CENTERS FOR DISEASE CONTROL

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Notice to Readers

Introduction to Table V Premature Deaths, Monthly Mortality, and Monthly Physician Contacts — United States

Beginning with this issue, a new table will appear monthly in the MMWR: "Table V. Potential Years of Life Lost, Deaths, and Death Rates, by Cause of Death, and Estimated Number of Physician Contacts, by Principal Diagnosis" (see page 117). By displaying a variety of measures that gauge the importance and relative magnitude of certain public health issues, this table will call attention to those issues where strategies for prevention are needed. Publication of this table reflects CDC's increased responsibility for promoting action to reduce unnecessary morbidity and premature mortality and continues the MMWR's tradition of disseminating public health information to its readership.

Further improvements in health can be achieved through actions taken by individuals as well as by administrators in the public and private sectors to promote a safer and healthier environment (*1*). To this end, the new table provides information regarding areas that provide the greatest potential for health improvement.

Causes of death are listed in Table V in descending order of the potential years of lost life that are attributed to each cause. In 1980, heart disease, cancer, and cerebrovascular disease accounted for 67.9% of all deaths in the United States; motor-vehicle and other accidents, suicide, and homicide accounted for 8.1% (*2*). In terms of age at the time of death, the relative importance of causes of death changes remarkably; motor-vehicle and other accidents, suicide, and homicide accounted for 40.8% of the total years of life lost prematurely (before age 65 years); and heart disease, cancer, and cerebrovascular disease accounted for 37.2%.

"Potential years of life lost before age 65" in the table is estimated for persons between 1 year and 65 years old at the time of death and is derived by multiplying the annual number of deaths in each age category by the difference between 65 years and the age at the mid-point of each category. If deaths of persons older than 65 years were included, greater weight would be given to natural causes of death, and premature and preventable causes of death would no longer be distinguishable. If deaths of persons younger than 1 year were included, causes of death affecting this age group would be weighted heavily and would therefore contribute a disproportionately large share of potential years of life lost. However, "Infant mortality" in the table is a measure of deaths occurring in this age group and "Prenatal care" reflects efforts to prevent death in this group.

Cause-specific mortality rates, published in the *Monthly Vital Statistics Report* by the National Center for Health Statistics, are estimated from a systematic sample of 10% of death

Premature Deaths — Continued

certificates received in state vital statistics offices during a 1-month period using the underlying cause of death recorded on the certificate. Because complete information concerning the underlying cause of death is not available when the sample is taken, estimates for certain causes are biased in the monthly sample but then are corrected when annual estimates are made. The estimated number of deaths each month is obtained by multiplying the corresponding estimated mortality rate, which is computed on an annual basis, by the provisional population estimate for the United States and then dividing by the number of days for that month as a proportion of the total days in the year.

The measure for morbidity is obtained from the National Disease and Therapeutic Index (NDTI), a random sample of data from office-based physicians in 19 major specialties in the continental United States. Each physician in the sample records all his contacts with private patients for 2 consecutive days each quarter. These contacts comprise telephone calls (7% of total in 1981); office visits (68%); and patients visited by the physician in hospitals (22%), nursing homes (1%), and their own homes (1%). As a result, this measure gives greater weight to those diseases that prompt a visit to a private physician or require hospitalization. When the physician cannot make a diagnosis at the time of the visit, the suspected diagnosis or presenting symptom is recorded. Although misclassification might occur, the potential for this bias is reduced by using broad categories in the table.

Publication of Table V is an effort to use measures of morbidity and mortality as reminders of the impact on public health of some of these preventable problems. However, when data are summarized, their complexity and detail are sacrificed; and when information is simplified, although the overall effect may be clarified, subtle issues may be obscured. Therefore, a series of articles exploring different aspects of preventable problems will be published in the MMWR to complement this table . These articles will present more detailed analysis of what is known about health status indicators, risk factors, and other factors affecting public health.

References

1. Healthy People, The Surgeon General's Report on Health Promotion and Disease Prevention, 1979. Public Health Service, Office the Assistant Secretary for Health and Surgeon General, DHEW (PHS) Publication No. 79-55071.
2. National Center for Health Statistics. *Monthly Vital Statistics Report*, Vol. 29, No. 13, September 17, 1981.

Current Trends

Antigenic Analysis of Recent Influenza Isolates

Influenza type A(H1N1) and type B viruses received at CDC thus far this winter from outbreaks and sporadic cases in the United States have been closely related to the reference strains A/England/333/80(H1N1) and B Singapore/222/79, respectively. Since about July 1981, influenza type A(H3N2) viruses have been received from Australia, Chile, Guam, Indonesia, Japan, People's Republic of China, Taiwan Province of China, and Trinidad and Tobago. As in the preceding year, the isolates have exhibited heterogeneous reaction patterns in hemagglutination-inhibition tests with ferret serum specimens. Varying proportions of the viruses from different locations are more closely related to A/Texas/1/77 or A/Bangkok/1/79. A minority of recent isolates have been found to exhibit some further antigenic drift from ear-

Influenza Isolates — Continued

lier strains and to resemble the virus A/Shanghai/31/80 isolated in December 1980 from a sporadic case of influenza. As shown in Table 1, A/Shanghai/31/80 exhibits an asymmetric antigenic difference from A/Bangkok/1/79, in that antiserum to A/Bangkok/1/79 usually inhibits the variant to a titer 4-fold lower than homologous, whereas antiserum to A/Shanghai/31/80 reacts almost equivalently with itself and with A/Bangkok/1/79. A further characteristic of A/Shanghai/31/80-like viruses is their low inhibition by A/Texas/1/77 and A/Bangkok/2/79 antisera. The above-described variants have been isolated concurrently, and there is no clear evidence of A/Shanghai/31/80-like viruses, for example, achieving predominance and being responsible for major outbreaks or epidemics in Asia or elsewhere. Prevalence of antibody to A/Bangkok/1/79 and A/Shanghai/31/80 appears similar in the general population in the United States and the United Kingdom, where this has been studied by the WHO Collaborating Centers for Influenza.

