

MORBIDITY AND MORTALITY WEEKLY REPORT

- 417 Provisional Estimates from the National Health Interview Survey Supplement on Cancer Control — United States, January–March 1987
- 425 Dilaudid®-Related Deaths — District of Columbia, 1987

Progress in Chronic Disease Prevention

Provisional Estimates from the National Health Interview Survey Supplement on Cancer Control — United States, January–March 1987

The National Center for Health Statistics (NCHS) and the National Cancer Institute (NCI) collaborated in conducting the 1987 National Health Interview Survey (NHIS) Supplement on Cancer Control. The early detection of cancer is an essential element in reaching the NCI's year 2000 goals for cancer reduction (1). The cancer screening component of this supplemental questionnaire to the survey provides a baseline for measuring the public's knowledge and use of cancer screening procedures.

Provisional estimates based on data from 5,723 adults interviewed during the first 3 months of 1987 provide a preliminary review of aggregate, race-, and sex-specific patterns in the knowledge and use of screening procedures for specific cancer sites.

NCI's early detection guidelines (2) suggest that women should begin having annual Pap smears at approximately 18 years of age (sooner if sexually active) to detect cervical cancer at an early stage. After three or more consecutive normal smears, the Pap test may be performed less frequently at the discretion of the woman's physician. The NHIS data indicate that information about the procedure has been well disseminated among both blacks and whites; only 3% of all female respondents reported that they had never heard of a Pap smear. However, 6% of the women who reported hearing of the procedure had never had one. Although 91% of the women respondents reported that they had had one or more Pap smears, at least 10% of these tests were performed because of health problems. Of the 81% who reported that their last Pap smear was for screening purposes, approximately three-fifths of the women had had the procedure within the past year.

A physical examination of the breast for the purpose of detecting breast cancer early is a recommended component of periodic health examinations for all women aged 40 and over. Whereas very few women (roughly 8%) reported that they had never heard of this examination, there were racial differences within this group.

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Blacks (85%) were less likely than whites (92%) to know about the examination ($p < 0.001$). Even among those who knew of the examination, 14% of the blacks had never had it, compared with 8% of the whites ($p = 0.016$). A majority of women had used this examination as a screening procedure (72%); 44% of all these women had done so in the past year.

According to the NCI working guidelines, mammography is encouraged every 1–2 years for women aged 40–49 and recommended annually for women aged 50 and over, in addition to physical breast examinations (2). Of women aged 40 and over, approximately 45% had heard of but never had a mammogram. (Data for this age group are shown in Table 1.) In the group aged 50 and over, strong racial differences were observed concerning knowledge and use of this procedure. Although about 54% of the women in this age group had heard of but never had this procedure, the percentage of women who had never heard of this test was two times higher among blacks than among whites (37% compared with 18%, $p < 0.001$). Blacks were more likely than whites to have had their last test for screening purposes (97% compared with 78%, $p < 0.01$). Approximately half of the women who had had this procedure had had it within the past year.

A digital rectal examination to detect colorectal cancer early is a recommended component of periodic health examinations for all persons aged 40 and over. Blacks were less likely than whites to know about this test (72% compared with 81%, $p < 0.001$). About half (55%–61%) of persons in each race-sex group reported having had at least one digital rectal examination; however, nearly a quarter of these examinations were performed because the patient was having health problems.

Data for blood stool examination and proctoscopy are given in Table 1 for persons aged 40 and over. For colorectal cancer screening in the group aged 50 and over, a blood stool examination once a year and a proctoscopic examination every 3 to 5 years are recommended. These tests are seldom performed. One major reason cited is lack of knowledge among the public. In the group aged 40 and over, 25% of blacks, compared with 15% of whites ($p < 0.001$), had no knowledge of blood stool examinations; only 39% of those interviewed had ever had one. Similarly, more than half the blacks (55%) and nearly a third of the whites (29%) had never heard of proctoscopy ($p < 0.001$). Only 25% of the adults interviewed had ever had a proctoscopic examination.

Reported by: Surveillance and Operations Research Br, National Cancer Institute, National Institutes of Health. Div of Health Interview Statistics, National Center for Health Statistics; Div of Chronic Disease Control, Center for Environmental Health and Injury Control, CDC.

Editorial Note: NHIS is a continuous, cross-sectional, nationwide survey conducted through household interviews (3). To obtain information on health and other characteristics of each household member in the civilian noninstitutionalized population, personnel from the U.S. Department of Commerce, Bureau of the Census, interview a probability sample of households each week.

Estimates presented here are provisional; final estimates will be made in late 1988. The provisional estimates are based on a sample of the civilian noninstitutionalized population and, therefore, are subject to sampling error. In addition, for some items shown in Table 1, the estimate is small for a given characteristic. When the numerator or denominator of a rate is small, the sampling error may be relatively high. For purposes of statistical reliability, data are not included if the denominator is less than 100 or the cell size is less than 29.

