

Industrial Injuries and Diseases

Lead Poisoning in 1943 and Earlier Years

By FREDERICK L. HOFFMAN

CASES of lead poisoning in industry and elsewhere, in the United States, showed a steady decline from 2.64 per million population in 1916 to 0.52 per million in 1941 and 0.53 in 1942. The number of deaths from lead poisoning declined from 132 in 1936 to 71 in 1942, and preliminary returns indicate a further drop in 1943.¹ This decrease has occurred in spite of the fact that the use of lead in lead-processing industries has increased considerably in recent years.² Unfortunately, it is not possible to state exactly the number of deaths from occupational lead poisoning in American industry since the official returns do not differentiate (as is customary in many foreign countries, particularly in England and Wales) between these and the nonoccupational fatalities from such poisoning.

In table 1 are shown, by years (1901-42), the number of deaths from lead poisoning and the rate per 1,000,000 population. It should be noted that only since 1936 have complete returns for the whole country been available.

TABLE 1.—*Number and Rate of Deaths from Lead Poisoning in Registration States¹ of Continental United States, 1910-42*

Year	Number	Rate per million of estimated population	Year	Number	Rate per million of estimated population	Year	Number	Rate per million of estimated population
1901.....	44	2.17	1915.....	143	2.31	1929.....	133	1.15
1902.....	58	2.81	1916.....	177	2.64	1930.....	101	.84
1903.....	61	2.91	1917.....	139	1.97	1931.....	110	.92
1904.....	50	2.34	1918.....	122	1.54	1932.....	75	.63
1905.....	47	2.15	1919.....	144	1.73	1933.....	117	.98
1906.....	84	2.48	1920.....	119	1.38	1934.....	118	1.00
1907.....	65	1.88	1921.....	138	1.57	1935.....	130	1.10
1908.....	77	1.99	1922.....	136	1.46	1936.....	132	1.11
1909.....	79	1.78	1923.....	138	1.42	1937.....	77	.65
1910.....	118	2.48	1924.....	140	1.40	1938.....	94	.79
1911.....	132	2.44	1925.....	141	1.38	1939.....	97	.81
1912.....	131	2.38	1926.....	143	1.37	1940 ²	100	.84
1913.....	142	2.44	1927.....	135	1.26	1941.....	70	.59
1914.....	137	2.24	1928.....	125	1.10	1942.....	71	.53

¹ Registration States are those requiring the reporting of births and deaths.

² Based on enumerated population as of April 1, 1940.

Geographical Distribution of Lead Poisoning

Deaths from lead poisoning occurred in 28 States in 1941 and 22 States in 1942, the States omitted being those in which no deaths occurred.

¹ For data for earlier years, see Monthly Labor Review, February 1938 (p. 420).

² The amount of refined lead produced increased from 497,303 short tons in 1937 to 584,421 short tons in 1940 according to figures of the U. S. Bureau of Mines.

occurred in either one of the 2 years (table 2). In 1941 the largest number of deaths from lead poisoning in any State was in Pennsylvania, with 10 deaths; in 1942 the largest number (10) occurred in the State of New York, and there were 7 deaths each in Ohio and Pennsylvania. These small numbers are a clear indication of the fact that lead poisoning in fatal form is now a comparatively rare occurrence, even in the States in which lead processing is done on a large scale.

TABLE 2.—Deaths From Lead Poisoning, by States, in 1941 and 1942, as Shown by Census Returns

State	1941	1942	State	1941	1942	State	1941	1942
All States.....	70	72	Kentucky.....	0	1	Ohio.....	5	7
Alabama.....	2	0	Louisiana.....	1	0	Oklahoma.....	1	3
Arkansas.....	1	0	Maine.....	1	0	Oregon.....	1	0
California.....	4	4	Maryland.....	3	6	Pennsylvania.....	10	7
District of Colum- bia.....	1	0	Massachusetts.....	2	4	Tennessee.....	1	0
Florida.....	2	2	Michigan.....	1	0	Texas.....	1	4
Georgia.....	6	0	Minnesota.....	2	1	Utah.....	1	0
Illinois.....	4	3	Mississippi.....	0	2	Virginia.....	2	2
Indiana.....	2	2	Missouri.....	5	0	Washington.....	0	4
Iowa.....	1	1	Nebraska.....	0	2	West Virginia.....	1	0
Kansas.....	1	1	New Jersey.....	3	3	Wisconsin.....	0	2
			New York.....	5	10	Wyoming.....	0	1

Supplementary information for 1942 and 1943, furnished by State Boards of Health, is shown in table 3 for 37 States. From these preliminary returns it appears that the annual number of deaths from lead poisoning declined from 62 in 1942 to 47 in 1943.³ The most remarkable reduction in deaths took place in the State of New York—from 11 to 4; of these, New York City accounted for 8 in 1942 and 1 in 1943, the latter being the death of an infant 2 months of age.

TABLE 3.—Deaths from Lead Poisoning, 1942 and 1943, as Shown by Returns from State Boards of Health¹

State	1942	1943	State	1942	1943	State	1942	1943
All States report- ing.....	62	47	Maine.....	0	1	Oregon.....	0	0
Alabama.....	0	0	Massachusetts.....	4	6	Virginia.....	2	0
Arkansas.....	0	0	Minnesota.....	1	0	Vermont.....	0	0
California.....	7	5	Mississippi.....	2	1	West Virginia.....	0	1
District of Colum- bia.....	0	0	Montana.....	0	0	Utah.....	0	0
Florida.....	0	0	Nevada.....	0	0	South Carolina.....	0	1
Idaho.....	0	0	New Hampshire.....	0	2	South Dakota.....	0	0
Illinois.....	1	0	New Mexico.....	0	1	Tennessee.....	0	0
Indiana.....	0	0	North Dakota.....	0	0	Texas.....	4	3
Iowa.....	3	0	Nebraska.....	3	1	Washington.....	1	2
Kansas.....	0	0	New Jersey.....	3	0	Wisconsin.....	1	1
Kentucky.....	2	0	New York.....	11	4	Wyoming.....	1	0
	1	2	North Carolina.....	0	1	Pennsylvania.....	7	6
			Ohio.....	8	9			

Subject to slight correction after the Census Office returns of 1943 are available (not before the end of 1944).

