

Compared with 3 Years Ago, My Health is						
	Total	Far Worse	Slightly Worse	Unchanged	Slightly Better	Far Better
Poor	35	17	10	6	2	0
Slightly Poor	317	32	211	55	19	0
Not Bad	687	7	291	312	68	9
Good	739	0	123	484	107	25
Very Good	89	1	2	69	9	8
Total	1,867	98	383	1,933	1,274	131
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Poor	1.000	0.486	0.286	0.171	0.057	0.000
Slightly Poor	1.000	0.101	0.666	0.174	0.060	0.000
Not Bad	1.000	0.010	0.424	0.454	0.099	0.013
Good	1.000	0.000	0.166	0.655	0.145	0.034
Very Good	1.000	0.011	0.022	0.775	0.101	0.090
Total	1.000	0.052	0.205	1.035	0.682	0.070
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Poor	0.019	0.173	0.026	0.003	0.002	0.000
Slightly Poor	0.170	0.327	0.551	0.028	0.015	0.000
Not Bad	0.368	0.071	0.760	0.161	0.053	0.069
Good	0.396	0.000	0.321	0.250	0.084	0.191
Very Good	0.048	0.010	0.005	0.036	0.007	0.061
Total	1.000	1.000	1.000	1.000	1.000	1.000

My Health is

Table 2

Distribution of Stress and its Change over the Last Three Years

		Compared with 3 Years Ago, My Stress is						
		Far Weaker	Slightly Weaker	Unchanged	Slightly Greater	Far Greater		
No Stress	69	13	6	50	0	0		
A Weak Stress	402	37	95	201	65	4		
A Medium Stress	1,070	17	135	285	560	73		
A Strong Stress	321	0	3	23	101	194		
Total	1,862	67	239	559	726	271		
I am under								
No Stress	1.000	0.188	0.087	0.725	0.000	0.000		
A Weak Stress	1.000	0.092	0.236	0.500	0.162	0.010		
A Medium Stress	1.000	0.016	0.126	0.266	0.523	0.068		
A Strong Stress	1.000	0.000	0.009	0.072	0.315	0.604		
Total	1.000	0.036	0.128	0.300	0.390	0.146		
I am under								
No Stress	0.037	0.007	0.003	0.027	0.000	0.000		
A Weak Stress	0.216	0.020	0.051	0.108	0.035	0.002		
A Medium Stress	0.575	0.009	0.073	0.153	0.301	0.039		
A Strong Stress	0.172	0.000	0.002	0.012	0.054	0.104		
Total	1.000	0.036	0.128	0.300	0.390	0.146		

Table 3

## Estimation of Self-Evaluated Health Equations

n=1828

Variables		Coefficients					
Equation Number		1	2	3	4	5	Robust t值
R2		0.293	0.294	0.293	0.306	0.305	
Sex	Female			-0.013	-0.010	-0.007	-0.26
Age	Age			-0.001		0.001	0.56
	Age30's				0.037		
	Age40's				-0.019		
	Age50's				0.049		
Stress	Age60's				0.011		
	Stress Index (SI)	-0.293		-0.294	-0.292	-0.291	-10.71
	SI=2		-0.381				
	SI=3		-0.624				
Subjective Symptoms	SI=4		-0.954				
	Stiff Shoulders	-0.138	-0.138	-0.138	-0.132	-0.134	-2.57
	Lower Back Pain	-0.217	-0.216	-0.215	-0.213	-0.215	-3.60
	Joint Pain	-0.266	-0.266	-0.259	-0.246	-0.248	-2.95
	Sights	-0.164	-0.165	-0.158	-0.139	-0.141	-1.69
	Lethargy	-0.446	-0.445	-0.449	-0.453	-0.450	-7.78
	Itches	-0.263	-0.266	-0.261	-0.244	-0.248	-3.29
	Cold Feet	-0.234	-0.234	-0.235	-0.237	-0.237	-3.04
	Coughs	-0.171	-0.167	-0.171	-0.159	-0.157	-1.58
	Numbness	-0.543	-0.540	-0.538	-0.544	-0.540	-4.68
Headaches	-0.143	-0.140	-0.144	-0.135	-0.134	-2.11	
Heartburn	-0.257	-0.260	-0.259	-0.265	-0.263	-3.26	
Poor Memory	-0.024	-0.025	-0.020	-0.019	-0.018	-0.18	
Hours	Overtime Hours	0.000	0.000	0.000	-0.001	-0.001	-0.34
	Sleep Hours	0.028	0.029	0.028	0.026	0.027	1.49
Life Style Diseases	Angina					-0.192	-0.68
	Myocardial Infarction					-0.147	-0.49
	Hypertension					-0.224	-2.57
	Atherosclerosis					-0.193	-0.57
	Strokes					-0.189	-3.89
	Alcohol Dependency					-0.763	-3.22
	Chronic Bronhitis					-0.161	-0.53
	Pulmonary Emphysema.					-0.521	-13.07
	Stomach Ulcer					-0.157	-1.84
	Duodenal ulcer					0.011	0.10
	Cirrhosis					0.377	1.88
	Diabetes					0.108	0.51
	Colon Cancer					0.181	0.65
	Stomach Cancer					-1.198	-6.58
	Breast Cancer					0.316	0.79
	Uteris Cancer					-0.223	-0.65
	Gout					0.794	5.06
	Osteoporosis					0.172	0.53
Periodental					-0.142	-1.61	
Hyperlipidemia					-0.024	-0.30	
Obesity					-0.011	-0.06	
	Constants	4.194	3.952	4.268	4.225	4.192	23.08