*Cancer Control — Continued***TABLE 1. Provisional estimates of the experience for the population aged 40 years and over concerning cancer screening procedures, based on the 1987 National Health Interview Survey Supplement on Cancer Control, by procedure, race, and sex — United States, January–March 1987***

Procedure, Race, and Sex	Percent of Population Never Having Procedure		For Health Problem	Percent of Population Having Procedure For Screening Purposes		
	Never Heard of Procedure	Heard of But Never Had		Total	<1 Year Ago	≥1 Year Ago
Pap Smear†						
Total	3	6	10	81	50	31
White	2	6	10	82	50	32
Black	*	*	10	79	57	22
Breast Exam†						
Total	8	8	12	72	44	28
White	7	8	12	73	45	28
Black	*	*	*	63	43	20
Mammography†						
Total	17	45	6	31	17	14
White	15	46	7	32	17	15
Black	30	44	*	25	14	*
Digital Rectal						
Total	20	19	9	51	21	30
White	19	20	9	52	21	31
Male	20	19	10	51	18	33
Female	18	21	9	52	23	29
Black	28	17	7	48	22	26
Male	30	*	*	50	*	28
Female	26	20	*	48	23	25
Blood Stool						
Total	17	44	7	32	14	18
White	15	45	7	32	14	18
Male	17	42	7	34	15	19
Female	14	48	7	32	14	18
Black	25	39	6	31	12	19
Male	*	*	*	31	*	*
Female	20	44	*	31	14	17
Proctoscopy						
Total	32	44	7	18	3	15
White	29	45	7	19	3	16
Male	31	44	6	20	4	16
Female	28	47	8	17	3	14
Black	55	27	*	16	*	*
Male	59	*	*	*	*	*
Female	53	28	*	*	*	*

*Data are not included if the denominator is <100 or the cell size is <29.

†Females only. Pap smear data for women 18 and over.

Cancer Control — Continued

With the exception of the Pap smear and physical breast examination, cancer screening procedures are underutilized in the United States. This is apparent even though screening tests for some cancers (e.g., breast) have increased markedly in recent years (4; CDC, unpublished data). Screening procedures are underutilized for various reasons, but one factor is that many people have never heard of mammography or of digital rectal, blood stool, and proctoscopic examinations (Table 1). The finding that blacks are less likely than whites to know about screening procedures for cancer supports the findings of other recent studies (5). The data reported here show that racial differences exist in knowledge about, and use of, all screening procedures except the Pap smear. Forthcoming reports from the NHIS will examine demographic characteristics and accessibility of medical care in relation

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

Disease	27th Week Ending			Cumulative, 27th Week Ending		
	Jul. 9, 1988	Jul. 11, 1987	Median 1983-1987	Jul. 9, 1988	Jul. 11, 1987	Median 1983-1987
Acquired Immunodeficiency Syndrome (AIDS)	635	U *	147	15,912	9,474	3,744
Aseptic meningitis	101	282	180	2,236	3,083	2,681
Encephalitis: Primary (arthropod-borne & unspec)	23	32	24	346	477	477
Post-infectious	2	3	3	56	65	65
Gonorrhea: Civilian	11,891	13,945	15,021	344,016	406,063	435,679
Military	321	257	369	6,268	8,476	10,607
Hepatitis: Type A	495	462	385	12,333	12,844	10,985
Type B	424	458	449	11,054	13,229	12,859
Non A, Non B	45	60	72	1,286	1,655	1,848
Unspecified	47	50	91	1,103	1,630	2,493
Legionellosis	21	21	14	433	467	347
Leprosy	-	1	4	90	100	131
Malaria	17	23	28	368	386	427
Measles: Total†	72	104	104	1,610	2,785	1,907
Indigenous	71	100	100	1,447	2,477	1,704
Imported	1	4	4	163	308	220
Meningococcal infections	37	27	27	1,731	1,770	1,699
Mumps	57	89	43	3,009	9,502	2,122
Pertussis	25	39	45	1,080	921	983
Rubella (German measles)	2	17	13	121	228	388
Syphilis (Primary & Secondary): Civilian	665	524	423	19,570	17,418	14,388
Military	1	2	4	89	87	105
Toxic Shock syndrome	7	3	6	156	161	205
Tuberculosis	395	343	343	10,202	10,642	10,796
Tularemia	6	8	8	85	82	82
Typhoid Fever	4	3	5	178	151	163
Typhus fever, tick-borne (RMSF)	24	35	35	219	249	267
Rabies, animal	59	93	93	2,141	2,624	2,678

TABLE II. Notifiable diseases of low frequency, United States

	Cum. 1988		Cum. 1988
Anthrax	-	Leptospirosis	15
Botulism: Foodborne	11	Plague	2
Infant	21	Poliomyelitis, Paralytic	-
Other (Oreg. 1)	3	Psittacosis (Mass. 1, Alaska 1)	41
Brucellosis (Tex. 1)	32	Rabies, human	-
Cholera	-	Tetanus	21
Congenital rubella syndrome	3	Trichinosis (Nebr. 1)	38
Congenital syphilis, ages <1 year	171		
Diphtheria	-		

*Because AIDS cases are not received weekly from all reporting areas, comparison of weekly figures may be misleading.