TABLE 1. Hemagglutination-inhibition reactions of influenza type A(H3N2) viruses

Antigen	Type of ferret serum			
	A/Texas/1/77	A/Bangkok/1/79	A Bangkok/2/79	A/Shanghai/31/80
A/Texas/1/77	**2,560**	160	160	160
A/Bangkok/1/79	640	**1,280**	160	1,280
A/Bangkok/2/79	320	80	**2,560**	80
A/Shanghai/31/80	160	320	40	**640**

Epidemiologic Notes and Reports

Chromium Sensitization in an Artist's Workshop

The National Institute for Occupational Safety and Health (NIOSH) recently evaluated a case of chromium sensitization involving an artist who had made and dyed quilts in her home studio. The artist had symptoms of mucous-membrane irritation; burning and itching of her arms, face, and hands; and edema of the face and fingers. These symptoms were associated with exposure to the cyanotype image-transfer process.

The cyanotype process, often referred to as the "blueprint" or "ferroprussiate" process, is a technique for transferring images from a photographic negative to cloth or paper. Ferric ammonium citrate and potassium ferricyanide are combined with water to form a photosensitive mixture that is then painted on fabric. A photographic negative is placed over the fabric, and the area is exposed to direct sunlight for 10-30 minutes until the pattern outline turns blue on the fabric as a result of ultraviolet radiation. The color is fixed by dipping the fabric in a potassium dichromate solution, rinsing it in water, and setting it out to dry.

The artist reported that she had first used the cyanotype process in June 1978. Shortly thereafter, she noticed a tingling sensation of her hands and skin when she handled the chemicals; these symptoms became more marked each time she dyed fabric. She discontinued use of the process in the summer of 1979. The symptoms, however, recurred each time she had contact with fabrics that had been dyed using the cyanotype process or when she had other direct or indirect contact with materials used in the process. Her symptoms abated when she was away from home, provided she did not take any of the treated cloth with her. Symptoms

Chromium Sensitization — Continued

were most severe when the fabric was being stitched by hand into a quilt and when she had extensive contact with dyed fabrics while threading needles and knotting threads.

Air, fabric, and wipe samples of the artist's work areas were collected. Analysis of the air and fabric samples indicated no detectable levels of hexavalent chromium ("chromium VI"). The analytical method used for fabric samples had a detection limit of 10 parts/million for "chromium VI." However, a highly sensitive qualitative spot test indicated contamination caused by "chromium VI" at the workbench, above the washbasin, on implements used in the process, and on treated fabrics.

Reported by the Hazard Evaluations and Technical Assistance Br, Div of Surveillance, Hazard Evaluations, and Field Studies, NIOSH, CDC.

Editorial Note: Potassium dichromate, which is used as a fixer in the cyanotype process, contains "chromium VI" in soluble form. "Chromium VI" is an irritant that has been found to cause rhinitis, nosebleed, ulcerated nasal mucosa, and perforated nasal septum (*1*). It is also a potent sensitizer, and allergic dermatitis with varying degrees of eczema has been reported frequently (*2,3*) for persons exposed to "chromium VI."

Exposure to many toxic chemicals is possible in the pursuit of arts and crafts (*4-6*), a popular hobby and means of making a livelihood in the United States. In this instance the artist's exposure problem was exacerbated by her lack of knowledge of toxic reactions. The instructions available to her stated that the process required use of dangerous chemicals that

(Continued on page 118)

TABLE I. Summary — cases of specified notifiable diseases, United States

DISEASE	9th WEEK ENDING			CUMULATIVE, FIRST 9 WEEKS		
	March 6 1982	March 7 1981	MEDIAN 1977-1981	March 6 1982	March 7 1981	MEDIAN 1977-1981
Aseptic meningitis	71	64	37	672	570	425
Brucellosis	1	1	1	12	12	28
Encephalitis: Primary (arthropod-borne & unspec.)	10	10	11	114	117	107
Post-infectious	1	1	2	5	13	25
Gonorrhea: Civilian	17,325	18,796	17,304	159,782	167,135	162,871
Military	682	564	471	4,906	5,137	4,818
Hepatitis: Type A	498	547	620	3,850	4,188	4,646
Type B	400	386	315	3,049	3,027	2,557
Non A, Non B	40	N	N	259	N	N
Unspecified	227	172	200	1,562	1,730	1,677
Legionellosis	11	N	N	46	N	N
Leprosy	1	7	4	20	41	28
Malaria	11	30	9	109	213	78
Measles (rubeola)	19	74	452	98	393	2,189
Meningococcal infections: Total	71	121	83	531	925	546
Civilian	71	121	81	528	924	539
Military	–	–	–	3	1	2
Mumps	155	108	473	884	918	2,898
Pertussis	22	22	22	161	177	186
Rubella(German measles)	59	75	298	540	426	1,582
Syphilis (Primary & Secondary): Civilian	547	614	495	5,647	5,276	4,166
Military	5	13	10	76	77	56
Tuberculosis	491	516	546	4,019	3,949	4,141
Tularemia	3	2	2	15	16	14
Typhoid fever	6	8	9	62	70	63
Typhus fever, tick-borne (RMSF)	–	2	1	15	11	10
Rabies, animal	83	105	79	740	901	497

TABLE II. Notifiable diseases of low frequency, United States

	CUM. 1982		CUM. 1982
Anthrax	–	Poliomyelitis: Total	1
Botulism (Ohio 1, Calif. 1)	14	Paralytic	1
Cholera	1	Psittacosis (Wash. 1)	11
Congenital rubella syndrome	–	Rabies, human	–
Diphtheria	–	Tetanus (Ohio 1, Mo. 1, La. 1)	9
Leptospirosis	10	Trichinosis	52
Plague	2	Typhus fever, flea-borne (endemic, murine)	2

N: Not notifiable

TABLE III. Cases of specified notifiable diseases, United States, weeks ending March 6, 1982 and March 7, 1981 (9th week)

