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MORBIDITY AND MORTALITY WEEKLY REPORT

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World No-Tobacco Day — May 31, 1996

World No-Tobacco Day is an annual international event that encourages governments, communities, and other groups to become more aware of the hazards of tobacco use and requests all persons who use tobacco to quit for at least 24 hours. This year's event will be held May 31, 1996; the theme is "Sports and the Arts Without Tobacco."

The World Health Organization (WHO), in collaboration with the United Nations' Educational, Scientific and Cultural Organization and the International Olympic Committee, is cosponsoring World No-Tobacco Day. This year's initiative extends the growing awareness among arts institutions and sports and other event organizers that their events and activities should not be linked to products that impair health and cause premature death (1).

Additional information about World No-Tobacco Day 1996 is available from the WHO Regional Office for the Americas (telephone [202] 861-3200); from the National Association of African Americans for Positive Imagery (telephone [215] 477-4113); and from CDC's Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion (telephone [770] 488-5705).

Reference

1. World Health Organization. World No-Tobacco Day, 31 May 1996 [Advisory kit]. Geneva: World Health Organization, 1996.

Tobacco Use and Usual Source of Cigarettes Among High School Students — United States, 1995

Approximately 90% of all initiation of tobacco use occurs among persons aged ≤ 18 years, and the prevalence of tobacco use among adolescents is increasing (1,2). Despite laws prohibiting the sale of tobacco to minors in all states and the District of Columbia, most minors are able to purchase tobacco products (1,3). To determine current prevalences of the use of cigarettes and smokeless tobacco products (i.e., chewing tobacco and snuff) by high school students, the usual source of cigarettes among those who smoked, and the percentage of students who were asked to show

Compliance with the Clinical Laboratory Improvement Amendments of 1988 for Hemoglobin Screening — California, 1995

The Clinical Laboratory Improvement Amendments of 1988 (CLIA)* established standards for improving the quality of clinical laboratory testing in the United States (1). One intent of CLIA was the regulation of smaller, provider-based laboratories, such as those operated by health-care providers in the Child Health and Disability Prevention (CHDP) program.† In 1995, in conjunction with an assessment of county-specific variations in prevalence rates of anemia, the California Department of Health Services conducted a mail survey of CHDP providers to assess compliance with CLIA regulations for hemoglobin screening. This report summarizes the results of that survey, which indicate that, in California, many CHDP providers do not comply with CLIA-mandated quality-assurance practices for hemoglobin screening in their clinical laboratories.

Questionnaires were mailed to each of the 418 CHDP providers that submitted hemoglobin data for ≥ 100 children aged 6–59 months to the Pediatric Nutrition Surveillance System (PedNSS) during 1993. The questionnaires assessed the type of health-care practice, the method used for hemoglobin screening, and quality-assurance practices. Methods of hemoglobin screening were classified as waived or nonwaived based on CLIA standards. A waived test is one that is a “simple laboratory procedure which...has an insignificant risk of erroneous result.” Clinical laboratories conducting only waived tests are exempt from routine federal inspections but must follow the manufacturers’ recommendations for quality assurance (e.g., for specimen collection and handling, quality-control procedures, and frequency of calibration) and must obtain a certificate of waiver from the Health Care Financing Administration. A nonwaived test is moderately or highly complex and, therefore, requires a higher level of knowledge, training, and judgment to be performed properly. Clinical laboratories performing nonwaived tests are required to comply with a series of quality standards (including participation in a proficiency testing program) and to obtain a CLIA certificate of registration or accreditation.

Of the 418 CHDP providers surveyed, 344 (78%) returned a completed questionnaire; of these, 16 providers were excluded from analysis because nine used a contracted commercial laboratory to perform their hemoglobin measurements, and seven used hematocrit rather than hemoglobin assessment. Of the 328 providers, 239 (73%) reported performing hemoglobin determinations with a hemoglobinometer method classified as waived under CLIA (i.e., HemoCue™)§, and 89 (27%) reported nonwaived methods (Table 1). Of the providers using a nonwaived method, 59 used a color comparator (e.g., BMS Hemoglobinometer™ or American Optical Hb-Meter™); 23, an automated hematology analyzer (e.g., a Coulter counter); and seven, other instruments.