†One of the 72 reported cases for this week was imported from a foreign country or can be directly traceable to a known internationally imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending July 9, 1988 and July 11, 1987 (27th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
			Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988		
UNITED STATES	15,912	2,236	346	56	344,016	406,063	12,333	11,054	1,286	1,103	433	90
NEW ENGLAND	706	98	11	1	10,175	12,717	423	671	85	61	18	11
Maine	21	6	1	-	211	375	14	28	3	1	2	-
N.H.	17	13	-	-	137	207	30	35	5	3	1	-
Vt.	5	5	3	-	76	105	5	18	5	2	1	-
Mass.	397	40	6	1	3,480	4,637	209	422	57	43	11	10
R.I.	37	27	-	-	950	1,058	54	59	9	-	3	1
Conn.	229	7	1	-	5,341	6,335	111	109	6	12	-	-
MID. ATLANTIC	5,269	212	38	3	51,260	66,728	736	1,431	83	126	104	8
Upstate N.Y.	732	119	26	1	7,003	8,740	413	378	40	13	44	-
N.Y. City	2,804	46	7	2	21,443	35,695	169	674	9	88	17	7
N.J.	1,301	47	5	-	7,589	8,415	127	336	27	25	20	1
Pa.	432	-	-	-	15,225	13,878	27	43	7	-	23	-
E.N. CENTRAL	1,165	288	78	5	54,000	59,247	706	1,113	78	57	92	1
Ohio	276	102	26	2	12,742	13,296	183	288	17	10	37	-
Ind.	79	37	11	-	4,400	4,689	74	170	10	18	5	-
Ill.	549	36	12	3	15,932	18,095	120	125	7	7	-	-
Mich.	194	99	22	-	17,013	17,806	194	389	26	19	40	-
Wis.	67	14	7	-	3,913	5,361	135	141	18	3	10	1
W.N. CENTRAL	373	100	25	4	13,896	16,596	750	545	60	18	52	1
Minn.	88	19	2	1	1,913	2,590	53	77	8	3	2	-
Iowa	20	18	8	-	1,071	1,600	33	49	11	1	13	-
Mo.	182	32	1	-	7,814	8,577	422	322	28	9	10	-
N. Dak.	2	-	4	-	80	153	3	3	2	3	1	-
S. Dak.	5	9	1	1	282	299	6	3	2	-	14	-
Nebr.	25	3	4	2	780	1,101	29	32	-	-	5	-
Kans.	51	19	5	-	1,976	2,276	204	59	9	2	7	1
S. ATLANTIC	2,736	525	47	22	101,541	106,085	1,048	2,267	191	162	80	1
Del.	27	11	2	-	1,430	1,605	18	67	6	1	7	-
Md.	308	59	4	3	10,054	11,950	143	357	19	9	11	1
D.C.	275	10	-	1	7,220	7,205	10	25	3	1	-	-
Va.	182	54	18	3	6,823	7,756	217	161	46	107	6	-
W. Va.	7	10	2	-	706	804	8	31	2	3	-	-
N.C.	156	71	14	-	15,579	15,813	177	392	40	-	25	-
S.C.	75	10	-	1	8,816	8,864	28	299	7	3	12	-
Ga.	357	54	1	-	19,450	18,237	192	341	8	3	10	-
Fla.	1,349	246	6	14	31,463	33,851	255	594	60	35	9	-
E.S. CENTRAL	397	163	28	6	26,703	30,081	382	664	87	6	17	1
Ky.	49	51	10	1	2,603	3,022	329	114	33	2	7	-
Tenn.	177	13	6	-	8,911	10,515	30	335	24	-	6	-
Ala.	107	81	12	2	8,463	9,686	8	175	24	4	2	1
Miss.	64	18	-	3	6,726	6,858	15	40	6	-	2	-
W.S. CENTRAL	1,410	267	35	2	38,975	45,927	1,408	915	104	276	11	19
Ark.	47	5	2	-	3,787	4,686	165	51	1	6	2	-
La.	205	48	12	-	8,066	8,535	75	185	16	9	4	1
Okla.	68	18	4	-	3,487	4,992	248	89	24	19	5	-
Tex.	1,090	196	17	2	23,635	27,714	920	590	63	242	-	18
MOUNTAIN	509	90	19	2	7,475	10,611	1,774	895	144	92	25	1
Mont.	8	2	-	-	244	270	22	32	7	3	-	-
Idaho	5	1	-	-	203	395	86	56	4	1	-	-
Wyo.	3	1	-	-	126	231	4	7	3	-	2	-
Colo.	198	33	3	-	1,736	2,271	119	111	42	44	5	1
N. Mex.	25	5	2	-	676	1,157	339	134	11	1	1	-
Ariz.	160	26	5	1	2,611	3,697	877	347	43	26	12	-
Utah	40	13	4	1	300	332	206	83	25	13	2	-
Nev.	70	9	5	-	1,579	2,258	121	125	9	4	3	-
PACIFIC	3,347	493	65	11	39,991	58,071	5,106	2,553	454	305	34	47
Wash.	207	-	3	4	3,275	4,403	1,123	388	87	30	10	3
Oreg.	95	-	-	-	1,614	2,179	784	316	47	13	-	1
Calif.	2,980	435	59	7	34,192	50,135	3,031	1,789	315	254	21	38
Alaska	13	8	2	-	558	883	162	34	4	4	-	1
Hawaii	52	50	1	-	352	471	6	26	1	4	3	4
Guam	1	-	-	-	86	106	5	7	-	2	1	3
P.R.	770	22	2	1	758	1,138	22	141	25	27	-	3
V.I.	24	-	-	-	170	135	1	3	2	-	-	-
Amer. Samoa	-	-	-	-	45	45	-	2	-	4	-	2
C.N.M.I.	-	-	-	-	27	-	1	2	-	4	-	-

N: Not notifiable

U: Unavailable

C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 9, 1988 and July 11, 1987 (27th Week)

