & Treatment

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## Iowa's Statewide Immunization Registry

*John Warming, Project Coordinator, ISIIS Implementation Team  
Bureau of Immunization, Iowa Department of Public Health*

In 1993, the Iowa Department of Public Health (IDPH) began developing the Iowa State Immunization Information System (ISIIS), a statewide immunization registry. This registry establishes a computerized network of public and private health care providers. It enables the sharing of immunization records and creates a permanent repository for individual vaccination histories in a central registry database.

IDPH selected a computer software application called ADIOS-IIS. Participating providers use this software to manage patient immunization records and vaccine inventories. The software also has recall and reminder capabilities. In addition, ADIOS-IIS allows participants to interface with the statewide registry.

After enrollment, participants re-



ceive the ADIOS-IIS application free of charge. In addition, ISIIS staff provides free training for participating facility staff before the software is installed and configured at their location. As the users of the ISIIS network create immunization records, a copy of each record is stored permanently in the state's central registry database. Participating providers can search the central registry for records on patients who have been previously immu-

nized by another caregiver. A participant communicates with the central registry from his or her personal computer or network via modem, using toll-free phone lines established for ISIIS.

The security of immunization records is a key requirement of the ISIIS network. Security is assured through several processes. First, log-in and password procedures at provider

sites control access to the software. These assist participants in protecting their computers from unauthorized use. Tampering with the central registry is prevented by similar means.

Second, an elaborate, encrypted authentication process protects the transmission of immunization records between provider sites and the state registry. This process is activated each time someone attempts to connect to the registry.

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## ISiS and the public sector

Since its beginnings in 1993, the ISiS network has passed several important milestones. In March 1998 the ISiS project completed the implementation of the registry for Iowa's public sector immunization provider sites. Today, more than 130 locations statewide participate in the immunization registry. The central database has grown to include the immunization histories of more than 250,000 individuals, from newborns to 94-year-olds. More than 2.5 million vaccination dates are now part of the state's permanent record of this critical preventive health care activity.

This summer also promises to be an exciting time. Starting in June 1999, the ISiS project will begin upgrading the ADIOS-IIS software application. This upgrade will provide several eagerly anticipated new features, including the ability to view immunization records from the central registry without having those records become part of the participant's local database. It will also significantly improve communication protocols.

## ISiS and the private sector

When upgrades to existing, public sector ISiS network sites are completed, IDPH will develop the implementation plan for expanding the

network to include private health care providers. All health care providers practicing in Iowa will be eligible to enroll in the registry. ADIOS-IIS software will be given to providers, who will also be trained in its use.

One of the more exciting goals of the ISiS network is the deployment of a web browser-based interface with the registry. IDPH is exploring several possibilities that would allow participating providers to interact with the registry without needing to run a separate software application on their computers.

Health care providers who have questions about the ISiS network are encouraged to contact project staff at 1-800-374-3958.

# Recommended Childhood Immunization Schedule<sup>1</sup> 1999

**Bars** indicate the optimal age range for immunization. If a child does not receive an immunization during the recommended period, a "catch up" dose should be given at a subsequent visit.

**Ovals** indicate a vaccine that should be given if an immunization was missed, or was given earlier than the recommended age.

Age Vaccine	Birth	1 mo	2 mo	4 mo	6 mo	12 mo	15 mo	18 mo	4-6 yrs	11-12 yrs	14-16 yrs
<b>Hepatitis B<sup>2</sup></b>	Hep B	Hep B		Hep B			Hep B			Hep B	
<b>Diphtheria, Tetanus Pertussis<sup>3</sup></b>			DTaP	DTaP	DTaP		DTaP <sup>3</sup>		DTaP	Td	
<b>H. influenzae type b<sup>4</sup></b>			Hib	Hib	Hib	Hib					
<b>Polio<sup>5</sup></b>			IPV	IPV	Polio <sup>5</sup>				Polio		
<b>Rotavirus<sup>6</sup></b>			RV <sup>6</sup>	RV <sup>6</sup>	RV <sup>6</sup>						
<b>Measles, Mumps Rubella<sup>7</sup></b>						MMR			MMR <sup>7</sup>	MMR <sup>7</sup>	
<b>Varicella<sup>8</sup></b>						Var				Var <sup>8</sup>	

# NOTES

## Recommended Childhood Immunization Schedule

<sup>1</sup>**The schedule on the preceding page** indicates the recommended ages for routine administration of currently licensed childhood vaccines. Combination vaccines may be used whenever any components of the combination are indicated and its other components are not contraindicated. Providers should consult the manufacturer's package inserts for detailed recommendations.

