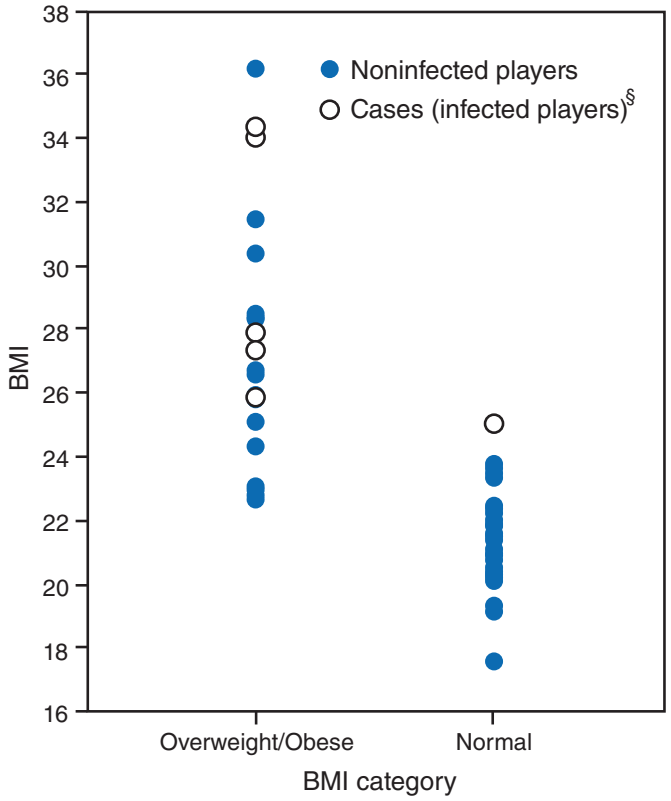
FIGURE 2. Number of players on a high school football team* categorized as overweight/obese or normal, based on body mass index (BMI),† by case status regarding methicillin-resistant *Staphylococcus aureus* (MRSA) infection — New York City, 2007



* N = 51.

† Using CDC's child and teen BMI-for-age weight status categories, persons with a BMI equal to or greater than the 85th percentile are categorized as overweight or obese. Additional information available at http://www.cdc.gov/nccdphp/dnpa/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.htm.

§ Includes both confirmed and suspected cases of MRSA infection. A confirmed MRSA case was defined as a clinically compatible skin and soft tissue infection (SSTI) with a positive MRSA culture in a team member during August 5–September 14, a period ranging from 2 weeks before to 3 weeks after the end of the training camp. A suspected MRSA case was defined as a clinically compatible SSTI or systemic infection with no culture confirmation.

and trainers, rather than by players alone. Living arrangements might be modified so that players are not living in close quarters for extended periods. Education on SSTI identification, prevention, and intervention might be included as a standard component of football training camps.

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Children with Elevated Blood Lead Levels Related to Home Renovation, Repair, and Painting Activities — New York State, 2006–2007

Although blood lead levels (BLLs) ≥10 µg/dL are associated with adverse behavioral and developmental outcomes, and environmental and medical interventions are recommended at ≥20 µg/dL, no level is considered safe (*1,2*). A 1997 analysis conducted by the New York State Department of Health (NYSDOH) indicated that home renovation, repair, and painting (RRP) activities were important sources of lead exposure among children with BLLs ≥20 µg/dL in New York state (excluding New York City) during 1993–1994 (*3*). Subsequently, local health departments in New York state began to routinely collect information about RRP activities when investigating children's home environments for lead sources. This report updates the 1997 analysis with data from environmental investigations conducted during 2006–2007 in New York state (excluding New York City) for 972 children with BLLs ≥20 µg/dL. RRP activities were identified as the probable source of lead exposure in 139 (14%) of the 972 children. Resident owners or tenants performed 66% of the RRP work, which often included sanding and scraping (42%), removal of painted materials or structures (29%), and other activities (29%) that can release particles of lead-based paint. RRP activities continued to be an important source of lead exposure during 2006–2007. Children living in housing

built before 1978 (when lead-based paint was banned from residential use) that are undergoing RRP activities should be considered at high risk for elevated BLLs, and appropriate precautions should be taken to prevent exposure.