Reporting Area	Malaria	Measles (Rubeola)					Meningococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*		Total		1988	Cum. 1988	1988	Cum. 1988	Cum. 1987	1988	Cum. 1988	Cum. 1987
		1988	Cum. 1988	1988	Cum. 1988										
UNITED STATES	368	71	1,447	1	163	2,785	1,731	57	3,009	25	1,080	921	2	121	228
NEW ENGLAND	34	11	81	-	47	248	146	2	98	-	89	24	-	1	1
Maine	2	-	7	-	-	3	7	-	-	-	11	4	-	-	1
N.H.	1	10	67	-	43	151	17	2	94	-	29	2	-	-	-
Vt.	2	-	-	-	-	25	9	-	1	-	2	3	-	-	-
Mass.	18	-	1	-	-	48	63	-	3	-	36	6	-	-	-
R.I.	4	-	-	-	-	2	21	-	-	-	2	1	-	1	-
Conn.	7	1	6	-	4	19	29	-	-	-	9	8	-	-	-
MID. ATLANTIC	48	37	513	-	24	512	172	9	252	2	55	114	1	12	10
Upstate N.Y.	16	-	14	-	3	33	83	9	67	-	34	86	-	2	8
N.Y. City	24	8	44	-	1	419	43	-	82	-	1	-	1	7	1
N.J.	5	-	2	-	11	22	45	-	31	-	4	6	-	1	1
Pa.	3	29	453	-	9	38	1	-	72	2	16	22	-	2	-
E.N. CENTRAL	21	-	119	-	40	288	194	2	642	-	110	124	-	22	29
Ohio	3	-	2	-	21	5	80	2	96	-	25	35	-	-	-
Ind.	-	-	50	-	-	-	18	-	63	-	53	4	-	-	-
Ill.	-	-	53	-	15	117	10	-	236	-	2	12	-	18	20
Mich.	16	-	14	-	4	29	54	-	167	-	19	28	-	4	9
Wis.	2	-	-	-	-	137	32	-	80	-	11	45	-	-	-
W.N. CENTRAL	10	1	11	-	-	214	70	1	115	5	54	54	-	-	1
Minn.	4	-	10	-	-	34	16	-	-	-	17	9	-	-	-
Iowa	1	-	-	-	-	-	-	1	31	2	16	9	-	-	1
Mo.	3	1	1	-	-	178	24	-	30	3	9	18	-	-	-
N. Dak.	-	-	-	-	-	1	3	-	-	-	6	5	-	-	-
S. Dak.	-	-	-	-	-	-	9	-	-	-	2	2	-	-	-
Nebr.	1	-	-	-	-	1	9	-	11	-	1	1	-	-	-
Kans.	1	-	-	-	-	1	18	-	43	-	4	10	-	-	-
S. ATLANTIC	53	8	250	1	12	92	313	15	464	2	127	174	-	14	12
Del.	-	-	-	-	-	30	1	-	-	-	3	-	-	-	2
Md.	4	-	5	-	2	4	32	-	79	-	22	5	-	-	2
D.C.	7	-	-	-	-	1	7	8	165	-	-	-	-	-	-
Va.	8	7	152	-	2	1	36	2	130	-	27	38	-	11	1
W. Va.	-	-	6	-	-	-	2	1	8	-	3	28	-	-	-
N.C.	10	-	-	-	1	2	53	-	35	-	33	71	-	-	-
S.C.	5	-	-	-	-	1	33	-	4	-	-	-	-	-	-
Ga.	4	-	-	-	-	1	44	3	23	2	19	17	-	-	1
Fla.	15	1	87	1†	7	53	105	1	20	-	20	15	-	3	6
E.S. CENTRAL	6	-	43	-	-	2	167	-	367	4	20	20	-	-	3
Ky.	-	-	32	-	-	-	32	-	170	-	-	1	-	-	2
Tenn.	-	-	-	-	-	-	100	-	186	2	12	6	-	-	1
Ala.	4	-	-	-	-	-	25	-	8	2	7	9	-	-	-
Miss.	2	-	11	-	-	2	10	N	N	-	1	4	-	-	-
W.S. CENTRAL	35	-	11	-	4	246	115	15	571	2	68	62	-	7	5
Ark.	-	-	-	-	2	-	15	-	78	2	7	6	-	3	2
La.	7	-	-	-	-	-	35	8	208	-	10	13	-	-	-
Okla.	7	-	8	-	-	2	12	-	154	-	24	43	-	1	-
Tex.	21	-	3	-	2	244	53	7	131	-	27	-	-	3	3
MOUNTAIN	19	-	116	-	3	463	52	1	148	-	339	92	-	5	19
Mont.	2	-	-	-	1	116	1	-	2	-	1	3	-	-	3
Idaho	-	-	-	-	1	-	5	-	2	-	248	32	-	-	1
Wyo.	-	-	-	-	-	2	-	-	2	-	1	5	-	-	1
Colo.	9	-	116	-	1	5	14	-	28	-	13	21	-	1	-
N. Mex.	1	-	-	-	-	313	10	N	N	-	7	7	-	-	-
Ariz.	4	-	-	-	-	23	12	1	100	-	48	23	-	-	4
Utah	2	-	-	-	-	1	9	-	3	-	20	1	-	3	10
Nev.	1	-	-	-	-	3	1	-	11	-	1	-	-	1	-
PACIFIC	142	14	303	-	33	720	502	12	352	10	218	257	1	60	148
Wash.	9	-	2	-	-	30	43	-	16	2	47	37	-	-	-
Oreg.	8	-	3	-	-	35	26	N	N	3	9	14	-	-	1
Calif.	119	14	296	-	29	651	414	12	310	5	116	106	-	48	92
Alaska	2	-	-	-	-	-	5	-	6	-	5	3	-	-	1
Hawaii	4	-	2	-	4	4	14	-	9	-	41	97	1	12	54
