

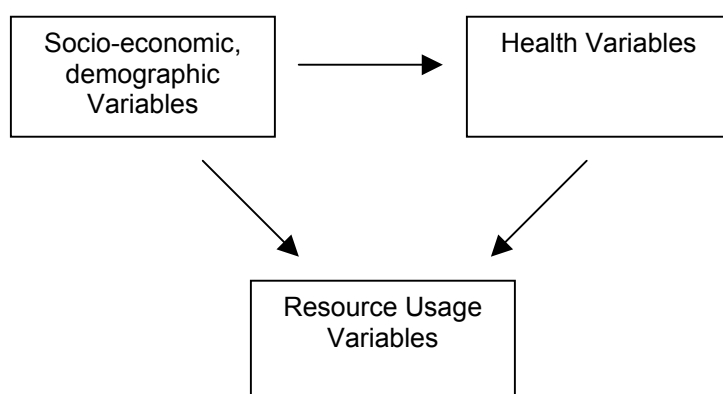
APPENDIX II

Factor Analysis Results

Detailed Results of Factors 1 to 10

Factor 1

The first factor, by definition, represents that (linear) combination of variables which explains the largest proportion of variance of all the variables. Here, the first factor explains exactly 49.6% of the total variance and therefore represents the dominant influence. Based on the variable-factor correlations given below, it relates the socio-economic/demographic variables to variables representing health conditions, on one hand, and variables measuring the use of resources on the other. Schematically,



The factor-variable correlations are given below.

Table 1: Socio-economic, Demographic Variables

Variable	Factor 1
Aboriginal Population (based on Identity)	0.964
Socioeconomic factor index	0.936
Unemployment rate - Females 15 years and over	0.913
Unemployment rate - Males 15 years and over	0.906
Both sexes Age 20+ with less than grade 9 schooling	0.903
Single parent families	0.908
Fertility rate female ages 15-49	0.957
Teen Pregnancy female ages 15-19	0.943
Visible Minority Population	0.437
Male Population ¹	0.640
Median census total income in 2000 for females	-0.858
Median census total income in 2000 for males	-0.876
Median census family income in 2000	-0.850
Both sexes Age 20 years and over with High School certificate or more	-0.866
Population Ages 45-64	-0.717

¹ since the number of males + females = 1000, the correlation between Factor 1 and the number of females is -0.640

Table 2: Mortality Variables

Variable	Factor 1
Mortality Rate, females	0.400
Mortality Rate, males	0.523
Premature mortality rate, females	0.676
Premature mortality rate, males	0.703
Infant Mortality	0.568
Potential Years of Life Lost, females	0.810
Potential Years of Life Lost, males	0.851
Deaths due to Injury, females	0.581
Deaths due to Injury, males	0.786

Table 3: Health Conditions

Variable	Factor 1
Chlamydia, females	0.952
Chlamydia, males	0.913
Gonorrhea, females	0.936
Gonorrhea, males	0.909
Hepatitis C Virus	0.900
Hepatitis B Virus	0.494
Tuberculosis	0.878
Incidence of Diabetes Age 20-49	0.929
Incidence of Diabetes Age 50-69	0.897
Incidence of Diabetes Age 70+	0.070
Prevalence of Diabetes Age 20-49	0.945
Prevalence of Diabetes Age 50-69	0.951
Prevalence of Diabetes Age 70+	0.648
Total respiratory morbidity treatment prevalence	0.852
Stroke treatment prevalence	0.549
Prematurity (Preterm births)	0.758
Number of tonsillectomy and/or adenoidectomy procedures	-0.471
High Birth Weight, Livebirths	-0.478
Caesarean sections	-0.762
Breastfeeding initiation	-0.967

Table 4: Use of Resources

Variable	Factor 1
Days used for long stays	0.519
Days used for short stays	0.623
Hospitalization rates for injuries	0.822
Visits to General and Family Practitioners	0.764
Use of physicians	0.615
Residents with 1 or more prescriptions	0.530
Average Number of different prescriptions dispensed	0.778
Average Number of antibiotic prescriptions dispensed	0.930
Residents using antibiotics during 2-year period	0.899
One-year immunization	-0.880
2-year immunization	-0.852
7-year immunization	-0.865

Mammography Screening	-0.879
Diagnostic Mammography	-0.919
Cervical Screening	-0.886

Factor 2

Table 5: Socio-economic, Demographic Variables

Variable	Factor 2
Population Ages 0-19	-0.852
Population Ages 20-44	-0.058
Population Ages 45-64	-0.209
Population Ages 65-74	0.886
Population Ages 75+	0.939
Visible Minority Population	-0.510
Female Population	0.557
Male Population	-0.557
Median census family income in 2000	-0.301
Single parent families	0.260

