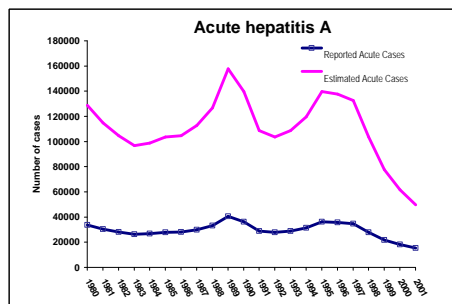
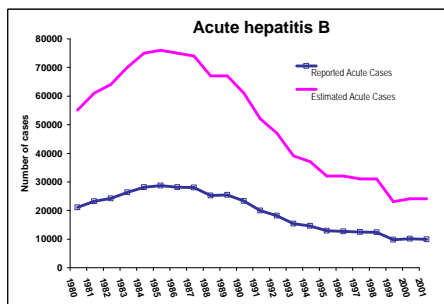


Disease Burden from Viral Hepatitis A, B, and C in the United States

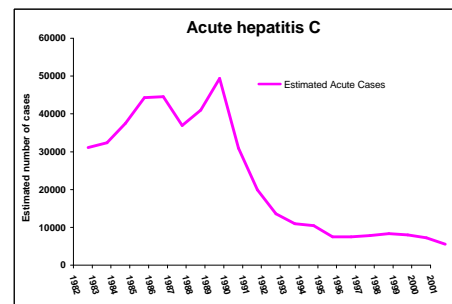
	<u>Hepatitis A</u>		<u>Hepatitis B</u>		<u>Hepatitis C</u>	
	<u>2001</u>	<u>2000</u>	<u>2001</u>	<u>2000</u>	<u>2001</u>	<u>2000</u>
Number of Acute Clinical Cases Reported¹	10,616	13,397	7,844	8,036	No data	No data
Estimated Number of Acute Clinical Cases²	45,000	57,000	22,000	22,000	4,000	5,700
Estimated Number of New Infections²	93,000	143,000	78,000	81,000	25,000	35,000
Number of Persons with Chronic Infection³	No chronic infection		1.25 million		2.7 million	
Estimated Annual Number of Chronic Liver Disease Deaths¹	No chronic infection		5,000		8,000-10,000	
Percent ever infected⁴	31.3%		4.9%		1.8%	



HEPATITIS A



HEPATITIS B



HEPATITIS C

Year	Reported Acute Cases	Estimated Acute Cases	Estimated Total New Infections
1980	29087	124,000	234,000
1981	25802	110,000	223,000
1982	23404	100,000	228,000
1983	21534	92,000	221,000
1984	22038	94,000	232,000
1985	23211	99,000	228,000
1986	23429	100,000	239,000
1987	25280	108,000	255,000
1988	28506	122,000	305,000
1989	35822	153,000	380,000
1990	31522	135,000	373,000
1991	24219	104,000	288,000
1992	23112	99,000	274,000
1993	24238	104,000	284,000
1994	26796	115,000	333,000
1995	31582	135,000	356,000
1996	31032	133,000	335,000
1997	30021	128,000	341,000
1998	23229	99,000	243,000
1999	17047	73,000	181,000
2000	13397	57,000	143,000
2001	10616	45,000	93,000

Year	Reported Acute Cases	Estimated Acute Cases	Estimated Total New Infections
1980	19014	53,000	208,000
1981	21151	59,000	229,000
1982	22176	62,000	239,000
1983	24319	68,000	267,000
1984	26116	73,000	281,000
1985	26612	74,000	287,000
1986	26106	73,000	283,000
1987	25915	72,000	287,000
1988	23175	65,000	253,000
1989	23421	65,000	255,000
1990	21277	59,000	232,000
1991	17911	50,000	193,000
1992	16126	45,000	175,000
1993	13361	37,000	144,000
1994	12517	35,000	133,000
1995	10805	30,000	113,000
1996	10637	30,000	112,000
1997	10416	29,000	110,000
1998	10258	29,000	109,000
1999	7694	21,000	79,000
2000	8036	22,000	81,000
2001	7844	22,000	78,000

Year	Estimated Acute Cases	Estimated Total New Infections
1982	29,500	180,000
1983	30,800	188,000
1984	36,000	219,000
1985	42,700	261,000
1986	43,000	262,000
1987	35,400	216,000
1988	39,400	240,000
1989	47,800	291,000
1990	29,400	179,000
1991	18,400	112,000
1992	12,000	73,000
1993	9,400	57,000
1994	8,900	54,000
1995	5,900	36,000
1996	5,900	36,000
1997	6,300	38,000
1998	6,800	41,000
1999	6,400	39,000
2000	5,700	35,000
2001	4,000	25,000

Notes on sources and methodology:

- a. **Number of Acute Clinical Cases Reported:** For hepatitis A and hepatitis B, the number of cases reported to the National Notifiable Disease Surveillance System (NNDSS). Cases of hepatitis C are also reported to NNDSS (3,866 cases in 2001) but are unreliable for monitoring trends in hepatitis C because these reports include cases based only on a positive laboratory test for anti-HCV, most of which represent chronic HCV infection. (CDC. Summary of Notifiable Diseases, United States, 2000, MMWR 2002;49(53))
- b. **Estimated Number of Clinical Cases and New Infections** The ratio of reported acute cases to the total number of newly acquired infections occurring was estimated by catalytic modeling of seroprevalence data (from the National Health and Nutrition Examination Survey (NHANES III)). Incidence estimates adjusted for underreporting and asymptomatic infections were then calculated by multiplying the number of cases reported (for hepatitis A and hepatitis B, NNDSS data are used; for hepatitis C, Sentinel Counties Study of Viral Hepatitis data are used) by these ratios. **HAV:** Armstrong GL et al, Pediatrics 2002, 109(5):839-845; **HCV:** Armstrong GL et al. Hepatology 2000, 31:777-782.
- c. **Number of Persons with Chronic Infection** **HBV:** Margolis HS, Coleman PJ, Brown RE, et al. Prevention of hepatitis B virus transmission by immunization: An economic analysis of current recommendations. JAMA 1995; 274(15): 1201 - 1208. **HCV:** Alter MJ et al. Prevalence of hepatitis C virus infection in the United States, 1988 through 1994. NEJM 1999; 341:556-562.
- f. **Estimated Annual Number of Chronic Liver Disease Deaths** Estimated number of chronic liver disease deaths are for the year 1990. **HBV:** Centers for Disease Control and Prevention. Protection against Viral Hepatitis. MMWR 1990; 39(RR-2). **HCV:** Centers for Disease Control and Prevention. Recommendations for the prevention and control of hepatitis C virus infection and HCV-related chronic disease. MMWR 1998; 47(RR-19):1-39.
- g. **Percent ever infected** Prevalence estimates for HAV, HBV and HCV come from the Third National Health and Nutrition Examination Survey. **HAV:** CDC. Prevention of Hepatitis A through active or passive immunization. MMWR 1999; 48: RR-12. **HBV:** McQuillan GM, et al. Prevalence of hepatitis B virus infection in the United States: The National Health and Nutrition and Examination Surveys, 1976 through 1994. AJP 1999; 89(1):14-18. **HCV:** Alter MJ et al. Prevalence of hepatitis C virus infection in the United States, 1988 through 1994. NEJM 1999; 341:556-562.