

SECTION 2

VITAL STATISTICS AND HEALTH

This section presents data on births, deaths, marriages, divorces, morbidity, hospitals, and health personnel.

Vital indices generally reflect the high health standards of Hawaii. Expectation of life at birth was 71.55 years in 1959-1961, seventh highest of the fifty states and almost twice the 1884-1885 average of 36.5 years. The provisional crude death rate in 1970 was only 5.8, half the 1930 level and four-fifths below mortality rates at the turn of the century.

Deaths under one-year of age per 1,000 live births dropped from 205 in 1910 to less than 20 after 1965. The provisional 1970 crude birth rate was 23.1. Over 99 percent of all babies were born in hospitals, and a fourth were born to military couples. One out of eleven births was illegitimate. Marriages numbered 10,562 in 1970, with about a third accounted for by nonresidents. Divorces reached a 1970 total of 2,589.

The State had 31 hospitals (with 5,035 beds) and 150 nursing and care homes (with 1,959 beds) when most recently surveyed. Average length of stay in the largest of the hospitals was 7.9 days in 1970, compared with 13.0 in 1920 and 59 in the 1870's. State licensing boards listed 945 physicians and surgeons, 467 dentists, 3,078 professional nurses, and 205 pharmacists.

Major sources for data on vital statistics and health are the annual statistical reports of the Hawaii State Department of Health and various publications of the U.S. Public Health Service. Section 2 of the *Statistical Abstract of the United States: 1970* contains similar data for the nation as a whole.

Table 12.—BIRTHS, DEATHS, MARRIAGES, AND DIVORCES: 1849 TO 1970
(Place of occurrence basis. Not adjusted for underreporting, known to have been significant before 1920)

Year ¹	Live births	Deaths ²	Rate per 1,000 pop. ³		Infant death rate ⁴	Marriages	Divorces and annulments
			Birth	Death ²			
1849	1,422	4,320	16.6	50.5	(NA)	1,810	1
1860	1,672	2,343	23.8	33.4	(NA)	1,075	86
1870	2,413	3,819	40.8	64.6	(NA)	(NA)	38
1880	2,350	2,550	35.6	38.6	(NA)	(NA)	79
1890	(NA)	(NA)	(NA)	30.6	(NA)	(NA)	48
1900	(NA)	(NA)	(NA)	32.8	(NA)	(NA)	48
1910	4,302	2,941	22.8	15.6	205.5	1,959	197
1920	10,165	4,564	40.4	18.1	108.8	2,127	570
1930	10,873	3,976	31.1	11.4	82.3	2,443	529
1940	9,524	3,025	24.1	7.6	43.7	5,355	946
1950	14,059	2,883	29.4	6.0	23.8	5,575	1,173
1960	17,193	3,540	29.2	6.0	23.2	5,237	1,270
1961	17,558	3,367	29.2	5.6	21.7	5,298	1,556
1962	17,932	3,512	29.5	5.8	20.6	5,484	1,471
1963	17,744	3,643	29.0	6.0	22.5	5,750	1,515
1964	17,284	3,638	27.9	5.9	19.8	5,790	1,690
1965	16,259	3,705	25.8	5.9	21.5	6,071	1,111
1966	14,943	3,770	23.2	5.8	18.9	5,792	897
1967	14,765	3,897	22.4	5.9	16.9	7,345	1,451
1968	14,595	4,192	21.6	6.2	19.0	9,021	1,865
1969	15,755	4,146	22.6	5.9	19.2	9,891	2,314
1970	16,463	4,132	23.1	5.8	19.0	10,562	2,589
Year ¹	Percent of births			Percent of deaths 65 and over ⁵	Resident grooms		Percent of marriages interracial
	In hospitals	Father in armed forces	Illgitimate		Number	Percent	
1920	(NA)	(NA)	(NA)	8.5	(NA)	(NA)	18.0
1930	34.2	(NA)	2.66	16.0	(NA)	(NA)	21.3
1940	69.5	(NA)	6.25	28.8	(NA)	(NA)	25.0
1950	97.1	(NA)	4.97	39.3	(NA)	(NA)	29.7
1960	99.1	29.5	5.13	46.7	5,043	96.3	37.3
1961	99.1	27.8	5.76	46.5	5,101	96.3	36.1
1962	99.3	28.3	6.03	47.9	5,291	96.5	37.7
1963	99.3	28.2	6.40	47.8	5,516	95.9	38.6
1964	99.5	28.9	6.63	49.3	5,481	94.7	38.3
1965	99.3	26.6	7.21	48.8	5,703	93.9	38.1
1966	99.4	22.9	8.38	49.9	5,358	92.5	37.7
1967	99.5	24.4	8.75	52.5	5,904	80.4	33.5
1968	99.3	25.9	9.48	51.0	6,321	70.1	33.8
1969	99.5	25.9	9.45	51.6	6,709	67.8	33.7
1970	(NA)	23.7	(NA)	(NA)	(NA)	(NA)	(NA)

NA Not available.