Table 6: Mortality Variables

Variable	Factor 2
Mortality Rate, females	0.538
Mortality Rate, males	0.714
Premature mortality rate, females	0.663
Premature mortality rate, males	0.614
Potential Years of Life Lost, females	0.239
Potential Years of Life Lost, males	0.283
Deaths due to Injury, females	0.581
Deaths due to Injury, males	0.357

Table 7: Health Conditions

Variable	Factor 2
Cancer incidence	0.966
Number of CT scans	0.903
Number of total hip replacements	0.901
Number of total knee replacements	0.798
Number of cataract replacements	0.861
Number of cardiac catheterizations	0.843
Stroke treatment prevalence	0.682
Number of angioplasty procedures	0.664
Number of coronary bypass surgeries	0.651
Hypertension treatment prevalence	0.723
Number of hysterectomies, women aged 25 years+	-0.415
Number of caesarean sections	-0.201

Table 8: Use of Resources

Variable	Factor 2
Number of new home care cases	0.926
Total number of open cases of home care	0.913
Number of home care cases closed	0.845

Average number of days of home care received	0.736
Days used for short stays	0.762
Days used for long stays	0.717
Separation Rates	0.777
Ambulatory consultations	0.777
Ambulatory visits	0.574
Hospitalization rates for injuries	0.441
Use of physicians	0.459
Residents with 1 or more prescriptions	0.652
Number of different prescriptions dispensed	0.554
Number of residents aged 75+ admitted to PCH, first time	0.679
Number of residents aged 75+ who were in a PCH	0.658

Factor 3

Table 9:

Variable	Factor 3
Male Population	0.374
Number of residents aged 75+ admitted to PCH, first time	0.417
Number of residents aged 75+ who were in a PCH	0.420
High Birth Weight, Livebirths	0.384
Visible Minority Population	-0.482
Hypertension treatment prevalence	-0.482

Table 10:

Variable	Factor 3
Potential Years of Life Lost, females	0.382
Potential Years of Life Lost, males	0.344
Deaths due to Injury, males	0.328
Deaths due to Injury, females	0.252
Premature mortality rate, males	0.248
Hospitalization rates for injuries	0.249
Hepatitis C Virus	0.278
Prevalence of Diabetes Age 70+	-0.254
Proportion of residents receiving 2+ Rx anti-depressants	0.286

Factor 4

Factor 4 which accounts for 4.2% of the 91 variables correlates with the following variables.

Table 11:

Variable	Factor 4
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 2	0.772
Mortality Rate, females	0.491
Visits to General and Family Practitioners	0.479
Number of coronary bypass surgeries	0.380
Prevalence of Diabetes Age 70+	0.344
Use of physicians	0.338
Deaths due to Injury, females	0.329

Residents with 1 or more prescriptions	0.268
Ambulatory visits	0.253
Infant Mortality	-0.458
Number of caesarean sections	-0.393
Number of residents aged 75+ admitted to PCH, first time	-0.268
Average Number of days of home care received per case	-0.254

Factor 5

Factor 5 accounts for 2.9% of the total variance of the 91 variables and correlates with the following variables.

Table 12:

Variable	Factor 5
Hepatitis B Virus	0.732
Tuberculosis	0.397
Visible Minority Population	0.398
Ambulatory consultations	0.283
Use of physicians	0.280
Ambulatory visits	0.280
Chlamydia, males	0.252
Infant Mortality	0.271
Both sexes Age 20 years and over with High School certificate or more	0.255
Average number of days of home care received per case	0.289

Factor 6

This factor accounts for 2.5% of the total variance of all 91 variables.

Table 13:

Variable	Factor 6
Prevalence of Diabetes Age 70+	0.478
Incidence of Diabetes Age 70+	0.859
Number of hysterectomies, women aged 25 years+	0.512
Mortality Rate, females	-0.295
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 3	0.272
Prematurity (Preterm births)	-0.293
Median census total income in 2000 for females	-0.251
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 4	-0.301
Number of tonsillectomy and/or adenoidectomy procedures	0.247

Factor 7

Factor 7 which accounts for 2.3% of the total variance of all 91 variables correlates with the following variables.

Table 14:

Variable	Factor 7
Population Ages 20-44	0.880
Single parent families	0.251
Number of cataract replacements	0.293
Population Ages 45-64	-0.534
Median census family income in 2000	-0.335
Mortality Rate, females	-0.329
Hypertension treatment prevalence	-0.307
Stroke treatment prevalence	-0.259
Median census total income in 2000 for males	-0.285
Median census total income in 2000 for females	-0.251

Factor 8

Factor 8 which accounts for 1.8% of the total variance of the 91 variables correlates with the following variables.

