

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 70.46 years for males and 77.18 years for females in 1969-1971, about twice the 1884-1885 average of 36.5 years. The provisional crude death rate in 1971 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 16.2 in 1971. The provisional 1971 crude birth rate was 21.5. 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 9,675 in 1971, with about a third accounted for by nonresidents. Divorces reached a 1971 total of 3,690.

The State had 31 hospitals (with 5,021 beds) and 161 nursing and care homes (with 2,162 beds) when most recently surveyed. Average length of stay in the largest of the hospitals was 7.5 days in 1971, compared with 13.0 in 1920 and 59 in the 1870's. State licensing boards listed 1,051 physicians and surgeons, 494 dentists, 3,702 professional nurses, and 220 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: 1971* contains similar data for the nation as a whole.

Table 18.—BIRTHS, DEATHS, MARRIAGES, AND DIVORCES: 1849 TO 1971
(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	29.5	6.1	23.2	5,237	1,270
1961	17,558	3,367	29.4	5.6	21.7	5,298	1,556
1962	17,932	3,512	29.7	5.8	20.6	5,484	1,471
1963	17,744	3,643	28.5	5.9	22.5	5,750	1,515
1964	17,284	3,638	27.6	5.8	19.8	5,790	1,690
1965	16,259	3,705	25.0	5.7	21.5	6,071	1,111
1966	14,943	3,770	22.8	5.7	18.9	5,792	897
1967	14,765	3,897	22.2	5.8	16.9	7,345	1,451
1968	14,595	4,192	21.5	6.2	19.0	9,021	1,865
1969	15,755	4,146	22.5	5.9	19.2	9,891	2,314
1970	16,467	4,125	22.9	5.7	19.1	10,599	2,589
1971	15,845	4,311	21.5	5.8	16.2	9,675	3,690
Year ¹	Percent of births in hospitals	Illegitimate births per 1,000 live births	Fetal deaths			Percent of marriages	
			Total	Gestation 20 weeks or more	Induced abortion	Resident grooms	Interracial
1920	(NA)	(NA)	(NA)	370	(NA)	(NA)	18.0
1930	34.2	26.6	(NA)	32.6	(NA)	(NA)	21.3
1940	69.5	62.5	(NA)	190	(NA)	(NA)	25.0
1950	97.1	49.7	(NA)	175	(NA)	(NA)	29.7
1960	99.1	51.3	1,026	261	3	96.3	37.3
1965	99.3	72.1	1,070	234	45	93.9	38.1
1966	99.4	83.8	899	172	15	92.5	37.7
1967	99.5	87.5	1,007	202	12	80.4	33.5
1968	99.3	94.8	1,114	209	11	70.1	33.8
1969	99.5	94.5	1,231	215	19	67.8	33.7
1970	99.5	94.6	4,287	340	2,741	69.3	33.7
1971	(NA)	(NA)	5,735	(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.

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 1930-1970, and records.

**Table 19.—BIRTHS, DEATHS, AND BIRTH AND DEATH RATES, BY MILITARY STATUS:
1970 AND 1971**

Military status	Live births ¹		Deaths ¹		Birth rate ²		Death rate ²	
	1971 ³	1970	1971 ³	1970	1971 ³	1970	1971 ³	1970
Total population ..	15,845	16,467	4,357	4,197	19.3	20.5	5.3	5.2
Armed forces	—	—	46	72	0	0	0.9	1.3
Civilians	15,845	16,467	4,311	4,125	20.6	22.0	5.6	5.5
Military								
dependents	3,684	3,906	155	144	59.2	67.6	2.5	2.5
Other civilians	12,161	12,561	4,156	3,981	17.2	18.2	5.9	5.8

¹Place of occurrence basis.

²Per 1,000 de facto population. For rates based on resident population, see the preceding table.

³Provisional.

Source: Vital events from Hawaii State Department of Health, *Statistical Report, 1970*, pp. 10 and 27, and records. Deaths of military dependents based on a crude rate of 2.5, as estimated from 1960 data. Rates based on estimates in the Hawaii State Department of Planning and Economic Development, Statistical Reports 76 (September 1, 1970), 85 (October 15, 1971), and 86 (November 12, 1971).