¹Divorce total for 1860 is annual average for two-year period ended March 31, 1862. Birth and death data for 1880 and divorce data for 1870-1890 are annual averages for two-year periods begun on January 1 for year specified. Birth and death data, 1910-1940, infant deaths and marriages, 1910, illegitimate births, 1930-1940, and hospital births and interracial marriages, 1940, are for years ended June 30. Hospital birth percentage for 1930 refers to year ended June 30, 1934. Interracial marriage percentage for 1920 refers to four-year period ended June 30, 1924; for 1930, to two-year period ended June 30, 1930. All other data are for calendar years.

²Death data include armed forces through 1940 but exclude them thereafter. The 1890 and 1900 rates are for Honolulu only.

³Based on total resident population through 1900 and civilian resident population thereafter.

⁴Deaths under one year of age per 1,000 live births.

⁵Includes armed forces through 1961 but excludes them thereafter.

Source: Robert C. Schmitt, *Demographic Statistics of Hawaii: 1778-1965* (University of Hawaii Press, 1968), pp. 165-167, 171, and 210-212; Hawaii State Department of Health, annual statistical reports for 1930-1969, and records.

Table 13.—POPULATION, BIRTHS, AND DEATHS, BY MILITARY STATUS: 1969 AND 1970
(Data for 1970 are preliminary)

Year and military status	Population, July 1	Live births		Deaths	
		Number	Rate per 1,000	Number	Rate per 1,000
1969, total	754,727	15,755	20.9	4,214	5.6
Armed forces	56,282	—	0	68	1.2
Civilians	698,445	15,755	22.6	4,146	5.9
Military dependents	59,697	4,082	68.4	149	2.5
Other civilians	638,748	11,673	18.3	3,997	6.3
1970, total	766,848	16,463	21.5	4,205	5.5
Armed forces	53,768	—	0	73	1.4
Civilians	713,080	16,463	23.1	4,132	5.8
Military dependents	57,781	3,906	67.6	144	2.5
Other civilians	655,299	12,557	19.2	3,988	6.1

Source: Population, 1969, from DPED, Statistical Reports 76 (p.3) and 77 (p.9); 1970, from linear extrapolation of intercensal trend for civilians other than military dependents, plus number of military personnel and dependents reported in DPED, Statistical Report 76, p. 3. Births and deaths from Hawaii State Department of Health, *Annual Report, Statistical Supplement, 1969*, pp. 3 and 24, and records. (Deaths of military dependents were based on a crude rate of 2.5, as estimated from 1960 data on the age distribution of military dependents and age-specific death rates for the total population.)

**Table 14.—AVERAGE REMAINING LIFETIME IN YEARS AT SPECIFIED AGES, BY SEX:
1884-1885 TO 1959-1961**

Period	Years remaining at birth		Age	Years remaining, 1959-1961			
	Male	Female		White		Nonwhite	
				Male	Female	Male	Female
1884-1885 ¹ ...	36.5		Birth	66.95	72.37	70.69	74.81
1919-1920	47.79	47.27	1	67.55	72.84	71.62	75.31
1929-1931	52.63	55.31	15	53.95	59.22	58.18	61.82
1939-1941	59.46	62.60	25	44.48	49.50	48.88	52.12
1949-1951	67.76	71.29	45	25.81	30.58	30.34	33.28
1959-1961	71.55		65	12.00	14.95	14.73	16.92

¹City of Honolulu only. For two-year period ended March 31, 1885.

Source: Robert C. Schmitt, *Demographic Statistics of Hawaii: 1778-1965* (University of Hawaii Press, 1968), p. 172; U.S. Department of Health, Education, and Welfare, Public Health Service, *Life Tables: 1959-61*, Vol. 2, No. 12, *Hawaii State Life Tables: 1959-61* (June 1966), pp. 162-171.

