

August 1, 1980

MMWR

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Heat Wave - Continued

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Editorial Note. Because there is no agreed-upon definition of heatstroke or of the other illnesses that make up most heat-related mortality, a retrospective assessment of all death certificates within the affected areas will be needed to determine the impact of this heat wave. At this time, since there are unavoidable delays in reviewing death certificates in most jurisdictions, CDC has no estimate of heat-related mortality.

The preliminary data reported above concur with published analyses of previous heat wave mortality in the United States in implicating poverty as an important risk factor (1). In possible contrast to the reports of large numbers of deaths in elderly people and urban residents in previous heat waves, the St. Louis data suggest that the additional deaths this year as compared to 1979 were not confined to the over-65 age group. The definitive results from Arkansas are expected to be useful in estimating the potentially considerable numbers of rural residents experiencing heat-related mortality.

Reference

1. Henschel A, Burton LL, Margolies L, Smith JE. An analysis of the heat deaths in St. Louis during July 1966. *Am J Public Health* 1969, 59:2232-42.

Glioblastoma Cluster in a Chemical Plant - Texas

In November 1978, a Texas petrochemical worker informed a local office of the Occupational Safety and Health Administration (OSHA) that he and several of his former coworkers had been diagnosed as having brain cancer. Epidemiologic investigation was undertaken and, while still ongoing, has identified 18 deaths due to brain tumor in former employees of a large, diversified, petrochemical plant on the Texas Gulf Coast (1). The workers' death certificates listed malignant, benign, or unspecified primary brain tumors* as the primary cause of death. Review of additional information has revealed that 15 of the 18 tumors were glioblastomas. Of the remaining 3, 2 were meningiomas and 1 was an astrocytoma grade I.

To determine whether this number of cases exceeds the expected, a cohort mortality study was initiated. Seventeen of the 18 cases met the study's case definition (death certificate diagnosis of brain tumor, white male, date of death between 1940 and 1979). After appropriate adjustment for year of death and age at death, 11.2 such cases would have been expected (SMR† = 152). Preliminary analysis revealed a trend of increasing excess mortality with increasing length of employment (<10 years, SMR = 95, 10-20 years, SMR = 131, >20 years, SMR = 304).

Preliminary review of work records for the 18 cases reveals no obvious common exposure factor within the plant. The cohort mortality study, a case-control study, and characterization of potential industrial exposures will continue.

*Categories 191, 192, 225, and 238 of the 8th revision of the International Classification of Diseases, adapted. This case count does not include the original caller, whose cancer was determined to be metastatic, but does include his 4 coworkers.

†Standardized Mortality Ratio = observed/expected X 100

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PROTECTED MATERIAL - MONSANTO INSURANCE COVERAGE LITIGATION

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Glioblastoma — Continued

Reported by Houston South Area Office and Division of Technical Support, OSHA, Industry-wide Studies Br, Div of Surveillance, Hazard Evaluation and Field Studies, National Institute for Occupational Safety and Health, CDC.

Editorial Note: Brain cancer has been associated in humans with only 1 occupational agent, vinyl chloride (2), although numerous other agents, such as acrylonitrile, cause brain cancer in animals (3). Epidemiologic investigations have shown excesses of brain tumor in chemists (4) and associations between brain tumor and employment in oil refineries and chemical plants (5,6).

The uniformity of cell type among these cases distinguishes this group from clinical series in which greater histologic variety is noted. Glioblastoma multiforme was, however, the predominant cell type among brain tumors in workers exposed to vinyl chloride (2).

Since determination of vital status is complete in only 47% of the cohort in this study (3,106 out of 6,677 workers) and because the expected number of cases is calculated by assuming that those workers not yet located are still alive, the estimated SMRs probably underrepresent the true excess of brain tumor mortality in this population.

Determination of a causative agent in this episode awaits further study.

References

1. Alexander V, Leffingwell S, Lloyd W, Waxweiler R, Miller R. Brain cancer in petroleum workers—a case series report. American Journal of Industrial Medicine (in press).
2. Waxweiler RJ, Stringer W, Wagoner JK, Jones J. Neoplastic risk among workers exposed to vinyl chloride. Ann NY Acad Sci 1976, 270: 40-8.

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TABLE I. Summary — cases of specified notifiable diseases, United States
(Cumulative totals include revised and delayed reports through previous weeks.)