Guam	-	-	-	-	1	2	-	-	2	-	-	-	-	1	1
P.R.	1	-	190	-	-	629	8	-	6	-	8	12	-	1	2
V.I.	-	-	-	-	-	-	-	-	12	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	2	-	3	-	-	-	-	-	-
C.N.M.I.	1	-	-	-	-	-	-	-	1	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International ‡Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending July 9, 1988 and July 11, 1987 (27th week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic- shock Syndrome	Tuberculosis		Tula- remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1987	Cum. 1988	Cum. 1988	Cum. 1988	Cum. 1988
UNITED STATES	19,570	17,418	156	10,202	10,642	85	178	219	2,141
NEW ENGLAND	531	288	13	254	320	1	15	4	3
Maine	5	1	3	17	17	-	-	-	1
N.H.	6	3	3	6	8	-	-	-	2
Vt.	2	1	2	2	7	-	1	-	-
Mass.	209	143	5	148	171	1	10	2	-
R.I.	16	7	-	21	25	-	-	2	-
Conn.	293	133	-	60	92	-	4	-	-
MID. ATLANTIC	3,909	3,294	25	1,823	1,789	-	32	10	255
Upstate N.Y.	261	106	10	271	273	-	5	3	5
N.Y. City	2,485	2,398	5	868	855	-	17	5	-
N.J.	450	349	3	324	340	-	10	-	-
Pa.	713	441	7	360	321	-	-	2	250
E.N. CENTRAL	585	481	23	1,163	1,243	1	19	20	68
Ohio	60	55	18	220	239	-	5	18	-
Ind.	34	33	-	123	127	-	2	-	15
Ill.	281	259	-	472	512	-	10	-	15
Mich.	193	95	5	291	306	1	1	1	14
Wis.	17	39	-	57	59	-	1	1	24
W.N. CENTRAL	116	75	21	257	320	45	4	35	269
Minn.	9	8	3	44	70	3	2	-	84
Iowa	13	11	4	21	18	-	-	-	13
Mo.	70	37	7	122	178	29	2	25	7
N. Dak.	1	-	2	4	6	-	-	-	54
S. Dak.	-	8	1	21	17	10	-	5	83
Nebr.	17	7	2	9	12	2	-	-	7
Kans.	6	4	2	36	19	1	-	5	21
S. ATLANTIC	7,115	6,047	13	2,230	2,298	4	19	61	717
Del.	62	45	1	19	23	1	-	-	31
Md.	388	313	2	226	191	-	1	10	177
D.C.	336	183	-	94	77	-	-	-	4
Va.	226	153	-	215	231	2	8	4	212
W. Va.	7	6	-	43	64	-	-	1	57
N.C.	395	322	6	182	254	-	1	28	1
S.C.	385	381	1	255	220	-	-	8	46
Ga.	1,136	831	-	363	375	1	2	8	139
Fla.	4,180	3,813	3	833	863	-	7	2	50
E.S. CENTRAL	1,027	997	12	878	912	6	3	31	154
Ky.	36	8	5	219	228	4	1	7	66
Tenn.	446	421	4	255	264	1	-	18	45
Ala.	296	252	3	261	258	-	1	4	43
Miss.	249	316	-	143	162	1	1	2	-
W.S. CENTRAL	2,227	2,193	14	1,299	1,231	20	6	49	304
Ark.	118	122	-	142	151	12	-	5	52
La.	429	385	-	159	133	-	2	-	2
Okla.	83	83	4	124	118	8	-	37	22
Tex.	1,597	1,603	10	874	829	-	4	7	228
MOUNTAIN	371	352	19	241	304	5	6	7	175
Mont.	2	8	-	5	9	-	1	6	121
Idaho	-	3	3	11	21	-	-	1	-
Wyo.	1	1	-	1	1	-	-	-	19
Colo.	59	56	3	27	69	4	3	-	4
N. Mex.	25	31	-	45	51	1	1	-	4
Ariz.	96	168	5	124	134	-	1	-	25
Utah	11	15	8	-	6	-	-	-	2
Nev.	177	70	-	28	13	-	-	-	-
PACIFIC	3,689	3,691	16	2,057	2,225	3	74	2	196
Wash.	98	75	2	117	131	-	4	-	-
Oreg.	149	133	1	75	58	-	6	1	-
Calif.	3,414	3,472	13	1,756	1,895	1	62	1	188
Alaska	7	2	-	24	32	2	-	-	8
Hawaii	21	9	-	85	109	-	2	-	-
Guam	3	2	-	8	25	-	-	-	-
P.R.	328	521	-	105	160	-	2	-	36
V.I.	1	3	-	3	2	-	-	-	-
Amer. Samoa	-	-	-	3	2	-	1	-	-
C.N.M.I.	1	-	-	12	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending
July 9, 1988 (27th Week)

