

TABLES

Table 1. Major Factors in Child Mortality, 1900

<u>Factor</u>	<u>Risk</u>	<u>Protective</u>	<u>Mortality Differential</u>
Race	Black	White	.30
Urban Context	City>25,000	Town<5,000	.30
Regional Context	New England	South Atlantic	.22
Unemployment	Husband Unempl	Husband Empl	.16
Housing Tenure	Rents Home	Owns Farm Clear	.16
Shared Housing	Boarders Present	No Boarders	.15
Occupation	Laborer	Farmer	.15
Paternal Literacy	Husband Illiterate	Husband Lit	.12
Maternal Literacy	Wife Illiterate	Wife Literate	.10

Note: The above 9 factors are identified by Preston and Haines (1991, p. 175) as the most discriminating with respect to 1900 child mortality. The criterion for selection Preston and Haines utilized was that each factor accounted for at least 5 percent of the variance in child mortality when all the other variables found to be related to child mortality were controlled.

Table 2. Demographic Correlates of Infant Mortality Decline
(1929 Birth Registration States, N=44)

1920 Household Level		
Variables in Order of Relationship to Child Mortality	Correlations	Partial Correlations (1910 IMR Controlled)
Proportion Females 15-44 Black	.418**	-.195
Proportion MMHH in Cities>25,000	-.228	.134
New England State	.098	.020
Proportion of MMHH Unemployed	-.756**	-.524**
Proportion of MMHH Rent Home	.307*	-.157
#Boarders/Family Households	-.435**	-.345*
Proportion of MMHH Laborers	-.095	-.511**
Proportion of MMHH Illiterate	.094	-.318*
Proportion of MF Illiterate	.174	-.490**
Proportion of MF Speak No English	-.494**	-.507**
 Household Income		
MMHH Mdn Occ. Income Score	-.181	-.131
 Public Health Resources		
Years of Birth Registration	-.309*	.171
Physicians/1000 Persons	-.157	.079
Typhoid Fever Rate Decline	.285	-.205

Note: The household-level variables are selected on the basis of the Preston and Haines (1991) analysis of the major correlates of child mortality in 1900, as shown on Table 1. Each variable was found by Preston and Haines to be positively correlated with child mortality (expressed as the life table function q_5 or the cumulative probability of dying before age 5), which suggests they should be negatively correlated with the decline in infant mortality. The exception is the English speaking ability of married females, which Preston and Haines speculated may have become more important after 1900 as better information on effective maternal child health practices became widely available to the public.

* $p < .05$
** $p < .01$

Table 3. Demographic Predictors of Infant Mortality Decline: Stepwise Regression Results
(1929 Birth Registration States, N=44)

Control Variable				
	b	SE	B	t-value
1910 IMR	.747	.068	.807	10.936
Significant Predictors				
Proportion of MMHH Unemployed	-611.324	141.080	-.295	-4.333
Proportion of MF Illiterate	-88.087	23.634	-.222	-3.727
Proportion of MMHH Laborers	-84.518	26.050	-.177	-3.244
Intercept	4.036	11.209		.360
Adjusted R² = .886				
Variables Excluded				
	β	t-value		
#Boarders/Family Households	-.021	-.335		
Proportion of MMHH Illiterate	.013	.172		
Proportion MF Speak No English	-.065	.373		
Descriptives: Significant Predictors				
	Mean	S.D.	Min	Max
<u>Control Variable</u>	121.18	26.25	68.00	170.00
<u>Predictors</u>				
Proportion of MMHH Unemployed	.03	.01	.01	.07
Proportion of MF Illiterate	.07	.06	.01	.28
Proportion of MMHH Laborers	.16	.05	.08	.34

Table 4. Change Modeling of Predictors

	Model 1	Model 2	Model 3
	<i>Observed</i>	<i>Favorable</i>	<i>Favorable</i>
<u>Fixed Components</u>	<i>Mean</i>	<i>Unit Change</i>	<i>SD Change</i>
Intercept	4.03	4.03	4.03
IMR 1910	90.52	90.52	90.52
<u>Change Components</u>		<u>Adjusted Effects</u>	
Proportion MMHH Unemployed	-18.34	-12.23	-12.23
Proportion MF Illiterate	- 6.16	-5.28	-.88
Proportion MMHH Laborers	-13.52	-12.68	- 9.30
Estimated Decline	56.53	64.36	72.14

Note: The actual observed average decline in state infant mortality rates was 55.60 infant deaths per thousand, thus confirming the fit of Model 1.

Table 5. Analysis of Sheppard-Towner Program Effects 1910-1930
(N=44 States)

Model: $=a+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_i$
= residual of 1930 IMR predicted by 1910 IMR
 β_1 =Proportion of MMHH Unemployed
 β_2 =Proportion of MF Illiterate
 β_3 =Proportion of MMHH Laborers
 β_i =Program Activity
Baseline Adjusted $R^2 = .563$
($=a+\beta_1X_1+\beta_2X_2+\beta_3X_3$)

	β	t-value	Change in Adjusted R-Squared
Child Health Conference	.148	1.49	.013
Classes for Girls	.157	1.47	.012
Classes for Women	-.038	- .35	.010
Classes for Midwives	-.167	-1.66	.018
PHN Home Visits	.165	1.65	.018
Literature Distribution	.101	1.00	.000
Public Demonstrations	.001	.01	.029
Professional Staffing	.157	1.59	.016
Child Health Centers	-.030	- .28	.010
Perinatal Letters	.116	1.16	.004
Institutional Visits	-.123	-1.21	.004
County Coverage	-.045	- .44	.009
Total Program Activity	.146	1.41	.053

Note: A negative coefficient indicates a beneficial effect, in that a positive residual represents an observed 1930 IMR that is above that predicted by the 1910 IMR.