Table 15.—CIVILIAN DEATHS, BY CAUSE: 1929, 1959, AND 1969

Cause of death ¹	Number, 1969	Percent distribution			Rate per 100,000 population		
		1969	1959	1929	1969	1959	1929
All causes	4,146	100.0	100.0	100.0	598.8	581.0	1,225.5
Diseases of the heart	1,372	33.1	32.3	9.9	198.2	187.6	121.3
Malignant neoplasms	765	18.5	17.3	5.4	110.5	100.8	66.3
Cerebrovascular diseases	359	8.7	7.8	4.4	51.9	45.5	54.0
All accidents	245	5.9	5.7	6.3	35.4	33.2	76.6
Pneumonia	200	4.8	3.1	11.6	28.9	17.7	141.8
Diseases of early infancy	169	4.1	7.6	6.0	24.4	43.9	73.0
Diabetes mellitus	123	3.0	2.5	1.0	17.8	14.6	12.6
Congenital anomalies	83	2.0	2.2	1.2	12.0	12.7	14.3
Suicide	76	1.8	1.7	1.8	11.0	9.8	21.5
Cirrhosis of liver	63	1.5	1.3	0.6	9.1	7.8	7.8
Emphysema	44	1.1	(NA)	(NA)	6.4	(NA)	(NA)
Homicide	35	0.8	0.6	0.4	5.1	3.4	4.5
Nephritis and nephrosis	34	0.8	1.6	5.4	4.9	9.1	66.0
Infections of kidney	31	0.7	(NA)	(NA)	4.5	(NA)	(NA)
Peptic ulcer	29	0.7	0.7	0.9	4.2	4.1	11.2
All other causes	518	12.5	15.6	45.3	74.8	90.6	554.7

NA Not available.

¹The fifteen leading causes of death in 1969, listed in order of deaths for that year.

Source: Hawaii State Department of Health, records.

Table 16.—FETAL AND INFANT DEATHS: 1967 TO 1970

(Place of occurrence basis. Not adjusted for underreporting of fetal deaths, known to have been significant in past years.)

Subject	1967	1968	1969	1970 ¹
Total deliveries	15,772	15,709	16,986	20,684
Live births	14,765	14,595	15,755	16,463
Fetal deaths	1,007	1,114	1,231	4,221
Gestation period of fetal deaths:				
Under 20 weeks	801	795	959	(NA)
20 weeks and over	202	209	215	(NA)
Not stated	4	110	57	(NA)
Class of fetal death:				
Intentional termination of pregnancy ²	12	11	19	2,779
Spontaneous or not reported	995	1,103	1,212	1,442
Infant deaths (under 1 year)				
Under 1 day	132	149	164	(NA)
1 to 27 days	66	62	75	(NA)
28 days to 11 months	52	66	63	(NA)

NA Not available.

¹Preliminary.

²Includes therapeutic abortions (26 in 1970), self-induced or criminal abortions (1 in 1970), and elective abortions consistent with Act 1, Session Laws of 1970, effective March 11, 1970 (2,752 in 1970).

Source: Hawaii State Department of Health, *Annual Report, Statistical Supplement* for 1967 (pp. 5, 49, 57), 1968 (pp. 3, 32, 34), and 1969 (pp. 3, 32, 34), and records.

**Table 17.—ACCIDENTS AND NATURAL DISASTERS CAUSING FIVE OR MORE DEATHS:
1779 TO 1969**

Kind of disaster	Worst disaster		All disasters	
	Year	Deaths	Number	Deaths
All categories	1941	2,500	115	5,635
Natural disasters	1790	400	11	755
Tsunami	1946	159	5	287
Flood, wind, or earth movement	1868	31	5	68
Volcano	1790	400	1	400
Fire or explosion	1944	163	6	219
Transportation	1830	250	91	1,989
Marine	1830	250	49	1,475
Air	1955	66	37	485
Railroad or motor vehicle	1944, 1969	7	5	29
Violence	1941	2,500	7	2,672
Pearl Harbor attack	1941	2,500	1	2,500
Assault, murder, or riot	1790	100+	6	172

Source: Robert C. Schmitt, "Catastrophic Mortality in Hawaii," *Hawaiian Journal of History*, Vol.III, 1969, pp. 66-86, as updated to December 31, 1969.

**Table 18.—AVERAGE LENGTH OF STAY AND COST PER PATIENT DAY AT THE QUEEN'S HOSPITAL:
1859 TO 1970**

Year ¹	Average stay (days)	Cost per patient day (dollars)	Year	Average stay (days)	Cost per patient day (dollars)
1859-1861	42	0.83	1960	6.5	37.90
1877-1879	59	0.61	1966	7.5	61.85
1903	33.7	1.78	1967	7.5	61.93
1920	13.0	4.20	1968	7.8	66.48
1940	8.3	6.20	1969	8.5	71.65
1950	7.3	21.16	1970	7.9	82.04

¹August 1, 1859-June 20, 1861; 24-month period ended in mid-1879; calendar years 1903-1940; fiscal years ended June 30, 1950-1970.