Table 4 Descriptive Statistics on Lifestyle Diseases

	Parts	Name	Samples	Mean	Variance	Minimum	Maximum
Self	Cardiovascular	Angina	1873	0.0038	0.0618	0	1
		Myocardial Infarction	1873	0.0038	0.0618	0	1
		Hypertension	1873	0.0542	0.2264	0	1
		Atherosclerosis	1873	0.0022	0.0467	0	1
	Cerebroneural	Strokes	1873	0.0005	0.0234	0	1
		Alcohol Dependency	1873	0.0000	0.0000	0	1
		Chronic Bronchitis	1873	0.0005	0.0234	0	1
	Respiratory	Chronic Bronchitis	1873	0.0077	0.0872	0	1
		Pulmonary Emphysema.	1873	0.0005	0.0234	0	1
	Gastrointestinal	Stomach Ulcers	1873	0.0268	0.1616	0	1
		Duodenal Ulcers	1873	0.0170	0.1292	0	1
	Liver-Spleen	Cirrhosis	1873	0.0027	0.0522	0	1
		Diabetes	1873	0.0066	0.0808	0	1
	Cancer	Colon Cancer	1873	0.0016	0.0405	0	1
		Lung Cancer	1873	0.0000	0.0000	0	1
		Prostate Cancer	1873	0.0000	0.0000	0	1
		Stomach Cancer	1873	0.0022	0.0467	0	1
		Liver Cancer	1873	0.0000	0.0000	0	1
		Esophagus Cancer	1873	0.0000	0.0000	0	0
		Breast Cancer	1873	0.0022	0.0467	0	0
		Uterine Cancer	1873	0.0033	0.0572	0	1
	Musculoskeletal	Gout	1873	0.0027	0.0522	0	1
		Osteoporosis	1873	0.0049	0.0700	0	1
Teeth	Periodontitis	1873	0.0470	0.2118	0	1	
Others	Hyperlipemia	1873	0.0607	0.2389	0	1	
	Obesity	1873	0.0230	0.1499	0	1	
Father	Cardiovascular	1873	0.2280	0.4196	0	1	
	Cerebro-Neural	1873	0.0812	0.2731	0	1	
	Respiratory	1873	0.0779	0.2682	0	1	
	Gastrointestinal	1873	0.1447	0.3519	0	1	
	Liver-Spleen	1873	0.0641	0.2449	0	1	
	Cancer	1873	0.1308	0.3373	0	1	
	Musculoskeletal	1873	0.0166	0.1276	0	1	
	Teeth	1873	0.0582	0.2342	0	1	
Others	1873	0.0934	0.2911	0	1		
Mother	Cardiovascular	1873	0.2114	0.4084	0	1	
	Cerebro-Neural	1873	0.0539	0.2259	0	1	
	Respiratory	1873	0.0475	0.2128	0	1	
	Gastrointestinal	1873	0.0993	0.2992	0	1	
	Liver-Spleen	1873	0.0454	0.2082	0	1	
	Cancer	1873	0.0822	0.2748	0	1	
	Musculoskeletal	1873	0.0481	0.2139	0	1	
	Teeth	1873	0.0577	0.2332	0	1	
Others	1873	0.1383	0.3453	0	1		

Table 5A TSLs estimate of log Health Care Costs (HCC) Function:  
Endogenous Variable = Self Evaluated Health

Number of obs	19045	18645
F( 40, 19004)	52.53	52.28
Prob > F	0	0
Centered R2	0.1002	0.1023
Uncentered R2	0.3554	0.3557
Root MSE	3.6	3.6