REPORTING AREA	ASEPTIC MENINGITIS	BRUCELLOSIS	ENCEPHALITIS		GONORRHEA (Civilian)		HEPATITIS (Viral), by type				LEGIONELLOSIS	LEPROSY
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1982	CUM. 1981	1982	1982	1982	1982	1982	CUM. 1982
UNITED STATES	71	12	114	5	159,782	167,135	498	400	40	227	11	20
NEW ENGLAND	6	–	2	2	3,673	4,308	16	10	–	17	–	1
Maine	–	–	–	–	188	205	–	3	–	–	–	–
N.H.	1	–	–	–	138	163	2	2	–	1	–	–
Vt.	–	–	–	–	82	63	2	1	–	–	–	–
Mass.	1	–	1	–	1,634	1,720	10	1	–	15	–	–
R.I.	1	–	–	–	266	191	–	2	–	–	–	–
Conn.	3	–	1	2	1,365	1,966	2	1	–	1	–	1
MID. ATLANTIC	8	–	17	–	19,320	19,011	25	48	5	12	1	1
Upstate N.Y.	1	–	7	–	3,106	2,685	6	19	3	6	–	–
N.Y. City	1	–	4	–	8,328	7,175	3	15	–	1	1	–
N.J.	2	–	3	–	3,452	4,483	16	14	2	5	–	–
Pa.	4	–	3	–	4,434	4,668	U	U	U	U	–	1
E.N. CENTRAL	9	–	26	1	19,752	26,329	85	50	–	20	4	–
Ohio	5	–	6	–	6,428	9,386	32	23	–	13	4	–
Ind.	–	–	9	1	2,817	2,201	13	11	–	3	–	–
Ill.	–	–	–	–	2,849	6,716	17	9	–	2	–	–
Mich.	4	–	9	–	5,580	5,746	23	7	–	2	–	–
Wis.	–	–	2	–	2,078	2,280	–	–	–	–	–	–
W.N. CENTRAL	–	1	6	–	7,504	8,004	20	20	2	1	2	–
Minn.	–	–	–	–	1,081	1,286	11	1	2	–	–	–
Iowa	–	–	2	–	825	790	3	1	–	–	–	–
Mo.	–	1	3	–	3,353	3,548	3	12	–	–	2	–
N. Dak.	–	–	–	–	102	100	–	–	–	–	–	–
S. Dak.	–	–	–	–	215	224	–	–	–	–	–	–
Nebr.	–	–	–	–	442	609	2	5	–	1	–	–
Kans.	–	–	1	–	1,486	1,447	1	1	–	–	–	–
S. ATLANTIC	14	5	17	1	42,432	42,315	51	92	15	42	–	–
Del.	–	–	–	–	670	644	1	–	–	1	–	–
Md.	–	–	8	–	5,857	4,380	4	16	6	5	–	–
D.C.	–	–	–	–	1,999	2,858	2	11	–	–	–	–
Va.	2	3	5	–	3,548	3,892	4	8	2	10	–	–
W. Va.	1	–	–	–	472	553	1	4	–	–	–	–
N.C.	–	–	1	–	6,907	6,982	1	10	–	2	–	–
S.C.	1	1	–	–	3,857	3,803	1	9	–	3	–	–
Ga.	1	–	–	–	6,997	8,357	6	11	1	3	–	–
Fla.	9	1	3	1	12,125	10,846	31	23	6	18	–	–
E.S. CENTRAL	2	1	5	–	13,400	13,896	18	12	1	3	3	–
Ky.	–	–	–	–	1,749	1,764	6	1	–	1	–	–
Tenn.	2	–	4	–	5,072	5,124	7	8	1	–	–	–
Ala.	–	1	1	–	4,084	4,597	3	2	–	2	3	–
Miss.	–	–	–	–	2,495	2,411	2	1	–	–	–	–
W.S. CENTRAL	10	2	10	–	22,180	23,698	119	41	1	74	–	–
Ark.	–	1	–	–	1,888	1,537	5	1	–	4	–	–
La.	2	–	1	–	3,736	3,650	14	8	–	9	–	–
Okla.	1	1	5	–	2,413	2,327	28	7	1	4	–	–
Tex.	7	–	4	–	14,143	16,184	72	25	–	57	–	–
MOUNTAIN	1	–	6	1	6,023	6,785	32	21	4	13	1	–
Mont.	–	–	–	–	283	255	–	–	–	–	–	–
Idaho	–	–	–	–	241	256	2	–	–	–	–	–
Wyo.	–	–	–	–	173	143	–	1	–	–	–	–
Colo.	–	–	1	1	1,677	1,763	16	8	1	2	–	–
N. Mex.	–	–	–	–	753	807	4	3	–	–	–	–
Ariz.	1	–	2	–	1,630	2,211	3	7	1	9	–	–
Utah	–	–	–	–	220	319	4	–	1	2	1	–
Nev.	–	–	3	–	1,046	1,031	3	2	1	–	–	–
PACIFIC	21	3	25	–	25,498	22,789	132	106	12	45	–	18
Wash.	5	–	2	–	2,212	2,142	15	13	1	1	–	2
Oreg.	–	–	–	–	1,413	1,962	5	15	–	3	–	–
Calif.	8	3	23	–	20,786	17,539	110	76	11	41	–	13
Alaska	1	–	–	–	644	609	–	1	–	–	–	–
Hawaii	7	–	–	–	443	537	2	1	–	–	–	3
Guam	U	–	–	–	–	33	U	U	U	U	U	–
P.R.	1	–	1	–	528	544	6	1	–	–	–	–
V.I.	–	–	–	–	41	7	–	–	–	–	–	–
Pac. Trust Terr.	U	–	–	–	36	91	U	U	U	U	U	1

N: Not notifiable U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 6, 1982 and March 7, 1981 (9th week)