Vaccines are listed under the ages that are routinely recommended. Any dose not given at the recommended age should be given as a "catch-up" immunization at any subsequent visit when indicated and feasible. The Advisory Committee on Immunization Practices (ACIP), the American Academy of Pediatrics (AAP), and the American Academy of Family Physicians (AAFP) approve these recommendations.

### <sup>2</sup>**Hepatitis B (hep B)**

**Infants born to mothers with unknown HbsAg status** should receive hep B vaccine within 12 hours of birth. Maternal blood should be drawn at the time of delivery to determine mother's HbsAg status. If positive, infant should receive hep B immune globulin (HBIG) as soon as possible (no later than 1 week of age).

**Infants born to HbsAg-positive mothers** should receive the hep B vaccine and 0.5 mL HBIG at separate sites within 12 hours of birth. Give the 2nd of hep B at 1-2 months of age; the 3rd at 6 months of age.

**Infants born to HbsAg-negative mothers** should get the 2nd dose of hep B vaccine at least 1 month after the first dose. They should get the 3rd dose at least 4 months after the 1st and at least 2 months after the 2nd dose, but not before the child is 6 months old.

**Children and adolescents younger than 19** may begin the hep B series during any visit. Special effort should be made to immunize children who were born in, or whose parents were born in, areas with moderate to high rates of HBV infection.

### <sup>3</sup>**Diphtheria, tetanus, pertussis (DTaP)**

DTaP (diphtheria and tetanus toxoids and acellular pertussis) vaccine is preferred for all doses in the immunization series, including completion of the series in children who have received one or more doses of whole-cell DTP vaccine. Whole-cell DTP is an acceptable alternative to DTaP. If a child is unlikely to be seen at 15-18 months, the 4th dose (DTP or DTaP) may be administered as early as 12 months of age, provided 6 months have elapsed since the 3rd dose. Td (tetanus and diphtheria toxoids) are recommended at 11-12 years of age if at least 5 years have elapsed since the last dose of DTP, DTaP, or DT, with routine Td boosters every 10 years.

### <sup>4</sup>**H. influenzae type b (Hib)**

Three h. influenzae type b (Hib) conjugate vaccines are licensed for infant use. If PRP-OMP (PedvaxHIB and COMVAX [Merck]) is administered at 2 and 4 months of age, a dose at 6 months is not required. **DTaP/Hib combination products should not be used for primary immunization at 2, 4, or 6 months of age unless FDA-approved for these ages.** Clinical studies in infants show that some combination products may induce a lower immune response to the Hib vaccine component.

### <sup>5</sup>**Polio (IPV, OPV)**

Two polio vaccines, inactivated poliovirus vaccine (IPV) and oral poliovirus vaccine (OPV), are currently licensed in the U.S. The first two doses of poliovirus vaccine, at 2 months and at 4 months, should be IPV. ACIP recommends that

this be followed by two doses of OPV, at 12-18 months and 4-6 years. Use of IPV for all doses is acceptable, and is recommended for immuno-compromised persons and their household contacts.

**OPV is not recommended for a child's first two doses** except when:

- Parents do not accept the recommended number of injections
- Late initiation of immunization would require an unacceptable number of injections
- Imminent travel will take the child to areas where polio is widespread
- Vaccination is part of a mass immunization campaign to control an outbreak of wild poliovirus

### <sup>6</sup>**Rotavirus (Rv)**

Health care providers are just beginning to provide the new rotavirus (Rv) vaccine. Parents should discuss its use with health care providers. Give the first dose of Rv vaccine after the child is 6 weeks old. The minimum interval between doses is 3 weeks, and all doses should be completed by the first birthday. Do not begin the Rv vaccine series after a child is 7 months old.