Reporting Area	All Causes, By Age (Years)						P&I**	Reporting Area	All Causes, By Age (Years)						P&I**
	All Ages	≥65	45-64	25-44	1-24	<1			Total	All Ages	≥65	45-64	25-44	1-24	
NEW ENGLAND	581	385	111	54	15	16	42	S. ATLANTIC	1,091	643	258	110	40	39	47
Boston, Mass.	155	93	39	13	1	9	18	Atlanta, Ga.	168	99	40	21	5	3	5
Bridgeport, Conn.	27	16	7	2	1	1	1	Baltimore, Md.	219	130	50	19	10	10	13
Cambridge, Mass.	19	15	2	2	-	-	-	Charlotte, N.C.	40	27	10	3	-	-	4
Fall River, Mass.	34	25	7	1	1	-	4	Jacksonville, Fla.	99	49	26	19	4	1	-
Hartford, Conn.	69	47	11	5	3	3	2	Miami, Fla.	60	26	19	10	3	2	1
Lowell, Mass.	19	14	5	-	-	-	1	Norfolk, Va.	34	15	14	1	1	3	2
Lynn, Mass.	23	21	1	2	-	-	1	Richmond, Va.	67	35	19	8	2	3	6
New Bedford, Mass.	25	18	3	3	1	-	-	Savannah, Ga.	52	32	12	2	3	3	4
New Haven, Conn.	41	26	5	4	5	1	4	St. Petersburg, Fla.	71	55	8	6	-	2	1
Providence, R.I.	28	13	5	7	1	2	1	Tampa, Fla.	61	42	12	4	1	2	4
Somerville, Mass.	8	4	2	2	-	-	-	Washington, D.C.	189	110	41	16	11	10	7
Springfield, Mass.	51	37	8	5	1	-	6	Wilmington, Del.	31	23	7	1	-	-	-
Waterbury, Conn.	30	23	3	3	1	-	4	E.S. CENTRAL	648	428	142	40	17	21	48
Worcester, Mass.	52	33	14	5	-	-	-	Birmingham, Ala.	112	68	24	10	5	5	3
MID. ATLANTIC	2,689	1,532	524	269	91	272	111	Chattanooga, Tenn.	36	26	7	3	-	-	3
Albany, N.Y.	66	43	14	4	4	1	1	Knoxville, Tenn.	81	65	12	2	1	1	7
Allentown, Pa.	17	11	4	2	-	-	1	Louisville, Ky.	100	69	19	6	2	4	11
Buffalo, N.Y.	83	61	13	1	4	3	5	Memphis, Tenn.	141	89	38	9	4	1	13
Camden, N.J.	18	13	1	2	1	1	3	Mobile, Ala.	32	23	8	1	-	-	3
Elizabeth, N.J.	25	16	5	4	-	-	3	Montgomery, Ala.	54	33	11	3	1	6	2
Erie, Pa.†	46	32	10	4	2	2	2	Nashville, Tenn.	92	55	23	6	4	4	6
Jersey City, N.J.	64	47	9	4	2	2	3	W.S. CENTRAL	1,101	661	253	110	40	37	40
N.Y. City, N.Y.	1,471	737	280	184	46	224	38	Austin, Tex.	43	24	13	2	2	2	-
Newark, N.J.	90	41	20	15	6	8	10	Baton Rouge, La.	40	20	6	9	-	5	3
Paterson, N.J.	32	20	7	1	2	2	2	Corpus Christi, Tex.‡	37	27	8	2	-	-	-
Philadelphia, Pa.	396	235	91	35	13	22	24	Dallas, Tex.	160	87	41	21	7	4	1
Pittsburgh, Pa.†	29	23	5	1	-	-	-	El Paso, Tex.	37	24	9	1	1	2	1
Reading, Pa.	22	18	3	1	-	-	3	Fort Worth, Tex	57	30	16	5	5	1	-
Rochester, N.Y.	105	79	13	4	5	4	10	Houston, Tex.‡	308	176	74	34	13	11	7
Schenectady, N.Y.	22	16	6	-	-	-	3	Little Rock, Ark.	45	26	12	3	3	1	3
Scranton, Pa.†	30	24	5	1	-	-	3	New Orleans, La.	119	72	22	21	1	3	-
Syracuse, N.Y.	87	61	19	4	3	-	2	San Antonio, Tex.	126	86	21	7	7	5	13
Trenton, N.J.	44	24	14	1	2	3	1	Shreveport, La.	45	27	12	4	-	2	5
Utica, N.Y.	23	19	2	2	-	-	2	Tulsa, Okla.	84	62	19	1	1	1	7
Yonkers, N.Y.	19	12	3	2	1	1	1	MOUNTAIN	638	386	151	56	25	19	27
E.N. CENTRAL	2,098	1,341	443	179	57	78	80	Albuquerque, N. Mex.	71	42	16	6	4	2	3
Akron, Ohio	44	34	6	3	-	1	2	Colo. Springs, Colo.	33	24	7	1	1	-	2
Canton, Ohio	44	27	8	4	5	-	2	Denver, Colo.	91	57	19	8	4	3	4
Chicago, Ill.‡	564	362	125	45	10	22	16	Las Vegas, Nev.	111	59	32	12	4	4	4
Cincinnati, Ohio	148	82	46	10	6	4	8	Ogden, Utah	24	16	4	2	1	1	3
Cleveland, Ohio	132	69	34	18	4	7	1	Phoenix, Ariz.	134	84	28	13	4	5	2
Columbus, Ohio	125	79	27	10	1	8	2	Pueblo, Colo.	26	21	3	2	-	-	4
Dayton, Ohio	96	68	19	5	1	3	6	Salt Lake City, Utah	40	17	14	5	2	2	-
Detroit, Mich.	226	132	48	30	6	10	3	Tucson, Ariz.	108	66	28	7	5	2	5
Evansville, Ind.	44	30	9	1	2	2	4	PACIFIC	1,793	1,147	349	172	60	55	111
Fort Wayne, Ind.	37	26	10	-	-	1	1	Berkeley, Calif.	20	12	8	-	-	-	2
Gary, Ind.	16	6	5	3	2	-	5	Fresno, Calif.	35	17	10	5	-	2	4
Grand Rapids, Mich.	64	41	8	8	1	6	5	Glendale, Calif.	12	10	2	-	-	-	-
Indianapolis, Ind.	146	98	23	17	2	6	3	Honolulu, Hawaii	73	45	13	9	5	1	11
Madison, Wis.	35	19	7	5	2	2	2	Long Beach, Calif.	82	57	13	7	-	4	11
Milwaukee, Wis.	71	51	12	3	2	3	5	Los Angeles, Calif.	581	395	110	47	17	6	22
Peoria, Ill.	36	24	8	2	2	-	4	Oakland, Calif.	63	39	14	6	4	-	4
Rockford, Ill.	43	33	9	-	-	1	5	Pasadena, Calif.	25	17	2	2	2	2	2
South Bend, Ind.	51	42	4	4	1	-	4	Portland, Oreg.	84	58	20	4	-	2	3
Toledo, Ohio	117	83	20	6	7	1	6	Sacramento, Calif.	133	76	32	10	5	10	15
Youngstown, Ohio	59	35	15	5	3	1	1	San Diego, Calif.	113	75	16	9	5	7	9
W.N. CENTRAL	749	517	145	48	19	20	25	San Francisco, Calif.	148	83	23	33	2	7	5
Des Moines, Iowa	83	54	17	11	1	-	1	San Jose, Calif.	161	91	37	19	8	5	12
Duluth, Minn.	27	21	5	-	1	-	-	Seattle, Wash.	141	91	26	11	9	4	1
Kansas City, Kans.	25	11	6	5	2	1	1	Spokane, Wash.	52	36	11	3	-	2	7
Kansas City, Mo.	126	82	31	6	3	4	3	Tacoma, Wash.	70	45	12	7	3	3	3
Lincoln, Neb.	31	23	4	3	1	-	2	TOTAL	11,388††	7,040	2,376	1,038	364	557	531
Minneapolis, Minn.	142	107	17	7	4	7	3								
Omaha, Neb.	61	38	19	1	1	2	5								
St. Louis, Mo.	124	85	24	7	3	5	7								
St. Paul, Minn.	56	42	7	6	1	-	-								
Wichita, Kans.‡	74	54	15	2	2	1	3								