REPORTING AREA	MALARIA		MEASLES (RUBEOLA)			MENINGOCOCCAL INFECTIONS (Total)		MUMPS		PERTUSSIS	RUBELLA		
	1982	CUM. 1982	1982	CUM. 1982	CUM. 1981	1982	CUM. 1982	1982	CUM. 1982	1982	1982	CUM. 1982	CUM. 1981
UNITED STATES	11	109	19	98	393	71	531	155	884	22	59	540	426
NEW ENGLAND	1	6	2	4	14	2	21	8	59	1	1	10	50
Maine	–	–	–	–	–	–	2	4	18	–	–	–	30
N.H.	1	1	–	–	3	1	6	–	6	–	–	9	18
Vt.	–	–	–	2	1	–	1	–	3	–	–	–	–
Mass.	–	3	–	–	6	–	1	3	21	1	1	1	2
R.I.	–	1	–	–	–	–	2	1	6	–	–	–	–
Conn.	–	1	2	2	4	1	9	–	5	–	–	–	–
MID. ATLANTIC	–	9	1	18	145	6	82	8	56	6	3	18	51
Upstate N.Y.	–	2	1	11	110	3	24	–	17	3	1	12	24
N.Y. City	–	4	–	5	11	–	16	1	9	–	2	6	9
N.J.	–	1	–	–	8	–	22	1	10	–	–	–	16
Pa.	–	2	–	2	16	3	20	6	20	3	–	–	2
E.N. CENTRAL	–	8	2	5	31	18	58	95	437	8	10	40	85
Ohio	–	1	–	–	11	9	22	45	263	–	–	–	–
Ind.	–	1	–	1	2	2	4	4	17	1	2	5	30
Ill.	–	–	1	2	4	5	13	1	24	5	1	10	20
Mich.	–	5	1	2	14	2	19	9	71	1	4	12	10
Wis.	–	1	–	–	–	–	–	36	62	1	3	13	25
W.N. CENTRAL	2	4	–	–	3	2	22	–	29	1	3	13	22
Minn.	–	–	–	–	1	–	5	–	3	1	–	1	6
Iowa	1	1	–	–	1	–	3	–	10	–	–	–	–
Mo.	–	1	–	–	–	–	9	–	3	–	2	8	–
N. Dak.	–	–	–	–	–	–	2	–	–	–	–	–	–
S. Dak.	–	–	–	–	–	–	–	–	–	–	1	1	–
Nebr.	1	1	–	–	1	1	1	–	–	–	–	–	–
Kans.	–	1	–	–	–	1	2	–	13	–	–	3	16
S. ATLANTIC	3	21	1	12	91	11	115	20	94	2	2	13	40
Del.	–	–	–	–	–	–	–	–	–	–	–	–	–
Md.	–	5	–	–	–	–	6	–	6	–	–	1	–
D.C.	2	3	1	1	1	–	–	–	–	–	–	–	–
Va.	1	7	–	8	3	2	11	3	13	1	1	8	–
W. Va.	–	–	–	1	4	–	3	12	47	1	–	1	10
N.C.	–	–	–	–	–	1	21	–	4	–	–	–	2
S.C.	–	2	–	–	–	1	12	1	3	–	1	1	4
Ga.	–	2	–	–	41	2	33	–	2	–	–	1	11
Fla.	–	2	–	2	42	5	29	4	19	–	–	1	13
E.S. CENTRAL	–	–	–	4	–	8	37	4	15	1	1	7	10
Ky.	–	–	–	1	–	–	2	3	7	–	1	7	6
Tenn.	–	–	–	3	–	7	19	–	4	1	–	–	4
Ala.	–	–	–	–	–	1	15	1	2	–	–	–	–
Miss.	–	–	–	–	–	–	1	–	2	–	–	–	–
W.S. CENTRAL	–	5	2	12	16	11	72	5	46	1	7	29	27
Ark.	–	1	–	–	–	3	7	–	3	–	–	–	–
La.	–	–	–	–	–	1	5	–	–	–	–	–	2
Okla.	–	–	–	–	2	–	6	–	–	–	–	1	–
Tex.	–	4	2	12	14	7	54	5	43	1	7	28	25
MOUNTAIN	–	3	–	–	8	2	30	1	22	–	1	10	19
Mont.	–	–	–	–	–	–	3	–	1	–	–	–	1
Idaho	–	–	–	–	–	–	2	–	2	–	–	–	1
Wyo.	–	–	–	–	–	–	2	–	1	–	–	3	1
Colo.	–	2	–	–	–	2	14	–	3	–	1	1	13
N. Mex.	–	–	–	–	–	–	1	–	–	–	–	1	–
Ariz.	–	1	–	–	1	–	4	1	8	–	–	1	1
Utah	–	–	–	–	–	–	1	–	5	–	–	3	2
Nev.	–	–	–	–	7	–	3	–	2	–	–	1	–
PACIFIC	5	53	11	43	85	11	94	14	126	2	31	400	122
Wash.	–	2	–	14	1	2	11	1	18	–	–	6	20
Oreg.	–	2	–	–	–	2	18	–	–	–	–	1	19
Calif.	5	48	11	28	84	7	60	12	104	2	30	391	83
Alaska	–	–	–	–	–	–	4	–	3	–	1	1	–
Hawaii	–	1	–	1	–	–	1	1	1	–	–	1	–
Guam	U	–	U	–	3	U	–	U	–	U	U	–	–
P.R.	–	1	5	15	41	1	2	5	9	1	–	2	–
V.I.	–	–	–	–	2	–	–	–	–	–	–	–	–
Pac. Trust Terr.	U	–	U	–	–	U	–	U	–	U	U	–	1

U: Unavailable

TABLE III (Cont.'d). Cases of specified notifiable diseases, United States, weeks ending March 6, 1982 and March 7, 1981 (9th week)