Of the 239 providers that used a waived hemoglobinometer, 147 (61.5%) reported performing quality-control checks on the instrument at least once daily as recom-

*Public Law 100-578 (42 USC § 201 note).

†CHDP is a state-based Early, Periodic Screening, Diagnosis, and Treatment program for low-income families that provides preventive health-screening services for persons aged 0–21 years.

§Use of trade names and commercial sources is for identification only and does not imply endorsement by the Public Health Service or the U.S. Department of Health and Human Services.

CLIA — Continued

TABLE 1. Number and percentage of Child Health and Disability Prevention (CHDP)* providers performing daily quality-control checks and participating in a proficiency testing program, by hemoglobin screening method† — California, 1995

Hemoglobin screening method	Sample size	Perform daily quality-control checks		Participate in a proficiency testing program	
		No.	(%)	No.	(%)
Waived					
Hemoglobinometer	239	147	(61.5)	75	(31.4) [§]
Nonwaived					
Color comparator	89	37	(41.6)	37	(41.6)
Automated hematology analyzer	59	9	(15.3) [¶]	12	(20.3)
Other	23	22	(95.7)	22	(95.7)
	7	6	(85.7)	3	(42.9)

*CHDP is a state-based Early, Periodic Screening, Diagnosis, and Treatment program for low-income families that provides preventive health-screening services for persons aged 0–21 years.

†Based on the Clinical Laboratory Improvement Amendments of 1988 (CLIA), hemoglobin screening methods were classified as waived or nonwaived. A waived test is one that is a "simple laboratory procedure which...has an insignificant risk of erroneous result." A non-waived test is moderately or highly complex and, therefore, requires a higher level of knowledge, training, and judgment to be performed properly.

§For health-care providers using waived methods for hemoglobin screening, proficiency testing is not required under CLIA.

¶Data were not available for one provider.

mended by the manufacturer (Table 1). Although not required under CLIA, 75 (31.4%) of these providers reported participation in a proficiency testing program for hemoglobin. Of the 89 providers that used nonwaived methods, 37 (41.6%) reported performing quality-control checks on the instrument at least once daily, and 37 (41.6%) reported participating in a required proficiency testing program (Table 1). Rates of quality-control checks and proficiency testing were lowest for providers that used color comparators (15.3% and 20.3%, respectively).

Rates of compliance with CLIA regulations varied by type of health-care practice and hemoglobin screening method. For providers using waived methods, the overall rate of compliance with quality-control regulations was 61.5% (range: 50.0% for hospital-based practices to 79.1% for "other.") (Table 2). For providers using non-waived methods, the overall rate of compliance with CLIA regulations for quality control was 41.6% (range: 35.2% for private practices to 83.3% for hospital-based practices). The overall rate of compliance with proficiency testing was 41.6% (range: 33.8% for private practices to 100.0% for hospital-based practices).

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Editorial Note: The Clinical Laboratory Improvement Act was enacted in 1967 and mandated efforts to assure the quality of clinical laboratory testing; in 1988, this federal legislation was amended to include additional criteria for regulation and accreditation and to expand its regulatory authority to include all 154,721 clinical laboratories

CLIA — Continued

TABLE 2. Percentage of Child Health and Disability Prevention (CHDP)* providers that perform daily quality-control checks and participate in a proficiency testing program, by type of health-care practice and hemoglobin screening method† — California, 1995

Type of practice	Hemoglobin screening method					
	Waived			Nonwaived		
	Sample size	Performs quality-control checks	Participates in a proficiency testing program [‡]	Sample size	Performs quality-control checks	Participates in a proficiency testing program
Private	133	51.9%	30.1%	71	35.2% [¶]	33.8%
Hospital-based	6	50.0%	33.3%	6	83.3%	100.0%
HMO- or PPO-based**	18	77.8%	16.7%	0	—	—
County-based	39	69.2%	35.9%	7	42.9%	42.9%
Other	43	79.1%	37.2%	5	80.0%	80.0%
Total	239	61.5%	31.4%	89	41.6%	41.6%

*CHDP is a state-based Early, Periodic Screening, Diagnosis, and Treatment program for low-income families that provides preventive health-screening services for persons aged 0–21 years.