Table 20.—CHARACTERISTICS OF BIRTHS AND DEATHS: 1960 AND 1970
(Place of occurrence basis)

Subject	1970	1960
LIVE BIRTHS		
Number	16,467	17,193
Percent on Oahu	83.2	84.2
Males per 100 females	106.9	106.4
Percent attended by physician	99.8	99.5
Percent with prenatal visit in first 3 months	67.2	(NA)
Percent of mixed race	41.7	36.8
Median age of mother (years)	25.0	26.1
Percent first births	38.2	25.1
Median weight of single births (lb., oz.)	7-2	7-2
Percent of father with education of 12 years or more	82.7	(NA)
Percent of births plural	1.8	1.7
Percent premature	8.5	8.8
Percent with one or more congenital malformations	1.1	(NA)
Illegitimate births per 1,000 unmarried women 14-44	21.9	18.7
CIVILIAN DEATHS		
Number	4,125	3,540
Percent on Oahu	75.4	72.3
Males per 100 females	165.1	166.0
Median age (years)	65.3	63.1
INFANT DEATHS		
Number	315	399
Rate per 1,000 live births	19.1	23.2
Under 1 day	10.8	11.1
1 to 6 days	4.1	6.1
7 to 27 days	0.4	1.2
28 days to 11 months	3.8	4.8

NA Not available.

Source: Hawaii State Department of Health, *Annual Report, Statistical Supplement* for 1960 and 1970.

Table 21.—AVERAGE REMAINING LIFETIME AT SPECIFIED AGES: 1884-1885 TO 1969-1971
(Average number of years of life remaining at beginning of year of age, by sex)

Period and age	Male	Female	Period and age	Male	Female
AT BIRTH			1959-1961, continued		
1884-1885 ¹		36.5	25 years	47.75	51.27
1919-1920	47.79	47.27	30 years	42.99	46.45
1929-1931	52.63	55.31	35 years	38.26	41.64
1939-1941	59.46	62.60	40 years	33.65	36.97
1949-1951	67.76	71.29	45 years	29.18	32.33
1959-1961	69.79	74.01	50 years	24.84	28.00
1969-1971	70.46	77.18	55 years	20.91	23.94
			60 years	17.28	20.04
1959-1961			65 years	14.05	16.28
1 year	70.64	74.50	70 years	11.27	12.92
5 years	66.85	70.74	75 years	8.60	9.87
10 years	62.00	65.86	80 years	6.42	7.24
15 years	57.14	60.97	85 years	4.68	4.81
20 years	52.41	56.09	90 years	3.45	3.35

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; unpublished 1959-1961 tabulations provided by Statistical Resources Section, Division of Vital Statistics, National Center for Health Statistics, U.S. Department of Health, Education, and Welfare, May 21, 1971; unpublished 1969-1971 tabulations provided by the East-West Population Institute, October 8, 1971.

Table 22.—CIVILIAN DEATHS, BY CAUSE: 1930, 1960, AND 1970

Cause of death ¹	Number, 1970	Percent distribution			Rate per 100,000 population		
		1970	1960	1930	1970	1960	1930
All causes	4,211	100.0	100.0	100.0	546.9	568.3	1049.3
Diseases of the heart	1,386	32.9	33.0	11.7	180.0	187.7	122.7
Malignant neoplasms	764	18.1	17.2	5.8	99.2	97.7	61.4
Cerebrovascular diseases	401	9.5	10.4	4.7	52.1	59.1	49.7
All accidents	298	7.1	7.5	7.0	38.1	43.5	73.3
Diseases of early infancy	205	4.9	7.5	6.6	26.6	42.7	69.2
Influenza and pneumonia	173	4.1	3.6	12.6	22.5	20.5	132.5
Diabetes mellitus	98	2.3	2.6	1.1	12.7	14.9	11.1
Suicides	85	2.0	1.3	1.7	11.0	7.4	17.9
Congenital anomalies	74	1.8	2.2	1.1	9.6	12.5	11.1
Cirrhosis of liver	74	1.8	1.3	0.7	9.6	7.1	7.1
Bronchitis, asthma, emphysema ...	66	1.6	1.3	(NA)	8.6	7.1	(NA)
Aneurisms, other diseases of arteries	43	1.0	0.8	(NA)	5.6	4.4	(NA)
Homicide	33	0.8	0.6	0.6	4.3	3.2	6.2
Arteriosclerosis	31	0.7	1.4	0.7	4.0	7.9	7.3
Nephritis and nephrosis	28	0.7	1.3	6.2	3.6	7.6	65.2
All other causes	452	10.7	8.0	39.5	58.7	45.1	414.6

NA Not available

¹The fifteen leading causes of death in 1970 listed in order of deaths for that year.