### <sup>7</sup>**Measles, mumps, rubella (MMR)**

Give the first dose of MMR when the child is a year old, and the second dose at least 4 weeks after the first dose. Children who have not previously received the second dose should receive it prior to their 13th birthday.

### <sup>8</sup>**Varicella**

Varicella vaccine is recommended at any visit on or after the first birthday for children who have not had chickenpox (diagnosed by a health care provider) and who have not been immunized. Susceptible children 13 years or older should receive 2 doses, given at least 4 weeks apart.

# Lead Poisoning in Iowa's Children

Rita Gergely, Director, Lead Poisoning Prevention Program  
Division of Health Protection, Iowa Department of Public Health

From July 1993 through June 1998, physicians, local health departments, and the Title V Child Health Program tested 93,229 Iowa children younger than six for lead poisoning. Of these, 12.3% were identified as lead-poisoned. This is nearly three times the national average of 4.4%, according to Phase II of the Third National Health and Nutrition Examination Survey.

***Iowa children suffer from lead poisoning at a rate that is nearly three times the national average.***

The most common source of lead is deteriorated lead-based paint. Nearly 43% of Iowa's housing was built prior to 1950, and is likely to contain lead-based paint.

Deteriorating lead-based paint is a hazard. The chips end up on floors, in window wells, in household dust, and in the soil. Children are lead-poisoned when they put paint chips or soil in their mouths, or when they get house dust and soil on their hands and put their hands in their mouths.

## Universal vs. targeted screening

As the result of what we know about rates of lead poisoning in Iowa children, the Iowa Department of Public Health (IDPH) recommends rou-

tine blood lead testing of all children under the age of 6 years. State regulations require blood lead testing for all children under the age of 6 years who are covered by Title XIX. In addition, Iowa law requires that all blood lead testing results, for both children and adults, be reported to IDPH.

## Blood lead testing

You can use the Childhood Lead Poisoning Risk Questionnaire (see Insert, Page 1) to determine whether a child is at risk for lead poisoning. If you do not wish to use the questionnaire, IDPH recommends using the high-risk screening schedule for all children, testing at 12, 18, 24, 36, 48, and 60 months.

Children at low risk do not need to be tested as frequently as high-risk children (see Insert Page 2, "Guidelines for Identification and Management of Lead-Poisoned Children"). In Iowa, no method of risk assessment is accurate enough to determine that a child is risk-free for lead poisoning, so even low-risk children should be tested. (Several years ago, IDPH followed a case where a low-risk child was found to have a confirmed blood lead level of 72 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ), which is dangerously high. The child had previously been classified as low-risk because the mother did not know that their home was built before 1960.)



With proper sample collection technique, you can use capillary samples for blood lead tests. It is important to wash the child's hand with soap and water before taking the sample. This removes lead that could contaminate the sample. Wiping the child's finger with alcohol will not remove lead.

Providers may also use venous samples. However, this is often more costly. In addition, if the family will need to go to a hospital lab or other facility for the procedure, they may not follow through and have the test completed.

Please call our program at 1-800-972-2026 to get more information about:

- Blood lead testing
- Blood lead reporting rules
- Medical management of lead poisoning
- Requesting brochures to distribute to your patients

## Iowa Department of Public Health

# Childhood Lead Poisoning Risk Questionnaire

Date(s): \_\_\_\_\_

Child's name: \_\_\_\_\_ Date of birth: \_\_\_\_\_

Address: \_\_\_\_\_

If the answer to **any** of the questions below is "yes," consider the child to be at high risk for lead poisoning and screen according to the high-risk screening schedule. If the parent does not know the answer to a question, assume the answer is "yes."

Review this questionnaire at each regular visit. Each time you go over the questions, note the date on the "Date(s)" line above. If an answer has changed, record new information on the form beside the appropriate question.