REPORTING AREA	SYPHILIS (Civilian) (Primary & Secondary)		TUBERCULOSIS		TULAREMIA	TYPHOID FEVER		TYPHUS FEVER (Tick-borne) (RMSF)		RABIES, Animal
	CUM. 1982	CUM. 1981	1982	CUM. 1982	CUM. 1982	1982	CUM. 1982	1982	CUM. 1982	CUM. 1982
UNITED STATES	5,647	5,276	491	4,019	15	6	62	–	15	740
NEW ENGLAND	107	125	20	111	–	–	5	–	–	4
Maine	–	1	–	8	–	–	–	–	–	4
N.H.	–	7	–	6	–	–	–	–	–	–
Vt.	–	2	–	4	–	–	2	–	–	–
Mass.	75	72	12	68	–	–	3	–	–	–
R.I.	8	10	5	16	–	–	–	–	–	–
Conn.	24	33	3	9	–	–	–	–	–	–
MID. ATLANTIC	772	782	70	632	1	–	5	–	–	8
Upstate N.Y.	67	60	10	108	1	–	1	–	–	5
N.Y. City	496	497	32	225	–	–	4	–	–	–
N.J.	84	93	11	135	–	–	–	–	–	1
Pa.	125	132	17	164	–	–	–	–	–	2
E.N. CENTRAL	218	358	88	655	–	2	5	–	–	71
Ohio	59	52	6	122	–	1	2	–	–	6
Ind.	44	21	14	95	–	–	–	–	–	6
Ill.	41	193	28	249	–	1	1	–	–	24
Mich.	59	72	34	150	–	–	2	–	–	–
Wis.	15	20	6	39	–	–	–	–	–	35
W.N. CENTRAL	111	98	17	99	5	–	2	–	1	211
Minn.	21	28	5	19	–	–	–	–	–	46
Iowa	3	5	4	18	–	–	1	–	–	73
Mo.	69	55	3	34	4	–	1	–	1	23
N. Dak.	2	1	–	2	–	–	–	–	–	27
S. Dak.	–	–	–	3	–	–	–	–	–	12
Nebr.	3	3	1	4	–	–	–	–	–	16
Kans.	13	6	4	19	1	–	–	–	–	14
S. ATLANTIC	1,572	1,410	108	847	5	3	7	–	10	127
Del.	2	3	1	9	–	–	–	–	–	–
Md.	94	108	11	117	1	–	2	–	7	9
D.C.	100	128	5	29	–	–	–	–	–	–
Va.	102	133	13	76	1	1	2	–	–	63
W. Va.	6	3	3	18	–	–	1	–	–	6
N.C.	123	104	18	144	–	–	–	–	3	–
S.C.	86	98	9	74	3	–	–	–	–	8
Ga.	351	345	22	137	–	–	–	–	–	33
Fla.	708	488	26	243	–	2	2	–	–	8
E.S. CENTRAL	450	379	33	362	–	–	7	–	3	68
Ky.	22	17	7	99	–	–	–	–	–	11
Tenn.	110	149	9	125	–	–	2	–	–	41
Ala.	155	107	13	115	–	–	5	–	3	16
Miss.	163	106	4	23	–	–	–	–	–	–
W.S. CENTRAL	1,490	1,232	36	373	2	–	4	–	–	119
Ark.	43	19	9	30	1	–	–	–	–	19
La.	282	258	–	80	–	–	–	–	–	3
Okla.	29	24	1	67	1	–	3	–	–	28
Tex.	1,136	931	26	196	–	–	1	–	–	69
MOUNTAIN	160	132	4	109	1	1	3	–	–	12
Mont.	1	3	1	11	–	–	–	–	–	8
Idaho	12	2	–	4	–	–	–	–	–	–
Wyo.	7	1	–	3	–	–	–	–	–	1
Colo.	48	40	2	15	–	–	–	–	–	–
N. Mex.	34	28	–	17	–	–	–	–	–	1
Ariz.	28	33	1	39	–	–	2	–	–	2
Utah	4	2	–	5	1	1	1	–	–	–
Nev.	26	23	–	15	–	–	–	–	–	–
PACIFIC	767	760	115	831	1	–	24	–	1	120
Wash.	24	27	–	34	1	–	–	–	–	–
Oreg.	31	14	5	28	–	–	1	–	–	–
Calif.	686	701	105	714	–	–	22	–	1	90
Alaska	5	1	–	13	–	–	–	–	–	30
Hawaii	21	17	5	42	–	–	1	–	–	–
Guam	–	–	U	–	–	U	–	U	–	–
P.R.	90	127	–	30	–	–	–	–	–	4
V.I.	–	–	–	1	–	–	–	–	–	–
Pac. Trust Terr.	–	–	U	19	–	U	–	U	–	–

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending March 6, 1982 (9th week)

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	646	409	153	45	14	25	40
Boston, Mass.	203	113	51	18	6	15	22
Bridgeport, Conn.	45	34	9	–	1	1	2
Cambridge, Mass.	12	7	5	–	–	–	1
Fall River, Mass.	25	14	6	3	1	1	–
Hartford, Conn.	60	36	17	3	–	4	1
Lowell, Mass.	27	16	7	2	1	1	–
Lynn, Mass.	24	17	6	1	–	–	1
New Bedford, Mass.	14	13	1	–	–	–	–
New Haven, Conn.	39	24	8	5	1	1	2
Providence, R.I.	54	38	14	2	–	–	3
Somerville, Mass.	12	10	2	–	–	–	1
Springfield, Mass.	42	27	8	7	–	–	2
Waterbury, Conn.	30	20	7	3	–	–	3
Worcester, Mass.	59	40	12	1	4	2	2
MID. ATLANTIC	2,703	1,822	564	175	60	78	127
Albany, N.Y.	48	36	9	1	–	2	2
Allentown, Pa.	25	18	6	1	–	–	–
Buffalo, N.Y.	150	107	32	7	1	3	11
Camden, N.J.	33	18	12	2	–	1	–
Elizabeth, N.J.	39	28	10	1	–	–	1
Erie, Pa.†	29	21	3	3	–	2	–
Jersey City, N.J.	58	41	10	5	–	2	1
N.Y. City, N.Y.	1,517	1,017	304	115	38	43	67
Newark, N.J.	67	25	20	9	2	7	7
Paterson, N.J.	30	20	9	1	–	–	–
Philadelphia, Pa.†	263	159	66	15	10	9	14
Pittsburgh, Pa.†	69	46	15	4	2	2	1
Reading, Pa.	31	25	5	–	1	–	2
Rochester, N.Y.	131	99	24	4	3	1	12
Schenectady, N.Y.	25	17	8	–	–	–	–
Scranton, Pa.†	40	31	6	3	–	–	3
Syracuse, N.Y.	64	43	12	1	3	5	2
Trenton, N.J.	41	29	10	2	–	–	2
Utica, N.Y.	21	20	–	1	–	–	–
Yonkers, N.Y.	22	18	3	–	–	1	2
E.N. CENTRAL	2,171	1,343	535	140	63	86	60
Akron, Ohio	69	50	14	2	1	2	–
Canton, Ohio	45	27	14	2	1	1	1
Chicago, Ill.	512	293	131	52	14	22	10
Cincinnati, Ohio	176	126	25	14	5	2	13
Cleveland, Ohio	179	106	44	13	8	8	1
Columbus, Ohio	134	78	36	7	6	7	6
Dayton, Ohio	104	70	21	5	2	6	2
Detroit, Mich.	233	124	66	28	4	9	8
Evansville, Ind.	44	29	14	–	–	1	2
Fort Wayne, Ind.	54	33	16	2	1	2	1
Gary, Ind.	14	6	6	1	–	1	–
Grand Rapids, Mich.	49	35	10	1	1	2	3
Indianapolis, Ind.	165	107	40	4	9	5	3
Madison, Wis.	35	22	6	1	3	3	2
Milwaukee, Wis.	133	92	31	5	1	4	–
Peoria, Ill.	23	14	4	–	1	4	3
Rockford, Ill.	38	28	8	2	–	–	2
South Bend, Ind.	22	17	4	–	1	–	1
Toledo, Ohio	97	56	32	1	3	5	1
Youngstown, Ohio	45	30	11	–	2	2	1
W.N. CENTRAL	795	517	173	56	23	26	31
Des Moines, Iowa	96	61	25	3	5	2	2
Duluth, Minn.	53	37	11	2	2	1	7
Kansas City, Kans.	31	21	5	3	2	–	4
Kansas City, Mo.	126	80	31	6	3	6	3
Lincoln, Nebr.	27	20	4	1	2	–	3
Minneapolis, Minn.	82	50	17	9	2	4	4
Omaha, Nebr.	84	58	11	9	1	5	2
St. Louis, Mo.	157	97	36	12	6	6	2
St. Paul, Minn.	68	46	16	6	–	–	1
Wichita, Kans.	71	47	17	5	–	2	3