*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 3 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.

‡Data not available. Figures are estimates based on average of past available 4 weeks.

Cancer Control – Continued

to cancer screening tests. Efforts to increase the use of these screening tests must include educating the public concerning their routine use of the tests according to recommended guidelines. This practice permits the early detection of disease when treatment is most effective, that is, before symptoms occur.

References

1. National Cancer Institute. Cancer control objectives for the nation: 1985–2000. Bethesda, Maryland: US Department of Health and Human Services, Public Health Service, 1986; DHHS publication no. (NIH)86-2880. (NCI monograph no. 2).
2. National Cancer Institute. Working guidelines for early cancer detection: rationale and supporting evidence to decrease mortality. Washington, DC: US Department of Health and Human Services, Public Health Service, 1987.
3. National Center for Health Statistics. Programs and collection procedures: the National Health Interview Survey Design 1973–1984 and procedures 1975–1983. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service; DHHS publication no. (PHS)85-1320. (Series 1, no. 18).
4. Chow W-H, Liff JM, Greenberg RS. Mammography in Atlanta. *J Med Assoc Ga* 1987; 76:788–92.
5. Bang KM, White JE, Gause BL, Leffall LD Jr. Evaluation of recent trends in cancer mortality and incidence among blacks. *Cancer* 1988;61:1255–61.

*Epidemiologic Notes and Reports***Dilaudid®-Related Deaths – District of Columbia, 1987**

In the period September 2–16, 1987, in the District of Columbia, 12 persons died from the intravenous use of Dilaudid® in combination with cocaine and quinine. These deaths represented a 500% increase over the average number of Dilaudid®-related deaths for each of the preceding 3 years.

The average age of the decedents was 35 years, with a range of 21–57. Eleven were black, and one was white. Eight were male; four were female. The deaths were distributed throughout the period, with no apparent clustering by day of week. Eight deaths occurred in the morning hours, between 1:00 and 11:30; four of those were concentrated between 4:00 and 6:00. The others died in the late afternoon. Most of the persons died at home, in or near their sleeping quarters. Circumstantial details were similar for seven of the decedents: each apparently was alone at the time he or she used the drug preparation, and each possessed drug paraphernalia.

Autopsy data indicated that lethal levels of Dilaudid® (more than 0.01 mg/dL) were present in all but one of the decedents (median level = 0.034 mg/dL). The exception, who had a concentration of 0.008 mg/dL, had been hospitalized 12 hours before death; therefore, most of the drug had probably been metabolized by the time of autopsy. Autopsies showed toxic levels of cocaine (more than 0.10 mg/dL) in four of the decedents (median level for all 12 = 0.08 mg/dL). Ethanol was evident in two decedents, at 50 mg/dL and 100 mg/dL, and urine cannabinoids were found in three decedents. Puncture sites and/or track marks were found on all of the bodies. Three of the decedents had fatty metamorphosis of the liver. One woman was found to be positive for human immunodeficiency virus (HIV-1).

Dilaudid – Continued

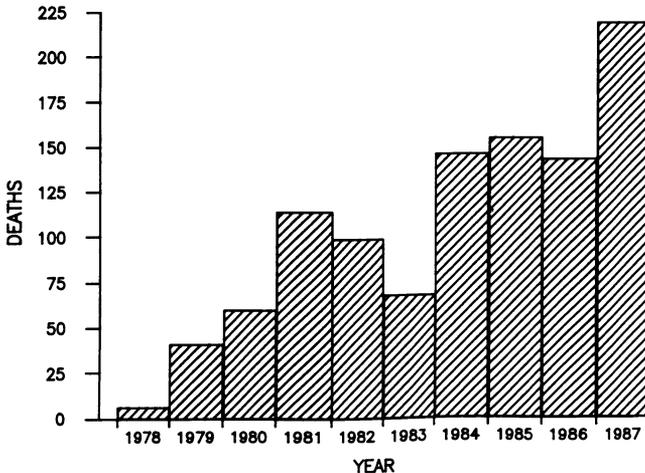
Editorial Note: The number of deaths due to the toxic effects of narcotics or cocaine per year in the District of Columbia has ranged from about 50 to 150 from 1979 to 1986. The number for 1987 was 219, or 52% more than that in 1986 (Figure 1).