- |  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Yes <input type="checkbox"/> No | 1. Has your child ever lived in or regularly visited a house built before 1960? (Examples: home, day-care center, baby-sitter, relative's home)   | <input type="checkbox"/> Yes <input type="checkbox"/> No | 6. Does your child live with or frequently come in contact with an adult who works with lead on the job or in a hobby? (Examples: painter, welder, foundry worker, old home renovator, shooting range worker, battery plant worker, battery recycling worker, ceramics worker, stained glass worker, sheet metal worker, scrap metal worker, plumber.) |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | 2. Have you noticed any peeling or chipping paint in or around the pre-1960 house that your child has lived in or regularly visited?  | <input type="checkbox"/> Yes <input type="checkbox"/> No | 7. Does your child live near a battery plant, battery recycling plant, or lead smelter?  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | 3. Is the pre-1960 home that your child has lived in or regularly visited been remodeled or renovated by stripping, sanding, or scraping paint on the inside or outside of the house? Removing walls and/or tearing out lath and plaster? | <input type="checkbox"/> Yes <input type="checkbox"/> No | 8. Do you give your child any homemade or folk remedies? (Examples: azarcon, greta, pay-loo-ah)  |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | 4. Does your child eat non-food items such as dirt?   | <input type="checkbox"/> Yes <input type="checkbox"/> No | 9. Does your child eat candy that comes from Mexico or is purchased from a Mexican grocery store? (Examples: picarindo, vero palerindas)   |
| <input type="checkbox"/> Yes <input type="checkbox"/> No | 5. Have any of your other children or their playmates had lead levels equal to or greater than 15 µg/dL (micrograms per deciliter)?   | <input type="checkbox"/> Yes <input type="checkbox"/> No | 10. Has your child ever lived in Mexico, Central America, South America, Africa, Asia, or eastern Europe, or visited one of these areas for a period longer than two months?   |

# Guidelines

## for Identification and Management of Lead-poisoned Children

**Blood lead level**  $\mu\text{g/dL}$   
(micrograms per deciliter)

### Management

### Comment

<b>&lt;10</b> (capillary or venous)	<ul style="list-style-type: none"> <li>Follow routine screening chart.</li> <li>Test high-risk children at the ages of 12, 18, 24, 36, 48, and 60 months.</li> <li>Test low-risk children at the ages of 12 and 24 months.</li> </ul>	<ul style="list-style-type: none"> <li>Not considered lead-poisoned.</li> </ul>
<b>10-14</b> (capillary or venous)	<ul style="list-style-type: none"> <li>Retest within 3 months until two tests <math>&lt;10 \mu\text{g/dL}</math> or three tests <math>&lt;15 \mu\text{g/dL}</math>.</li> </ul>	<ul style="list-style-type: none"> <li>Provide information regarding appropriate nutrition and cleanliness, including safe removal of paint chips and dust.</li> </ul>
<b>&gt;15</b> (capillary)	<ul style="list-style-type: none"> <li>Confirm with a venous blood lead test as shown below:               <ul style="list-style-type: none"> <li>15-19 within 2 weeks</li> <li>20-44 within 1 weeks</li> <li>45-69 within 2 days</li> <li>&gt;70 immediately</li> </ul> </li> </ul>	
<b>15-19</b> (venous)	<ul style="list-style-type: none"> <li>Venous retest within 3 months.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to dietician for nutritional evaluation.</li> <li>Environmental investigation by public health agency after two venous levels of 15-19.</li> <li>Contact public health agency at 1-800-972-2026 to determine if environment is lead-safe.</li> </ul>
<b>20-44</b> (venous)	<ul style="list-style-type: none"> <li>Pediatric evaluation.</li> <li>Venous retest in 4-6 weeks.</li> <li>Test for iron deficiency.</li> <li>At 25-44, may consider oral chelation if environment is lead-safe and blood lead level persists in this range.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to dietician for nutritional evaluation.</li> <li>Environmental investigation by public health agency.</li> <li>Contact public health agency by calling 1-800-972-2026 to determine if environment is lead-safe.</li> </ul>
<b>45-69</b> (venous)	<ul style="list-style-type: none"> <li>Pediatric evaluation.</li> <li>Test for iron deficiency.</li> <li>Inpatient or outpatient chelation (consult experienced physician for guidance on chelation).</li> </ul>	<ul style="list-style-type: none"> <li>Refer to dietician for nutritional evaluation.</li> <li>Environmental investigation by public health agency.</li> <li>Home must be lead-safe during and after treatment.</li> <li>Contact public health agency at 1-800-972-2026 to determine if environment is lead-safe.</li> </ul>
<b>&gt;70</b> (venous)	<ul style="list-style-type: none"> <li>Pediatric evaluation.</li> <li>Test for iron deficiency.</li> <li>Inpatient chelation (consult experienced physician for guidance on chelation).</li> </ul>	<ul style="list-style-type: none"> <li>Medical emergency – immediate treatment in pediatric intensive care unit.</li> <li>Refer to dietician for nutritional evaluation.</li> <li>Environmental investigation by public health agency.</li> <li>Home must be lead-safe before child returns home.</li> <li>Contact public health agency at 1-800-972-2026 to determine if environment is lead-safe.</li> </ul>