REPORTING AREA	ALL CAUSES, BY AGE (YEARS)						P&I** TOTAL
	ALL AGES	≥65	45-64	25-44	1-24	<1	
S. ATLANTIC	1,351	781	360	99	54	52	33
Atlanta, Ga.	146	76	43	13	8	6	1
Baltimore, Md.	382	229	104	25	13	10	6
Charlotte, N.C.	72	40	10	11	3	6	5
Jacksonville, Fla.	122	69	29	4	12	8	3
Miami, Fla.	101	54	30	9	5	3	1
Norfolk, Va.	43	25	15	1	–	2	1
Richmond, Va.	92	56	27	4	1	4	2
Savannah, Ga.	35	16	12	4	1	2	2
St. Petersburg, Fla.	111	88	18	5	–	–	5
Tampa, Fla.	60	38	9	4	5	4	4
Washington, D.C.	158	77	51	18	6	4	2
Wilmington, Del.	29	13	12	1	–	3	1
E.S. CENTRAL	693	420	177	41	25	30	36
Birmingham, Ala.	115	68	28	8	4	7	1
Chattanooga, Tenn.	59	33	17	5	2	2	5
Knoxville, Tenn.	46	33	12	–	–	1	–
Louisville, Ky.	118	68	29	12	2	7	10
Memphis, Tenn.	144	86	39	5	5	9	9
Mobile, Ala.	51	25	16	2	7	1	2
Montgomery, Ala.	62	42	15	3	2	–	1
Nashville, Tenn.	98	65	21	6	3	3	8
W.S. CENTRAL	1,437	847	356	115	67	52	44
Austin, Tex.	58	38	8	8	2	2	2
Baton Rouge, La.	44	25	14	2	2	1	1
Corpus Christi, Tex.	36	19	5	4	2	2	–
Dallas, Tex.	206	107	51	22	19	7	1
El Paso, Tex.	78	47	19	9	–	3	2
Fort Worth, Tex.	90	64	15	3	4	4	7
Houston, Tex.	431	225	128	38	26	14	6
Little Rock, Ark.	62	47	9	4	–	2	3
New Orleans, La.	109	58	28	7	3	13	2
San Antonio, Tex.	145	92	37	8	6	2	8
Shreveport, La.	85	60	17	5	3	–	4
Tulsa, Okla.	93	65	21	5	–	2	8
MOUNTAIN	750	451	185	47	29	37	41
Albuquerque, N. Mex.	94	39	27	13	14	–	2
Colo. Springs, Colo.	39	24	10	3	1	1	4
Denver, Colo.	142	80	33	10	2	17	4
Las Vegas, Nev.	71	43	21	2	4	1	–
Ogden, Utah	18	14	–	2	–	2	2
Phoenix, Ariz.	193	125	51	7	2	8	11
Pueblo, Colo.	27	20	4	2	1	–	1
Salt Lake City, Utah	61	40	8	4	2	7	3
Tucson, Ariz.	105	66	31	4	3	1	14
PACIFIC	1,796	1,166	393	122	50	64	90
Berkeley, Calif.	20	14	4	–	–	2	–
Fresno, Calif.	85	51	17	8	3	6	2
Glendale, Calif.	34	30	3	–	1	–	4
Honolulu, Hawaii	67	45	11	6	3	2	2
Long Beach, Calif.	110	73	28	3	3	3	3
Los Angeles, Calif.	539	359	121	32	12	15	28
Oakland, Calif.	64	40	13	5	3	3	4
Pasadena, Calif.	27	22	3	–	–	2	2
Portland, Oreg.	106	66	20	9	5	6	4
Sacramento, Calif.	72	44	22	3	–	3	2
San Diego, Calif.	128	74	37	10	5	2	14
San Francisco, Calif.	172	106	36	17	7	5	8
San Jose, Calif.	159	106	34	11	5	3	10
Seattle, Wash.	115	70	24	12	3	6	2
Spokane, Wash.	62	38	17	4	–	3	4
Tacoma, Wash.	36	28	3	2	–	3	1
TOTAL	12,342††	7,756	2,900	844	385	450	502

*Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

**Pneumonia and influenza

†Because of changes in reporting methods in these 4 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

††Total includes unknown ages.