Source: Hawaii State Department of Health, *Statistical Report, 1970*, p. 33.

Table 23.—EPIDEMIC MORTALITY: 1804 TO 1971

Year	Disease	Deaths ¹
1804	“Okuu” (cholera?)	< 15,000
1818	“Catarrhs and fevers”	60
1825	Unnamed	“Great”
1826	Influenza	“Thousands”
1839	Mumps	“Great numbers”
1848-1849	Measles, whooping cough, influenza ...	10,000
1853	Smallpox	5,000-6,000
1857	Influenza, dengue	“Many”
1870-1871	Scarlet fever	“Great”
1878-1880	Whooping cough	68
1881	Smallpox	282
1888	Whooping cough	104
1889-1890	Measles, dysentery	26
1895	Cholera	64
1899-1900	Bubonic plague	61
1918-1920	Influenza	1,700
1928-1929	Cerebrospinal meningitis	68
1936-1937 ²	Measles	205

¹Excludes deaths primarily resulting from famine; see Robert C. Schmitt, “Famine Mortality in Hawaii,” *The Journal of Pacific History*, Vol. 5 (1970), pp. 109-115.

²Most recent of record as of early 1972.

Source: Robert C. Schmitt, “The *Okuu*—Hawaii’s Greatest Epidemic,” *Hawaii Medical Journal*, Vol. 29, No. 5, May-June 1970, pp. 359-364.

**Table 24.—ACCIDENTS AND NATURAL DISASTERS CAUSING FIVE OR MORE DEATHS:
1779 TO 1971**

Kind of disaster	Worst disaster		All disasters	
	Year	Deaths	Number	Deaths
All categories	1941	2,500	119	5,676
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	95	2,030
Marine	1830	250	50	1,481
Air	1955	66	38	509
Railroad or motor vehicle	1944, 1969	7	7	40
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, 1971.

Table 25.—ABORTIONS: MARCH 13, 1970 TO MARCH 12, 1971
(Covers the first year of experience following legalization of induced abortion by Act I, Session Laws of 1970, which became effective March 11, 1970)

Subject	Number	Subject	Number
Number performed	3,643	Average age of woman (years)	24.6
Abortions per 1,000 live births	221	Currently married (percent)	36.4
Performed on Oahu (percent)	94.1	Hawaii resident under 1 year (percent)	19.8
Gestation 13 weeks or over (percent)	13.0	Protestant (percent)	40.4
By dilatation and curettage and/or suction (percent)	89.3	Roman Catholic (percent)	29.0
With complications (percent)	4.6	Income under \$6,000 (percent)	32.8
Deaths	0	First pregnancy (percent)	50.8
In hospital 13 hours or more (percent)	45.5	First abortion (percent)	91.8
Usual cost (dollars)	350	Mean age at first coitus (years)	18

Source: Pregnancy, Birth Control, and Abortion Study, University of Hawaii, *Abortion in Hawaii: The First Year. Report to the Legislature* (January 24, 1972).

**Table 26.—AVERAGE LENGTH OF STAY AND COST PER PATIENT DAY AT THE QUEEN'S HOSPITAL:
1859 TO 1971**

Year ¹	Average stay (days)	Cost per patient day (dollars)	Year	Average stay (days)	Cost per patient day (dollars)
1859-1861	42	0.83	1965	7.0	53.39
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
1960	6.5	37.90	1971	7.5	95.17

¹August 1, 1859-June 20, 1861; 24-month period ended in mid-1879; calendar years 1903-1940; fiscal years ended June 30, 1950-1971.