Since 1993, New York state regulations* have required BLL testing for all children at ages 1 and 2 years. In 2007, 83% of children were tested at least once before age 3 years, but only 41% were tested at ages 1 and 2 years (NYSDOH, unpublished data, 2008). Regulations also require laboratories to report all BLLs to NYSDOH, which then provides results to respective local health departments. For all children reported with BLLs ≥20 μg/dL, local health departments are required to conduct environmental investigations to determine potential sources of exposure and recommend actions to reduce or eliminate exposures following CDC guidelines (*1,2*). Investigations include questioning about any activities that might have disturbed lead-based paint, including RRP activities, inspection of the home and household items for evidence of cracked or peeling paint, and water testing. If available, paint chips are tested for lead.

During 2006–2007, local health departments conducted environmental investigations for all 972 children reported in New York state with BLLs ≥20 μg/dL. In January 2008, NYSDOH abstracted data from local health department records to identify investigations in which RRP activities were determined to be the most likely source of lead exposure and in which no other source of exposure was identified. RRP activities were considered the most likely source if an activity occurred that might have generated dust or paint chips that could have been inhaled or ingested. Lead-based paint that was intact and in good condition was not considered a source of exposure. For each case, abstracted data included 1) child's age, 2) blood test date, 3) BLL, 4) address and approximate age of dwelling, 5) activities that might have disturbed paint, and 6) identity of person who performed the RRP work.

The results indicated that, during 2006–2007, the elevated BLLs of 139 (14%) of the 972 children with BLLs ≥20 μg/dL were related to RRP activities (Table). Among the 139 children, 63 (45%) had BLLs of 20–24 μg/dL, 24 (17%) had BLLs of 25–29 μg/dL, and 52 (38%) had BLLs ≥30 μg/dL. Most of the children (71%) were aged 1–2 years, and 25% were aged 3–5 years. The 139 children resided in 131 homes; eight homes had two children per home, and all other homes had only one child. All but one of the homes were built before 1978. Of 131 homes in which environmental investigations were conducted, 56 (43%) were identified as urban, 36 (28%) as suburban, and 39 (30%) as rural.

*Title 10 NYCRR Part 67, available at http://www.health.state.ny.us/environmental/lead/laws_and_regulations/chapter_2_subpart_67.htm.

TABLE. Number and percentage of children with elevated blood-lead levels (BLL ≥20 μg/dL) related to home renovation, repair, and painting (RRP) activities, by selected characteristics — New York (excluding New York City), 1993–1994 and 2006–2007

	1993–1994		2006–2007	
Characteristic	**No.**	**(%)**	**No.**	**(%)**
No. of children with BLL related to RRP activities	320	(6.9)*	139	(14.3)*
BLL (μg/dL)				
20–24	117	(36.6)	63	(45.3)
25–29	76	(23.8)	24	(17.3)
30–39	87	(27.2)	30	(21.6)
≥40	40	(12.5)	22	(15.8)
Age (yrs)				
<1	29	(9.1)	4	(2.9)
1–2	163	(50.9)	98	(70.5)
3–5	88	(27.5)	35	(25.2)
≥6	9	(2.8)	2	(1.4)
Unknown	31	(9.7)	0	—
Area of home				
Suburban	120	(37.5)	36†	(27.5)
Rural	101	(31.6)	39†	(29.8)
Urban	60	(18.8)	56†	(42.8)
Unknown	39	(12.2)	0†	—
Types of RRP activity				
Scraping and/or sanding	155	(48.4)	58	(41.7)
Painted component removal	41	(12.8)	40	(28.8)
Chemical stripping	32	(10.0)	0	—
Hand-held heat guns/torches	17	(5.3)	1	(0.7)
Exterior blasting	5	(1.6)	0	—
Multiple activities	47	(14.7)	21	(15.1)
Unknown	23	(7.2)	19	(13.7)
Work performed by				
Resident owner/tenant	187	(58.4)	92	(66.2)
Contractor	42	(13.1)	9	(6.5)
Other	73	(22.8)	17	(12.2)
Multiple persons	0	—	3	(2.2)
Unknown	18	(5.6)	18	(13.0)