A study of an epidemic of heroin-related deaths that occurred in the District of Columbia from 1980 through 1982 (1) found the combined use of ethanol and heroin to be a risk factor in fatal overdoses. Lack of tolerance for heroin and higher concentrations of heroin in street preparations were identified as other important risk factors for death from overdose. Temporal clustering was evident; most deaths occurred in the spring and summer, on weekends, between 6 p.m. and midnight. The findings suggested that decedents were sporadic rather than chronic heroin abusers and that they were using the drug in combination with ethanol in a social context. Public health education measures that were recommended at that time to prevent heroin-related deaths focused on informing users of the dangers of heroin use, especially for nonaddictive (i.e., sporadic) purposes, in combination with, or as a substitute for, ethanol (1).

The Dilaudid®-related deaths reported here contrast with those from the earlier epidemic of heroin-related deaths. They were relatively evenly distributed over time, and most occurred at home. Extensive track marks on the body of each decedent indicated chronic drug abuse. Circumstantial evidence suggested that most users were alone at the time of drug use. Ethanol, a drug associated with social interaction, was present in only two of the decedents. These findings support the hypothesis that the Dilaudid® users were chronic heroin addicts who used the narcotic preparation for their addictions.

Analyses of two drug preparations bought on the street in early September 1987 found them to be whitish-colored Dilaudid® powder rather than crushed Dilaudid® tablets. Dilaudid® tablets (1 to 4 mg) are prescribed for analgesic purposes. Persons who abuse the drug in pill form typically crush it into a yellowish mixture before injecting it. However, these fatalities apparently involved the more potent powder, mixed with quinine and presumably sold on the streets as heroin. Dilaudid® powder

FIGURE 1. Deaths due to drug overdose, by year, District of Columbia, 1978–1987



Dilaudid – Continued

comes in 15-grain vials, each equivalent to about 1 g or 250 4-mg tablets. This preparation is used at cancer centers in the District and is dispensed at certain pharmacies for home-care treatment of patients with terminal cancer.

In the Dilaudid®-related deaths, the decedents were addicts who apparently thought they were injecting heroin and cocaine. Risk factors in these fatal overdoses were both chronicity of narcotic abuse and use of a pharmacologically more potent substitute for heroin. Coincident with the end of this outbreak were media reports that Dilaudid® powder was being sold on the streets as heroin. Also at this time, District of Columbia police officers and Drug Enforcement Administration officials increased their surveillance of pharmaceutical sources from which the drug may have been diverted for illicit street sale, and a New Jersey drug dealer who was trying to establish networks for distributing Dilaudid® in the District was arrested. Whether these events caused or simply correlated with the end of this cluster of overdose deaths is unknown. However, these actions represent an important and necessary response by local health officials when facts such as the above are known.

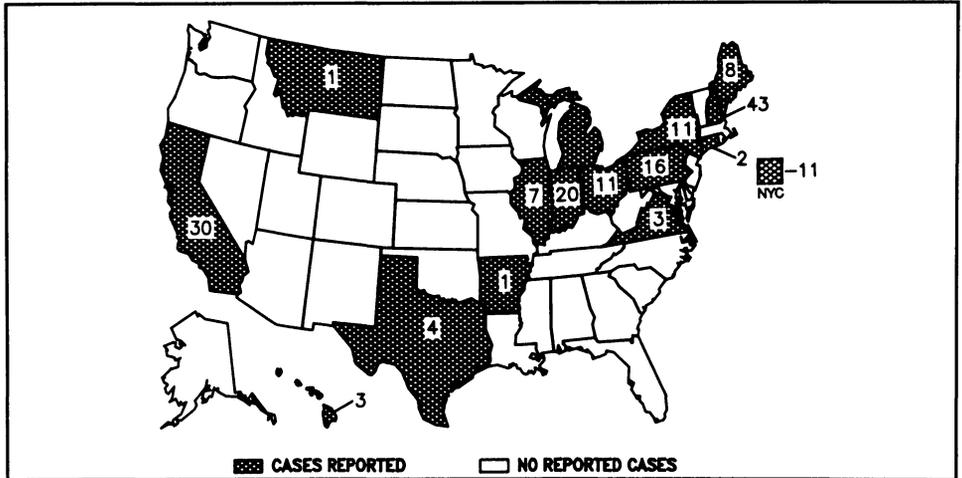
Nationally, data for the period 1982–1987 show low endemic levels of Dilaudid® abuse at most reporting U.S. metropolitan areas (National Institute on Drug Abuse, Drug Abuse Warning Network, unpublished data). Three cities report a consistently high proportion of patients entering emergency facilities for Dilaudid® abuse: New Orleans, Philadelphia, and Washington, D.C. Reports of medical examiners indicate that fewer than five Dilaudid®-related deaths have occurred per quarter, except for these 12 overdose deaths in Washington, D.C.

Reported by: Statistical and Epidemiologic Analysis Br, National Institute on Drug Abuse. PH Santinga, BS, Office of the Chief Medical Examiner, District of Columbia. Div of Environmental Hazards and Health Effects, Center for Environmental Health and Injury Control, CDC.

References

1. Rutenber AJ, Luke JL. Heroin-related deaths: new epidemiologic insights. *Science* 1984; 226:14–20.

FIGURE 1. Reported measles cases — United States, Weeks 23-26, 1988



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The data in this report are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. The editor welcomes accounts of interesting cases, outbreaks, environmental hazards, or other public health problems of current interest to health officials. Such reports and any other matters pertaining to editorial or other textual considerations should be addressed to: Editor, *Morbidity and Mortality Weekly Report*, Centers for Disease Control, Atlanta, Georgia 30333.

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