Table 15:

Variable	Factor 8
Median Length of Stay by Level of Care at Admission to Personal Care Home, all levels	0.818
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 4	0.628
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 3	0.368
Infant Mortality	0.303
residents with 1 or more prescriptions	0.249
Prematurity (Preterm births)	-0.410
Number of coronary bypass surgeries	-0.364
High Birth Weight, Livebirths	-0.257

Factor 9

Factor 9 which accounts for 1.7% of the total variance of the 91 variables correlates with the following variables.

Table 16:

Variable	Factor 9
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 1	0.759
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 4	-0.250
Infant Mortality	0.291
Both sexes Age 20 years and over with High School certificate or more	0.269
Proportion of residents receiving 2+ Rx anti-depressants	0.263
Number of tonsillectomy and/or adenoidectomy procedures	-0.553
2-year immunization	-0.255
One-year immunization	-0.249

Factor 10

Factor 10 which accounts for 1.5% of the total variance of the 91 variables correlates with the following variables.

Table 17:

Variable	Factor 10
Median Length of Stay by Level of Care at Admission to Personal Care Home, level 3	0.603
Number of angioplasty procedures	-0.372
Use of physicians	-0.278
7-year immunization	-0.265
Number of cardiac catheterizations	-0.264

Factor Scores

Community Area	Neighbourhood Cluster	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	Factor 9	Factor 10
St. James-Assiniboia	01A	-0.50	0.47	0.02	0.08	-0.19	1.30	-0.74	-0.28	0.10	-1.57
	01B	-0.23	1.61	0.15	-0.25	-0.81	-1.03	-0.35	0.41	-0.51	-1.98
Assiniboine South	002	-0.85	-0.12	0.19	0.08	0.49	0.59	-1.28	-0.25	1.42	0.32
Fort Garry	03A	-0.75	-0.29	0.08	-1.08	0.29	0.14	-0.17	-1.99	0.52	0.08
	03B	-0.47	-1.03	-0.47	-0.67	-0.36	0.23	1.00	-1.42	2.10	0.27
St. Vital	04A	-0.33	1.22	-0.40	0.03	-0.31	0.27	0.77	0.26	-0.17	-1.07
	04B	-0.72	-1.04	1.11	1.18	-0.37	-0.13	0.34	0.49	0.10	-0.57
St. Boniface	05A	-0.31	1.58	0.71	1.23	0.26	0.40	0.90	0.90	-1.47	1.84
	05B	-0.73	-0.60	0.85	1.11	-0.83	0.94	0.71	0.30	0.98	-1.10
Transcona	006	-0.23	-0.58	0.51	0.44	-0.11	2.96	0.41	-0.37	-1.19	0.33
River East	07A	0.76	-0.20	0.13	-1.36	-0.64	-0.48	1.29	-0.75	-1.82	0.14
	07B	-0.57	1.47	-0.93	-1.35	0.38	0.84	-1.37	0.16	-0.55	1.15
	07C	-0.21	-0.92	0.41	0.75	-0.77	0.15	0.74	0.84	-0.34	0.61
	07D	-1.22	-1.37	2.38	-2.03	-0.06	-1.28	-1.69	0.85	-1.04	0.07
Seven Oaks	08A	0.10	-1.08	-1.77	0.26	0.83	0.51	-0.67	1.63	-0.41	0.62
	08B	-0.12	1.09	-1.37	-0.13	0.57	0.25	-1.01	-0.01	0.24	-0.85
	08C	-0.32	-0.07	-0.55	2.65	-0.73	-1.76	-1.56	-2.51	-1.06	0.72
Inkster	09A	0.18	-2.17	-1.95	0.40	1.38	-1.07	0.29	1.06	-0.58	-0.90
	09B	1.28	-0.12	-0.75	-0.56	-1.12	-0.21	0.45	-0.18	-0.64	-1.05
Point Douglas	10A	0.98	0.18	-0.82	-0.89	-1.60	-0.09	0.51	0.17	0.32	0.12
	10B	3.27	-0.02	1.01	0.50	-1.01	0.14	-1.76	0.92	1.46	0.74
Downtown	11A	0.63	-0.35	-0.28	-0.94	0.32	-0.19	0.95	-0.94	0.16	1.83
	11B	1.84	0.39	1.53	0.27	3.40	-0.01	0.50	-1.00	-0.17	-1.08
River Heights	12A	-1.00	0.80	-0.23	0.07	0.85	-0.70	0.08	0.97	1.34	0.89
	12B	-0.50	1.15	0.45	0.23	0.16	-1.78	1.68	0.75	1.20	0.44