* Of a total of 4,608 environmental investigations conducted during 1993–1994 and 972 conducted during 2006–2007.
† RRP activities occurred at 131 homes and involved 139 children who had BLLs ≥20 μg/dL.

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Editorial Note: In the United States, median BLLs in children aged <5 years have declined 89% from 1976–1980 to 2003–2004 (*4*). This decline is largely a result of the phaseout of leaded gasoline and efforts by federal, state, and local agencies to limit lead paint hazards in housing. The latter has resulted in a decline in housing units with lead paint hazards from 64 million to 38 million during 1990–2000 (*4*). The decline in the prevalence of elevated BLLs over time has been most pronounced among children belonging to high-risk groups, especially non-Hispanic black children (*5*). However, an estimated 250,000 children remain at risk for exposure to

harmful lead levels in the United States (*4*). Children living in housing undergoing RRP and built before 1978, when lead-based paint was banned from residential use, and particularly those built before 1950, when concentrations of lead in paint were higher (*6*), are now at high risk for elevated BLLs. This is of particular concern in New York state, where both the number (3,309,770) and proportion (43%) of housing units built before 1950 are greater than in any other state (*7*).

The assessment described in this report showed that RRP activities were an important source of lead exposure among children with BLLs ≥20 μg/dL during 2006–2007 in New York state. Of 972 children investigated for BLLs ≥20 μg/dL during 2006–2007, 139 (14%) were traceable to RRP. Among the 131 homes linked to RRP-related lead exposures, all but one were built before 1978. Young children in homes built before 1978 are known to be a high-risk group for lead exposure (*5*), and these findings indicate RRP activities are an important source of lead exposure in this group.

NYSDOH used methods identical to ones used for this analysis to assess the role of RRP in elevated BLLs during 1993–1994, except that the majority of 2006–2007 records were electronic. During 1993–1994, the total number of children reported with BLLs ≥20 μg/dL related to RRP was 320, and these children made up 7% of all children detected with BLLs ≥20 μg/dL, compared with 139 children and 14% of such cases during 2006–2007. Thus, although the absolute number of RRP-related cases dropped substantially between the two periods, the relative burden of these cases on the state's lead screening and treatment efforts increased.

The increase in the relative burden of RRP-related cases might signal a shift in populations at risk for lead exposure in New York state. Additional analyses and follow-up studies are needed to better characterize this possible shift.

The findings in this study are subject to at least two limitations. First, any incomplete reporting of children with BLLs ≥20 μg/dL by laboratories might result in an underestimation of the number of children exposed to lead. Second, RRP activities also might be an important lead exposure source among children with lower BLLs (<20 μg/dL) who were not included in this study. Although not required by regulation, several local health departments conducted environmental investigations for children with BLLs <20 μg/dL during 2006–2007. Children identified with BLLs <20 μg/dL were similar in characteristics to those in this analyses, and RRP activities were the most probable source of lead exposure for 71 (40%) of 178 children (NYSDOH, unpublished data, 2008).