# Healthy Iowans 2010 is coming!

Ron Eckhoff, Iowa Department of Public Health



Iowa has caught the wave of the new millennium as it plans for *Healthy Iowans 2010*, a companion to *Healthy People 2010*. These are part of a nationwide effort to improve the health of the American people, an effort that will guide federal resource allocations for disease prevention and health promotion in the new decade.

*Healthy Iowans 2010* has four themes:

- Empowerment
- Elimination of health disparities
- Collaboration
- Dynamic change

The Iowa process involves a collaboration of government, voluntary and professional organizations, industry, and individuals. Following a kickoff meeting last October, more than 500 Iowans now serve on

teams that will draft *Healthy Iowans 2010*. This report will examine:

- Access to health care
- Addictions to alcohol, other drugs, and gambling
- Cancer
- Diabetes
- Education and community-based programs
- Environmental health
- Family planning
- Food and drug safety
- Heart disease and stroke
- Immunization and infectious diseases
- Maternal, child, and infant health
- Mental health and mental disorders
- Nutrition
- Occupational safety and health
- Oral health
- People with disabilities
- Physical activity and fitness
- Public health infrastructure
- Sexual health
- Tobacco use; section on asthma
- Unintentional injuries
- Violent and abusive behavior

## We welcome your input

You can learn more about *Healthy Iowans 2010* by visiting our Web page, at: [http://www.idph.state.ia.us/sa/h\\_ia2010/intro.htm](http://www.idph.state.ia.us/sa/h_ia2010/intro.htm)

Here, you will find an overview with timelines, including a schedule of review team meetings. Summaries of chapter goals will be put online as chapters are drafted, along with information on how to reach the con-

tact person for each chapter. Please feel free to communicate with the contact person if you have questions or comments — *Healthy Iowans 2010* will be most successful if many Iowans have input into its development, and share in its implementation.

The full draft of this report should be completed and ready for public comment by late 1999. The release of *Healthy Iowans 2010* is scheduled for June 2000. To learn more, please visit the Web site, or contact Louise Lex (515-281-4348) or Ronald Eckhoff (515-281-5914) at the Iowa Department of Public Health.

## How do I bill for Lead Screening Services?

For lead screening services, bill the blood draw 99000 code. Do this in addition to using the other codes appropriate to the services provided in the Care for Kids exam. The confirmatory draw would also be the blood draw code of 99000, with the appropriate E&M code. After lead poisoning is confirmed, treatment services would carry the ICD9 code for lead poisoning, which is 984.

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If you have questions about **billing**  
related to EPSDT Care for Kids services, please call  
Provider Services: **1-800-338-7909**

If you have questions about **clinical issues**  
and EPSDT Care for Kids services, please call  
Edward Schor, MD: **1-800-383-3826**

**Please note:** Due to budget restraints, the *EPSDT Care for Kids Newsletter* is sent to offices and organizations, rather than to individuals. Readers are welcome to photocopy material from the newsletter to share with others. **The newsletter is also available online at <http://www.uiowa.edu/uhs/epsdt.html>.** If you wish to reprint material from the newsletter in another publication, whether print or electronic, please obtain permission prior to publication by contacting the editor. Please include the following acknowledgment with reprinted material: Reprinted by permission of the Iowa *EPSDT Care for Kids Newsletter*.



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