DISEASE	30th WEEK ENDING		MEDIAN 1975-1979	CUMULATIVE FIRST 30 WEEKS		
	July 26, 1980	July 28, 1979		July 26, 1980	July 28, 1979	MEDIAN 1975-1979
Aspetic meningitis	123	218	174	2,214	2,246	1,716
Brucellosis	2	1	8	101	80	121
Chickenspox	802	734	777	153,373	149,202	148,322
Diphtheria	—	—	1	2	6	54
Encephalitis	11	28	26	345	351	399
Primary (arthropod borne & unspc)	3	8	8	120	154	154
Post infectious	379	359	309	9,727	8,148	8,573
Hepatitis, Viral	549	437	624	15,281	14,886	17,889
Type A	207	176	160	6,731	5,740	4,928
Type unspecified	44	19	19	1,062	347	289
Malaria	158	104	227	12,395	11,231	22,650
Measles (infectious)	32	54	24	1,701	1,761	1,144
Meningococcal infections	32	53	24	1,694	1,743	1,137
Total	—	1	—	7	18	17
Civilian	57	62	157	6,735	10,616	15,249
Military	52	27	41	723	733	733
Rubella (German measles)	53	87	106	3,093	10,309	14,380
Tetanus	2	1	2	37	36	34
Tuberculosis	585	509	630	15,702	15,951	17,322
Typhoid fever	7	1	3	86	105	80
Typhus fever (tick borne (Rky Mt spotted))	5	10	10	229	240	214
Veneral diseases	56	69	55	597	561	561
Gonorrhea	20,398	19,531	21,869	550,385	553,305	551,768
Syphilis	449	451	579	15,215	15,540	15,629
Primary & secondary	610	448	686	16,812	13,662	13,662
Civilian	8	10	9	179	171	176
Military	127	95	78	3,832	2,789	1,737
Rabies in animals	—	—	—	—	—	—

TABLE II. Notifiable diseases of low frequency, United States

	CUM 1980		CUM 1980
Anthrax	—	Poliomyelitis	6
Botulism	25	Paralytic	4
Cholera	9	Purpuric (Mass. 1 Fla 1, Wash 1)	47
Congenital rubella syndrome (Calif 1)	39	Rabies in man	—
Leprosy	105	Tetanus (N.Y. 1)	72
Leptospirosis (Iowa 2, Fla 1, Hawaii 1)	36	Typhus fever (tick borne endemic murine) (Tex 1)	40
Plague	7		

All delayed reports will be included in the following week's cumulative totals

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Gluiolastoma - Continued

3. Maltoni C, Ciliberti A, DiMaio V. Carcinogenicity bioassays in rats of acrylonitrile administered by inhalation and ingestion. *Med Lav* 1977;68:400.
4. Olin GR, Ahlbom A. The cancer mortality among Swedish chemists graduated during three decades. *Environ Res* 1980;22:154-60.
5. Theriault G, Goulet L. A mortality study of oil refinery workers. *Journal of Occupational Medicine* 1979;20:367-70.
6. Thomas TL, deCoulle P, Moure-Eraso R. Mortality among workers employed in petroleum refinery and petrochemical plants. *Journal of Occupational Medicine* 1980;22:97-103.

Follow-up on Mount St. Helens

July 22 eruption of Mount St. Helens

Mount St. Helens erupted 3 times on the evening of July 22. The eruptions (and their approximate duration) were at 5:13 pm (2 minutes), 6:26 pm (10 minutes), and 7:00 pm (3 hours), and effectively blew out the developing dome.

Individuals with permits to be on the mountain were cleared from the hazardous zone after the earthquake activity began; no fatalities occurred. There was some pyroclastic flow in the direction of the Spirit Lake area, but no mudflows or significant ashfall on the mountain. These eruptions, therefore, should not significantly increase any existing risks of flooding or other dislocations in the area.

The ashfall was east-northeast of the mountain, in the general direction of the plume from the first eruption on May 18, although the total ashfall was less. The most heavily affected area was in northeast Washington, north of Spokane. The hospitals in the CDC surveillance network, as well as other hospitals in the plume trajectory, rapidly provided unofficial estimates of ashfall in their communities. All of the hospitals reported a 0- to 1/8-inch accumulation, except in an area in northeast Washington (including Chewelah, Colville, Ruby, and Metaline Falls—all north of Spokane), where 1/8-1/4 inch of ashfall was reported.

Preliminary data on total suspended particulates (TSP) from the Environmental Protection Agency (EPA) Region X (Table 1) showed TSP increases in the plume path during the 24-hour post-eruption period, the peak levels measured were considerably lower, however, than those measured after the May 18 eruption. Addy, which is in the area that received the heaviest fallout, had an unconfirmed report of TSP of 4,497 $\mu\text{g}/\text{m}^3$. Yakima and Richland, on the fringe of the plume, and Spokane showed lesser increases.

TABLE 1. Preliminary reports of total suspended particulates (TSP) measurements, July 21-24, 1980

Station	Date	Time frame (hours)	TSP ($\mu\text{g}/\text{m}^3$)
Addy	July 23	0-2400	4,997
Yakima	July 20-21	900-900	100
	July 22-23	1800-1100	850
	July 23-24	1100-900	427
	July 22-23	600-600	1,394
Richland	July 21	0-2400	165
	July 22	0-2400	271
	July 23	0-2400	655
	July 24	0-800	278
Spokane			

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