Contractors performed a small percentage (6.5%) of RRP work related to elevated BLLs in New York state during 2006–2007. Resident owners or tenants performed 66% of this work. To help prevent lead contamination when contractors perform RRP projects, the U.S. Environmental Protection Agency issued regulations in March 2008 that will require all renovators in the United States that work on certain types of housing or child-occupied facilities to be certified and follow specific work practices as of April 2010 (*8*). To address the risk from RRP by owners and do-it-yourselfers, more public outreach and education is needed to raise awareness of potential lead-exposure hazards from RRP and to ensure protective measures that safely contain dust and paint chips. In New York, state and local health departments have implemented education programs on RRP activities and lead-safe work practices for contractors and do-it-yourselfers.[†]

Persons who remove lead-based paint should follow recommendations of the U.S. Department of Housing and Urban Development and the U.S. Environmental Protection Agency to protect children from lead exposure (*9,10*). These recommendations include 1) relocate occupants during paint removal, and exclude children and pregnant women from the work area; 2) isolate work areas from other areas of the house; 3) avoid practices that create lead dust or fumes; 4) perform a full cleanup after work is completed; and 5) consider monitoring BLLs in persons who live or work in the dwelling.

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Invasive *Haemophilus influenzae* Type B Disease in Five Young Children — Minnesota, 2008

On January 23, this report was posted as an MMWR Early Release *on the* MMWR *website* (http://www.cdc.gov/mmwr).

In 2008, five children aged <5 years were reported to the Minnesota Department of Health (MDH) with invasive *Haemophilus influenzae* type b (Hib) disease; one died. Only one of the children had completed the primary Hib immunization series; three had received no doses of Hib-containing vaccine (*1*). The five Hib cases are the largest number among children aged <5 years reported from Minnesota since 1992. The cases occurred during a Hib vaccine recall and continuing nationwide shortage that began in December 2007. The recall of certain lots of the two Hib-containing vaccines manufactured by Merck & Co., Inc. (West Point, Pennsylvania) and cessation of production of both vaccines left only one manufacturer of Hib vaccine in the United States (Sanofi Pasteur, Swiftwater, Pennsylvania) (*2,3*). In response, CDC recommended that health-care providers defer the routine 12–15 month booster dose for children not at increased risk for Hib disease (*2,3*). CDC also emphasized that all children should complete the primary series with available Hib-containing vaccines. However, Minnesota vaccination data indicate that primary Hib series coverage was lower during 2008 than coverage with other vaccines administered at the same ages and lower than Hib coverage in previous years. Increases in Hib cases like the one in Minnesota do not appear to have occurred in other states. The increase highlights the need to ensure that all children complete the primary Hib immunization series. Additional investigation to better elucidate the factors that led to these cases is being conducted by MDH and CDC.

Minnesota conducts surveillance for invasive *H. influenzae* disease as part of the Active Bacterial Core surveillance system of CDC's Emerging Infections Program (*4*). A Hib case is defined as isolation of *H. influenzae* from a normally sterile site in a resident of the state. Merck products are both Hib PRP-OMP* vaccines, for which a primary series consists of 2 doses at 2 and 4 months. Sanofi Pasteur products are Hib PRP-TT† vaccines, for which a primary series consists of a 3-dose primary series at 2, 4, and 6 months. For both Hib vaccine series, a routine booster is recommended at age 12–15 months

During 2008 in Minnesota, five children aged 5 months to 3 years were reported with invasive Hib disease; one died (Table). The patients resided in five different counties in Minnesota and had no known relationship to each other. Three patients had received no vaccinations because of parent or guardian deferral or refusal. One child was aged 5 months and had received 2 doses of Hib PRP-TT vaccine in accordance with the primary series schedule. Another child had received 2 doses of Hib PRP-OMP vaccine, but no booster dose, per CDC recommendations during the shortage. Subsequent to Hib infection, this child was diagnosed with hypogammaglobulinemia. None of the five were enrolled in group child care. The five cases in 2008 were the most reported for 1 year from Minnesota since 1992, when 10 cases were reported (Figure 1).