Source: Robert C. Schmitt, "Medical Costs in Hawaii, 1859-1967," *Hawaii Medical Journal*, January-February 1968, pp. 236-239; The Queen's Medical Center, records.

Table 19.—HOSPITALS AND NURSING AND CARE HOMES, BY ISLAND: 1969

Category and island	Number of estab.	Beds		Bassinets	Percent of occupancy	Average patient occupancy	Patients admitted
		In place ¹	Acceptable				
HOSPITALS							
All islands	31	5,035	2,632	333	79.1	3,951	83,635
Hawaii	5	524	355	49	73.3	384	8,168
Maui	3	305	181	32	77.1	236	5,434
Lanai	1	14	14	6	13.3	2	158
Molokai	2	297	28	4	51.7	151	993
Oahu	17	3,646	1,886	228	81.6	2,968	64,118
Kauai	3	249	168	14	84.5	210	4,764
NURSING AND CARE HOMES							
All islands	150	1,959	1,840	—	102.6	2,010	2,050
Hawaii	6	32	32	—	96.2	31	19
Maui	6	141	141	—	91.7	129	128
Oahu	122	1,730	1,611	—	103.9	1,798	1,872
Kauai	16	56	56	—	93.4	52	31

¹The hospital total of 5,035 beds includes 1,866 general beds, 107 maternity-gynecological, 136 pediatric, 190 tuberculoses, 1,659 mental, 423 leprosy, 560 long-term, 58 orthopedic, and 36 rehabilitation. Data include residential cottages for leprosy and mental patients.

Source: *Annual Report, Department of Health, State of Hawaii, Statistical Supplement, 1969*, pp. 116-118.

Table 20.—AVERAGE DAILY RESIDENT POPULATION AND TOTAL ADMISSIONS, FOR OAHU INSANE ASYLUM, 1868-1870 TO 1920, AND HAWAII STATE HOSPITAL, 1930 TO 1969

Year ¹	Resident population, end of period	Total admissions ann. ave.	Year ¹	Average daily resident population	Total admissions
1868-1870	32	20	1930 ²	560	236
1878-1880	31	22	1940	901	289
1888-1890	70	28	1950	1,088	509
1898-1899	136	54	1960	1,173	555
1910	246	94	1968	622	536
1920	378	108	1969	584	791

¹Twenty-four month periods ended March 31, 1870 to 1890, and December 31, 1899; twelve-month periods ended June 30, 1910 forward.

²On January 6, 1930, the 541 patients of Oahu Insane Asylum (opened on School Street, Honolulu, in September 1866) were transferred to the new Territorial Hospital in Kaneohe.

Source: *Report of the Board of Health . . . 1870*, pp. 16-17; *Biennial Report of the Minister of the Interior* for 1880 (pp. 58-59) and 1890 (pp. 13-14); *Report of the President of the Board of Health* for 1899 (p. 34), 1901 (pp. 27-28), 1910 (p. 121) 1920 (p. 40), and 1930 (pp. 393, 397); *Annual Report, Department of Institutions* for 1940 (p. 17) and 1950 (p.26); *Annual Report, Department of Health, Statistical Supplement* for 1960 (p. 83), 1968 (p. 120), and 1969 (p. 119).

Table 21.—PHYSICIANS, DENTISTS, NURSES AND PHARMACISTS LICENSED IN HAWAII, BY ISLAND: 1969

Date of data and professional group	All islands	Hawaii	Maui	Lanai	Molokai	Oahu	Kauai
June 1969:							
Physicians (M.D.)	945	58	38	2	2	825	20
Dentists	467	31	19	1	1	397	18
Reg. nurses (active)	3,078	205	142	7	19	2,625	80
March 1969:							
Pharmacists	205	11	10	—	1	179	4

Source: Hawaii State Department of Regulatory Agencies, October 17, 1969.

**Table 22.—STATISTICS FROM THE HAWAII HEALTH SURVEILLANCE PROGRAM SURVEY,
FOR OAHU: 1964-1967**

Subject	Number ¹
Average non-institutional, non-barracks population	565,000
Hospital discharges, annual average	66,500
Median length of stay per discharged person (days)	5.0
Acute conditions, annual average	1,040,700
Per 100 population	182.6
Persons with one or more chronic conditions, average	205,100
Percent of population	36.3
Restricted activity days, annual average per person	12.0
Bed days annual average per person	4.8
Injuries, annual average per person ²	28.1
Home accidents, annual average per person ²	8.3

¹Based on sample of non-institutional non-barracks population surveyed April 1964-March 1967, unless otherwise specified.

²Surveyed April 1964-September 1965.

Source: Hawaii State Department of Health, unpublished tabulations.