TABLE V. Potential years of life lost, deaths, and death rates, by cause of death, and estimated number of physician contacts, by principal diagnosis, United States, October 1981

Cause of morbidity or mortality (Ninth Revision ICD, 1975)	Estimated annual total of potential years lost before age 65, 1980[1]	Estimated monthly mortality[2] Number	Rate/100,000	Estimated number of monthly physician contacts[3]
ALL CAUSES (TOTAL)	10,006,060	164,950	844.4	96,550,000
Accidents and adverse effects (E800-E807, E810-E825, E826-E949)	2,684,850	8,500	43.5	5,156,000
Malignant neoplasms (140-208)	1,804,120	36,120	184.9	1,990,000
Diseases of heart (390-398, 402, 404-429)	1,636,510	61,810	316.4	5,168,000
Suicides, homicides (E950-E978)	1,401,880	4,160	21.3	—
Chronic liver disease and cirrhosis (571)	301,070	2,730	14.0	100,000
Cerebrovascular diseases (430-438)	280,430	13,710	70.2	473,000
Pneumonia and influenza (480-487)	124,830	3,790	19.4	904,000
Diabetes mellitus (250)	117,340	3,130	16.0	2,764,000
Chronic obstructive pulmonary diseases and allied conditions (490-496)	110,530	4,280	21.9	1,824,000
Prenatal care[4]				2,187,000
Infant mortality[4]		3,700	11.7/1000 live births	

[1]National Center for Health Statistics. *Monthly Vital Statistics Report*, Vol. 29, No. 13, September 17, 1981. Total potential years of life lost are estimated for persons between 1 year and 65 years old at the time of death and are derived from the product of the number of deaths in each age category and the difference between 65 years and the age at the midpoint of each category.

[2]National Center for Health Statistics. *Monthly Vital Statistics Report*, Vol. 30, No. 11, February 10, 1982, pp 8-9. Infant deaths and provisional U.S. population from Vol. 30, No. 10, January 15, 1982, p 1. Mortality rates on an annual basis per 100,000 estimated population in the United States are estimated from the underlying cause of death recorded on a 10% systematic sample of death certificates taken from all those received in state vital statistics offices during a 1-month period. The number of deaths each month is estimated from the product of the corresponding estimated mortality rate and the provisional U.S. population estimated for that month divided by the number of days that month as a proportion of the total days in the year.

[3]IMS America. *National Disease and Therapeutic Index* (NDTI), Monthly Report, October, 1981, Section III. This estimate comprises the number of office, hospital, and nursing home visits and telephone calls prompted by each medical condition based on a stratified random sample of office-based physicians (2100) who record all private patient contacts for 2 consecutive days each quarter.

[4]"Prenatal care" and "Infant mortality" are included in the table because "Potential years of life lost" does not reflect deaths of children < 1 year.

Chromium Sensitization – Continued

must be handled with care and kept out of the reach of children. The instructions also suggested that rubber gloves be worn. However, neither the instructions nor the container of potassium dichromate provided any information regarding the strong hypersensitivity reactions that might be induced by potassium dichromate. Proper labeling might have led to earlier intervention and a solution to the problem.

Finally, it is important to note that potassium ferricyanide may form cyanide gas when exposed to heat, acid, or ultraviolet light. Since some artists use carbon arcs when doing the cyanotype process indoors, care must be taken to ensure that confined work areas are properly ventilated so that any lethal hydrogen cyanide gas produced will be completely removed.

References

1. National Institute for Occupational Safety and Health. Criteria for a recommended standard...occupational exposure to chromium VI. Cincinnati, Ohio: National Institute for Occupational Safety and Health, 1975. (DHHS publication no. [NIOSH] 76-129).
2. Jaeger H, Pelloni E. Skin test to dichromates, positive with cement eczema. Dermatologica 1950;100:207-16.
3. Kaaber K, Veien NK. The significance of chromate ingestion in patients allergic to chromate. Acta Derm Venereol (Stockh) 1977;57:321-3.
4. Landrigan P, Tamblyn P, Nelson M, Kerndt P, Kronoveter K, Zack M. Lead exposure in stained glass workers. Am J Ind Med 1980;I:177-80.
5. Carnow B. Health hazards in the arts and crafts. Chicago: Hazards in the Arts, 1976.
6. McCann M. Health hazards manual for artists. New York: Foundation for the Community of Artists, 1978.

Current Trends

Surveillance of Childhood Lead Poisoning — United States

In the fourth quarter of fiscal year 1981, 59 childhood lead-poisoning prevention programs reported that 143,000 children were screened, and 6,500 were identified with lead toxicity. For the fiscal year, programs screened 535,000 children (the largest number ever tested in a single year), found almost 22,000 with the disease, and referred 23,000 for treatment for iron deficiency.

Childhood lead toxicity is found throughout the United States in both large and small communities. The Second National Health and Nutrition Examination Survey, 1976-1980 (NHANES II)—conducted by the National Center for Health Statistics to measure blood-lead levels in the general U.S. population—showed that 4% of all children, ages 6 months-5 years, had elevated blood-lead levels. Positivity rates ranged from 2.1% in rural areas to 11.6% in inner cities.

Since 1973, childhood lead-poisoning prevention programs have reported screening almost 3,900,000 children and adults, 243,000 (6.2%) with lead toxicity. Because of the pervasiveness of childhood lead toxicity, many state and local child health programs have included lead screening as a routine service for all patients, ages 1-5 years. In fiscal year 1981, 70% of the children reported as being screened were initially tested in these other child health programs.

Childhood Lead Poisoning – Continued

TABLE 2. Results of screening in childhood lead poisoning prevention programs, United States, fourth quarter fiscal year 1981 (July-September)