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‡For health-care providers using waived methods for hemoglobin screening, proficiency testing is not required under CLIA.

¶Data were not available for one provider.

**Health maintenance organization or preferred provider organization.

in the United States. Quality assurance ensures accuracy and precision of test measures within a laboratory and comparability across facilities. Elements essential for quality assurance include adherence to manufacturers' directions; maintenance of appropriate temperatures; performance of daily quality-control checks; and, when applicable, participation in a proficiency testing program (2). Quality control includes the measurement of materials of a known value to ensure test accuracy; proficiency testing requires participating laboratories to test simulated patient specimens of unknown values and report results to the officiating program. For a hemoglobin screening method to be determined accurate through proficiency testing, 80% of the tested specimens must be within 7% of the target value.[¶]

The findings in this report indicate that, in California, many CHDP providers do not comply with CLIA-mandated quality-assurance practices for hemoglobin screening in their clinical laboratories. Neither the effect of inadequate quality assurance on the reliability of PedNSS screening hemoglobin data nor their usefulness in public health decision making have been determined. However, unreliable screening results can reduce the sensitivity of hemoglobin tests, resulting in the possible failure to diagnose and treat anemia in children with low hemoglobin values.

¶The average of all test values using similar methodology (i.e., peer group mean) for a given test or analyte.

CLIA — Continued

Although incomplete compliance with CLIA regulations for hemoglobin screening may be related to lack of provider knowledge about CLIA regulations, determinants for noncompliance must be further assessed (CHDP providers, personal communications, March 12–April 6, 1995). In California, possible methods to improve provider compliance with CLIA regulations for hemoglobin screening include 1) distributing through professional organizations information highlighting CLIA regulations and the value of appropriate quality assurance in hemoglobin testing, 2) requiring providers to demonstrate adherence to quality laboratory methods for hemoglobin testing as a criterion for participation as a provider in a state or federally funded program, and 3) requiring ongoing in-service education for providers and their laboratory technicians about CLIA regulations for continuation as a provider in a state or federally funded program.

References

1. CDC. Regulations for implementing the Clinical Laboratory Improvement Amendments of 1988: a summary. MMWR 1992;41(no. RR-2).
2. CDC. Clinical laboratory performance on proficiency testing samples—United States, 1994. MMWR 1996;45:193–6.

Mercury Exposure Among Residents Of a Building Formerly Used for Industrial Purposes — New Jersey, 1995

Potential sources of elemental mercury in residential settings include mercury switches, mercury-containing devices (e.g., thermostats and thermometers), and mercury obtained from laboratories, dental offices, or other industrial sources. In January 1995, pools of elemental mercury were found in a five-story factory building that had been converted to residential use in Hoboken, New Jersey; the building previously had been used to manufacture mercury vapor lamps. This report summarizes the investigation by the New Jersey Department of Health (NJDOH), the U.S. Environmental Protection Agency (EPA), the Agency for Toxic Substances and Disease Registry (ATSDR), the Hoboken Board of Health, and the Hudson Regional Health Commission (HRHC), which identified high levels of mercury vapor in the building and indicated that residents had been exposed to high levels of mercury.*

The five-story brick building included 17 condominium units and one attached townhouse with a total of 32 residents; six were children aged 9 months–8 years. Workers renovating an unoccupied condominium unit on the fifth floor initially found pools of mercury in the subflooring. The tenants' association hired a private contractor to remediate the contamination. During remediation, mercury-contaminated debris (e.g., wood flooring) was removed from the unit. In March 1995, a private consultant for the tenants' association found detectable levels of mercury vapor in units on all five floors. The highest levels of mercury were $5 \mu\text{g}/\text{m}^3$ in breathing zone areas and $888 \mu\text{g}/\text{m}^3$ in areas where liquid mercury was visible; both of those levels were recorded on the fifth floor. In comparison, for other residential properties known to have been contaminated with mercury, ATSDR has recommended indoor air mercury levels be $<0.3 \mu\text{g}/\text{m}^3$ ($0.0003 \text{ mg}/\text{m}^3$) to protect public health (1,2).

*Copies of the health consultation report are available from ATSDR, telephone (404) 639-6066.