¹ Of these, New York City accounted for 8 in 1942 and 1 in 1943.

² No satisfactory explanation for the discrepancies in the statistics of deaths from lead poisoning as furnished by the Bureau of the Census and the State divisions of vital statistics is apparent, except that the difference is probably due to the final determination as to the primary cause of death.

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Occupational Distribution of Deaths From Lead Poisoning

The available statistics do not make it possible to state with absolute accuracy the number of deaths properly chargeable to lead industries and otherwise. Table 4, compiled from information supplied by the division of vital statistics of the various State boards of health, shows fatalities reported as having been caused by lead poisoning, 1939-42.

TABLE 4.—*Fatalities from Lead Poisoning, 1939-42, by Occupational, etc., Classification*

Class	Number of deaths in—			
	1939	1940	1941	1942
All classes.....	42	72	46	56
Painters.....	13	31	15	23
Miscellaneous occupations.....	15	17	17	23
Persons under 15 years of age.....	13	22	13	8
Women.....	1	2	1	3

Of the 216 deaths from lead poisoning reported in the 4-year period, 73 were those of painters. Although nearly all of these were complicated by other diseases (possibly of primary importance), it is almost universally the practice to attribute the death to lead poisoning if there is even slight evidence of connection with lead or lead-using industries.

Tabulations of deaths from lead poisoning in miscellaneous occupations show a surprisingly small number of deaths among workers in the lead-processing industries. The relatively large number of employments in which exposure to lead is only incidental is suggestive of amateur painting and an unrecognized exposure to lead hazards. Confirmation of this is indicated by Census returns showing that in 1940, of 100 deaths from lead poisoning, only 48 were occupational and 52 were nonoccupational—illustrating the immense progress which has been made in industrial hygiene as applied to lead-using industries. All the larger lead-processing plants are equipped with dust-prevention devices and other means of reducing the lead hazard to a minimum. In addition, factory employees in the lead-using industries are subject to medical examination upon entry and at regular intervals thereafter.

Industrial Injuries, June 1944

IN THE first 6 months of 1944 there was an average of 19.3¹ disabling injuries for every million employee-hours worked in manufacturing, as compared with an average of 20.6¹ for the corresponding period of 1943. This 6.3-percent reduction in the injury-frequency rate is reflected in the estimates of the total number of injuries experienced by manufacturing workers. In actual numbers it is estimated that approximately 377,000 factory workers were disabled by industrial injuries in the first half of this year. Nearly 1,500 of these workers died as a result of their injuries, and over 15,000

¹ Unweighted.

have to contend with some form of physical impairment for the rest of their lives. In comparison, the estimated volume of disabling injuries in manufacturing during the first half of 1943 was 387,000. Disregarding the continuing economic losses arising from the deaths and permanent impairments, it is estimated that the direct loss in manpower because of injuries in manufacturing amounted to 7,540,000 man-days of productive effort in the first 6 months of 1944, as compared with 7,740,000 man-days in the first half of 1943.

Among the 91 manufacturing industries for which data are available, there were 11 which had cumulative injury-frequency rates of less than 10 for the first half of 1944. It is highly significant that this group includes a number of the most important war industries. The low-rate industries and their 6-month frequency rates, arranged in the order of their rates were women's clothing, 5.5; explosives, 5.6; rayon and allied products (chemical), 6.2; small-arms ammunition, 6.3; cement, 8.7; radios and phonographs, 8.8; soap and glycerin, 9.0; fighting and fire-control equipment, 9.1; aircraft, 9.6; iron and steel, 9.5; and petroleum refining, 9.9.

On the other hand there were eight manufacturing industries which had cumulative frequency rates of over 40 for the first half of 1944. These were miscellaneous lumber products, 40.2; foundries, iron and steel, 42.7; planing mills, 45.3; boatbuilding 45.3; sheet-metal work, 49.4; plate fabrication and boiler-shop products, 52.1; wooden containers, 54.1; and sawmills, 55.1.

In terms of frequency rates, the June record for all manufacturing remained unchanged from that of May. In both months the unweighted injury-frequency rate was 19.8 disabling injuries for every million employee-hours worked. Despite the lack of change in the overall frequency rate, however, there were considerably more reductions in the frequency rates of individual industries than there were increases. Seventeen of the industry frequency rates were at least 5 points lower in June than they had been in May, and 25 others were at least a full frequency-rate point. On the other hand, increases of 5 or more points were recorded for only 7 industries, and 20 had increases of 1 to 5 points. For 13 industries the June frequency rates were the lowest monthly rates thus far recorded in 1944, and for 13 others the June rates were higher than those of any previous months.

The reports were received from 12,294 manufacturing establishments. The reporting plants employed 6,844,000 workers, or nearly 90 percent of the Bureau of Labor Statistics' estimate of total manufacturing employment during the month. On the basis of these reports, which listed a total of 27,038 disabling injuries for the month, it is estimated that 64,000 employees of manufacturing plants were disabled by work injuries during June. Using an average of 20 days of time for each disabling injury, the direct loss to industry of these injuries may be estimated as 1,280,000 man-days of production, which is equivalent to full-time employment for the month for over 49,000 workers.