Program	Number of children: Screened	With lead toxicity*: Total	Requiring pediatric management: Class II	Requiring pediatric management: Classes III & IV	Receiving pediatric management	Identified with iron deficiency	Number of dwellings related to children with lead toxicity: Inspected	Found with lead	Reduced
Bridgeport, Conn.	720	55	31	24	158	54	61	54	40
Waterbury, Conn.	735	30	18	12	107	44	37	32	21
Boston, Mass.	4,847	180	129	51	665	157	76	72	39
Lawrence, Mass.	1,976	123	75	48	224	32	61	53	47
Worcester, Mass.	1,372	25	10	15	95	5	32	32	25
Rhode Island State	2,098	66	32	34	338	81	69	35	23
REGION I TOTAL	**11,748**	**479**	**295**	**184**	**1,587**	**373**	**336**	**278**	**195**
Cumulative FY 81	51,282	1,622	1,042	580		1,545	1,279	1,135	786
Atlantic City, N.J.	287	30	11	19	34	2	27	26	17
Camden, N.J.	1,054	35	23	12	247	58	59	28	22
East Orange, N.J.	944	40	26	14	182	113	13	11	13
Elizabeth, N.J.	284	17	11	6	109	NA	14	10	4
Jersey City, N.J.	1,294	80	62	18	163	25	62	54	53
Long Branch, N.J.	225	8	7	1	27	7	10	8	8
Newark, N.J.	2,426	306	236	70	741	215	83	81	42
Paterson, N.J.	938	141	97	44	747	104	55	54	57
Plainfield, N.J.	910	26	14	12	128	46	25	24	5
Erie Co., N.Y.	1,864	52	33	19	201	21	78	34	49
Monroe Co., N.Y.	1,428	136	100	36	264	56	45	38	58
New York City	30,216**	1,452**	869	583	2,256	2,168	449	323	52
Onondaga Co., N.Y.	2,089	96	68	28	288	83	79	75	94
Westchester Co., N.Y.	1,118	33	26	7	273	54	36	27	22
REGION II TOTAL	**45,077**	**2,452**	**1,583**	**869**	**5,660**	**2,952**	**1,035**	**793**	**496**
Cumulative FY 81	171,728	8,786	6,013	2,773		11,971	3,846	2,797	2,114
Delaware State	1,375	48	34	14	207	28	28	19	21
Washington State	3,461	89	61	28	264	420	88	68	34
Baltimore, Md.	6,670	200	130	70	814	135	111	105	85
Chester, Pa.	543	11	6	5	105	7	10	10	6
Philadelphia, Pa.	5,172	349	204	145	2,140	16	223	213	118
Wilkes-Barre, Pa.	415	17	10	7	83	28	19	17	8
York, Pa.	175	2	1	1	5	2	2	2	1
Lynchburg, Va.	414	16	10	6	60	24	24	16	12
Newport News, Va.	615	13	8	5	55	87	26	23	5
Norfolk, Va.	1,045	17	12	5	197	17	37	10	8
Portsmouth, Va.	513	19	15	4	102	8	25	15	10
Richmond, Va.	1,753	27	16	11	116	31	42	29	27
REGION III TOTAL	**22,151**	**808**	**507**	**301**	**4,148**	**803**	**635**	**527**	**335**
Cumulative FY 81	84,195	3,722	2,421	1,301		2,524	2,165	1,722	1,167
Augusta, Ga.	554	7	4	3	73	19	2	0	0
Savannah-Chatham Co., Ga.	3,140	121	79	42	129	6	115	113	21
Louisville, Ky.	2,633	39	24	15	285	79	97	83	93
Cabarrus Co., N.C.	417	2	2	0	15	5	3	3	1
South Carolina State	9,764	74	53	21	393	20	76	50	39
REGION IV TOTAL	**16,508**	**243**	**162**	**81**	**895**	**129**	**293**	**249**	**154**
Cumulative FY 81	47,631	614	412	202		560	752	635	490
Chicago, Ill.	11,684	842	460	382	NA	76	674	304	330
Ill. (other local progs.)‡	1,117	34	15	19	38	4	21	19	1
Kankakee, Ill.	672	16	14	2	44	100	24	20	3
Madison, Co., Ill.	544	22	16	6	107	5	4	4	0
Rockford, Ill.	744	14	8	6	79	14	11	9	8
Waukegan-Lake Co., Ill.	903	8	5	3	40	14	11	11	0
Ft. Wayne, Ind.	89	3	1	2	40	0	4	3	0
Detroit, Mich.	5,073	314	226	88	434	12	211	174	15
Wayne Co., Mich.	495	37	29	8	76	17	18	17	13
Akron, Ohio	1,358	69	65	4	106	93	50	43	40
Cincinnati, Ohio	2,362	88	62	26	575	730	105	17	11
Cleveland, Ohio	3,930	243	191	52	865	358	74	39	32
Beloit, Wis.	219	4	1	3	18	10	8	8	0
Milwaukee, Wis.	2,052	86	47	39	339	46	161	137	150
REGION V TOTAL	**31,242**	**1,780**	**1,140**	**640**	**2,761**	**1,479**	**1,376**	**805**	**603**
Cumulative FY 81	108,430	5,067	3,255	1,832		5,011	3,993	2,134	2,082
Arkansas State	3,384	84	50	34	198	39	73	56	24
Louisiana State‡	3,558	19	14	5	28	0	7	7	2
New Orleans, La.	3,756	121	82	39	591	119	126	86	66
Houston, Tex.	885	28	15	13	130	51	35	18	9
REGION VI TOTAL	**11,583**	**252**	**161**	**91**	**947**	**209**	**241**	**167**	**101**
Cumulative FY 81	48,944	571	366	205		915	688	468	496
Cedar Rapids-Linn Co., Iowa	867	13	9	4	60	11	8	8	5
Davenport-Scott Co., Iowa‡	539	11	3	8	57	14	20	19	13
St. Louis, Mo.	3,212	453	295	158	2,306	69	777	493	343
Omaha-Douglas Co., Neb.	407	20	15	5	145	5	28	27	40
REGION VII TOTAL	**5,025**	**497**	**322**	**175**	**2,568**	**99**	**833**	**547**	**401**
Cumulative FY 81	19,487	1,486	935	551		547	2,600	1,727	1,661
REGION IX TOTAL	—	—	—	—	—	—	—	—	—
Cumulative FY 81	4,033	9	2	7		251	149	48	41
U.S. TOTALS	**143,334**	**6,511**	**4,170**	**2,341**	**18,566**	**6,044**	**4,749**	**3,366**	**2,285**
Cumulative FY 81	535,730	21,897	14,446	7,451		23,324	15,472	10,666	8,837

*Screening Class II and Classes III & IV defined in CDC Statement, "Preventing Lead Poisoning in Young Children," April 1978.
**Estimated.
†Not cumulative.
‡Reporting program not receiving lead poisoning prevention grant support.
NA-Not available.

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p89. In the article "Measles, United States—Weeks 1-4, 1982" on line 4 of p90, the sentence that begins "This included all cases . . ." should read: "Thus, all cases in 6 of the 10 states reporting measles during this period were either imported measles cases or secondary to imported measles cases: Hawaii, Kentucky, New Hampshire, Tennessee, Vermont, and Virginia."

Erratum, Vol. 31, No. 8

p106. In the article "Influenza Update—United States," it was incorrectly stated that "The first influenza viruses identified in Utah this season were 4 isolates of influenza type B obtained . . ." The sentence should read: "The first influenza type B viruses identified in Utah this season were 4 isolates obtained . . ."

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