Although the recall and cessation of production of Merck Hib-containing vaccines in December 2007 resulted in a nationwide Hib vaccine shortage, supply of the remaining two products manufactured by Sanofi Pasteur is adequate for all infants to complete the 3-dose primary vaccine series. However, in February 2008 the Minnesota Vaccines for Children program began receiving reports from vaccine providers regarding shortages of vaccine in their offices. In response, MDH advised providers to ensure completion of the primary series as recommended whenever possible and to track and recall infants who had not completed the primary series so that they could be vaccinated as soon as doses were available. On January 13, MDH examined 2008 vaccination coverage data in the Minnesota Immunization Information Connection (MIIC), Minnesota's immunization registry. Data were reviewed for 25,699 children born between November 1, 2007 and March 31, 2008 (Figure 2). Among children aged 7 months, 3-dose primary Hib series coverage was 46.5%, which is lower than the age-appropriate coverage for children who had received pneumococcal conjugate or diphtheria and tetanus toxoids and acellular pertussis (DTaP) vaccination. In contrast, data from the 2007 National Immunization Survey, conducted prior to the shortage, showed that Hib vaccination coverage among children in Minnesota aged 19 months to 35 months was high and did not differ from the national average, suggesting that coverage has declined as a result of the shortage.

* Capsular polysaccharide polyribosomal phosphate (PRP)–outer membrane protein (OMP).
† PRP-tetanus toxoid.

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Assisted Reproductive Technology and Trends in Low Birthweight — Massachusetts, 1997–2004

Low birthweight (LBW) (<2,500 g) is an important cause of infant morbidity and mortality (*1*). The rate of LBW has been steadily increasing in the United States. In 2005, the most recent year for which data are available, LBW represented 8.2% of all births, the highest level reported in the past 4 decades (*2*). The use of assisted reproductive technology (ART)* has been associated with LBW (*3,4*). Research in 1999 indicated that, in Massachusetts during 1989–1996, the rate of LBW increased, paralleling the national trend, and an increasing percentage of LBW infants were born to mothers aged ≥35 years and to mothers with more education.† These findings suggested that a proportion of LBW births might be attributable to infertility treatment; however, at that time, no information was available from birth certificate records to examine whether ART was associated with the increasing rates of LBW. To investigate the role of ART, the Massachusetts Department of Public Health (MDPH) and CDC linked birth certificate records to ART records for the years 1997–2004 (the most recent data available). This report summarizes the results of that analysis, which indicated that, on average, 2% of births during the period resulted from ART; however, 7% of LBW births resulted from ART. The rate of LBW increased during this period among non-ART singletons (from 4.8% to 5.1%), accounting for an additional 407 LBW infants, and among ART singletons (from 6.4% to 8.2%), accounting for an additional 59 LBW infants. Although ART contributes disproportionately to LBW, only a small percentage of the excess LBW births in Massachusetts are explained by ART; therefore, other causes for the increase in LBW should be examined.

The analysis was conducted by merging birth certificate records and ART records for 1997–2004. After all births in Massachusetts, information for birth certificate records is abstracted by hospital staff and sent to the Massachusetts Registry of Vital Records and Statistics. All clinics that perform ART report standardized data without personal identifiers for every ART procedure to CDC, as mandated by the Federal Fertility Clinic Success Rate and Certification Act.§ For this analysis, investigators linked birth certificate records with live-birth ART records in 2-year intervals (*5*). Birth certificate records and ART records were included based on mother's residence in Massachusetts. A deterministic linkage was performed using maternal and infant dates of birth and plurality. Questions regarding duplicate matches were resolved using postal code of residence. A total of 13,025 ART records were linked to a birth certificate record, representing 83% of

* ART includes infertility treatments in which both eggs and sperm are handled in a laboratory for the purpose of establishing a pregnancy. Procedures include in vitro fertilization, gamete intrafallopian transfer, zygote intrafallopian transfer, embryo cryopreservation, and surrogate birth.

† Additional information available at http://www.cdc.gov/mmwr/preview/mmwrhtml/00056908.htm.

§ Fertility Clinic Success Rate and Certification Act of 1992 (FCSRCA), Public Law 102–493, October 24, 1992. Additional information available at http://www.popline.org/docs/1270/087273.html and http://wwwn.cdc.gov/dls/art/fcsrca.aspx.

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