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 27.—HOSPITALS AND NURSING AND CARE HOMES, BY ISLAND: 1970

Category and Island	Number of estab.	Beds		Bassinets	Percent of occupancy	Average patient occupancy	Patients admitted
		In place ¹	Acceptable				
HOSPITALS²							
All Islands	31	5,021	2,698	326	76.7	3,848	88,861
Hawaii	5	528	345	46	74.1	391	8,392
Maui	3	302	181	32	75.1	226	5,784
Lanai	1	14	14	4	17.8	3	156
Molokai	2	300	28	4	45.4	136	863
Oahu	17	3,626	1,962	216	79.6	2,885	68,902
Kauai	3	251	168	24	82.6	207	4,764
NURSING AND CARE HOMES							
All Islands	161	2,162	1,760	—	94.9	2,005	1,934
Hawaii	6	32	32	—	86.7	24	12
Maui	6	141	141	—	94.5	133	104
Oahu	132	1,933	1,531	—	95.1	1,801	1,810
Kauai	17	56	56	—	95.0	47	8

¹The total of 5,021 beds includes 1,892 general beds, 37 acute, 107 maternity-gynecological, 146 pediatric, 516 long-term, 1,650 mental, 146 tuberculosis, 423 leprosy, 64 rehabilitation, and 40 orthopedic. Data include residential cottages for leprosy and mental patients.

²Excludes Tripler General Hospital, a 900-bed armed services hospital on Oahu. Admissions at Tripler numbered 21,980 in 1970.

Source: *Annual Report, Department of Health, State of Hawaii, Statistical Supplement, 1970*, pp. 163-165.

Table 28.—AVERAGE DAILY RESIDENT POPULATION AND TOTAL ADMISSIONS, FOR OAHU INSANE ASYLUM, 1868-1870 TO 1920, AND HAWAII STATE HOSPITAL, 1930 TO 1970

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	1969	584	791
1920	378	108	1970	577	1,052

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), 1969 (p. 119), and 1970 (p. 167).

Table 29.—PHYSICIANS, DENTISTS, NURSES, AND PHARMACISTS LICENSED IN HAWAII, BY ISLAND: 1971
(As of June 30)

Professional group	Residents of Hawaii							Nonresidents
	State total	Hawaii	Maui	Lanai	Molokai	Oahu	Kauai	
Physicians (M.D.)	1,051	61	39	3	5	919	24	572
Dentists	494	34	18	1	1	424	16	156
Registered Nurses	3,702	235	159	7	21	3,170	110	792
Pharmacists	220	12	14	—	2	186	6	70

Source: Hawaii State Department of Regulatory Agencies, records.

**Table 30.—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.

**Table 31.—MARRIAGES, TOTAL AND INTERRACIAL, BY USUAL OCCUPATION OF GROOM: BIENNIAL
PERIODS ENDED DECEMBER 31, 1957 AND 1968**

Usual occupation	All marriages		Interracial marriages		Percent interracial	
	1956-57	1967-68	1956-57	1967-68	1956-57	1967-68
All grooms	10,055	16,368	3,499	5,404	34.8	33.0
No occupation	537	1,312	170	519	31.7	39.6
Civilian occupation	6,429	9,269	2,120	3,758	33.0	40.5
Professional, technical, and kindred workers	722	1,740	159	501	22.0	28.8
Managers, officials, proprietors, including farmers	562	974	165	300	29.4	30.8
Clerical and kindred workers	567	649	144	275	25.4	42.4
Sales workers	325	543	93	188	28.6	34.6
Craftsmen, foremen, and kindred workers	1,478	1,834	440	752	29.8	41.0
Operatives and kindred workers	1,388	1,663	546	810	39.3	48.7
Private household and service workers	422	813	183	409	43.4	50.3
Farm laborers and foremen	283	165	123	72	43.5	43.6
Laborers, except farm and mine	682	888	267	451	39.1	50.8
Armed forces	3,081	5,748	1,205	1,118	39.1	19.5
Not stated	8	39	4	9	—	—

Source: Robert C. Schmitt, "Recent Trends in Hawaiian Interracial Marriage Rates by Occupation," *Journal of Marriage and the Family*, Vol. 33, No. 2, May 1971, pp. 373-374.