\* Heteroschedasticity Adjusted Values

	Coef.	t-value	p-value	t-value*	p-value*
SEHealth	-0.3626	-5.29	0	-5.15	0
logHCC(-12)	0.2389	32.97	0	31.69	0
MyoCardial(-12)	2.7048	1.06	0.289	11.35	0
Pnuemonia(-12)	0.9041	0.62	0.538	0.53	0.598
StomachUlcer(-12)	0.1412	0.45	0.653	0.45	0.652
Hypertension	1.2751	11.00	0	11.3	0
Diabetes	0.5555	1.76	0.078	1.65	0.1
Colon Cancer	1.2978	2.01	0.045	1.83	0.067
Stomach Cancer	1.3970	2.62	0.009	2.34	0.019
Sleep Hours	0.0391	1.42	0.157	1.42	0.156
Female	0.5468	5.91	0	6.04	0
30's	0.2888	3.61	0	3.65	0
40's	0.3246	3.41	0.001	3.43	0.001
50's	0.6371	6.35	0	6.42	0
60's	1.4422	9.32	0	9.23	0
bmi	-0.0171	-1.89	0.059	-1.86	0.063
# Gurgles	0.0233	0.76	0.447	0.77	0.443
# Tbrushing	-0.0457	-1.24	0.216	-1.23	0.217
Salary Class	0.0376	1.99	0.047	1.99	0.046
Regular Employee	-0.1548	-1.81	0.07	-1.8	0.072
Marketing	-0.2490	-2.28	0.023	-2.32	0.02
Engineer	-0.2182	-1.19	0.233	-1.17	0.243
Sales	-0.2623	-3.83	0	-3.78	0
Foreman	-0.0775	-0.32	0.753	-0.32	0.751
Wothers	0.0420	0.27	0.785	0.26	0.795
FxHeart	0.0492	0.75	0.452	0.75	0.456
FxCirculatory	0.0965	1.03	0.301	1.03	0.303
FxLung	-0.0032	-0.03	0.975	-0.03	0.975
FxGastro	-0.0110	-0.15	0.883	-0.15	0.883
FxDiabetic	-0.2713	-2.52	0.012	-2.56	0.011
FxCancer	0.0523	0.67	0.5	0.67	0.503
FxMSkeltal	0.0145	0.08	0.94	0.08	0.939
FxPeriodontal	0.0182	0.15	0.883	0.14	0.887
FxOthers	0.5544	5.78	0	5.69	0
MxHeart	0.1919	2.88	0.004	2.89	0.004
MxCirculatory	0.2068	1.8	0.072	1.81	0.07
MxLung	0.2728	2.28	0.023	2.29	0.022
MxGastro	0.1505	1.7	0.09	1.67	0.096
MxDiabetic	0.1366	1.15	0.251	1.1	0.272
MxCancer	-0.0388	-0.42	0.677	-0.41	0.682
MxMSkeltal	0.1032	0.84	0.403	0.83	0.409
MxPeriodontal	-0.2246	-1.85	0.064	-1.81	0.07
MxOthers	0.1612	2.03	0.043	1.98	0.048
9th Grade	-0.0569	-0.19	0.85	-0.18	0.859
Junior College	-0.2530	-1.45	0.148	-1.44	0.149
College	-0.1677	-0.91	0.361	-0.92	0.359
SpouseXRegular Emp.	-0.0821	-1.23	0.219	-1.21	0.226
SpouseXNo Jobs	-0.1507	-1.44	0.15	-1.46	0.144
Constant	2.1175	4.37	0	4.36	0

J statistic	8.027	8.135
Chi-sq(7) P-val	0.3302	0.32084

Instrumented ishealth

Instruments: L12nalltensu L12dis902 L12dis1004 L12dis1104 sex AC3 AC4 AC5 AC6

bmi sleephour nbrush salary ifulltime eigyo gjjutu sales foreman  
wothers fheart fcvdis flung fgast fdiab fcancer fskmas fperio  
fother mheart mcvdis mlung mgast mdiabe mcancer mskmas mperio  
mother chug tandai daigaku isfulltime isnotwork istress zangyo  
darui sights headach sibire coldft alcodep

Table 5B TSLS estimate of log Health Care Costs (HCC) Function:  
Endogenous Variable: logHCC of 11 months ago (-11)

Number of obs	18661	18661
F( 55, 18605)	38.42	59.42
Prob > F	0	0
Centered R2	0.0176	0.0176
Uncentered R2	0.2957	0.2957
Root MSE	3.8	3.8

\* Heteroschedasticity Adjusted Values

	Coef.	t-value	p-value	t-value*	p-value*
logHCC(-11)	0.5593656	31.85	0	30.87	0
Stress Index	0.0988927	2.38	0.017	2.37	0.018
Overtime Hours	-0.0036872	-1.45	0.147	-1.36	0.174
Vision Blurred	0.110436	0.97	0.333	0.96	0.338
Headaches	0.0605387	0.62	0.538	0.59	0.554
Numbness	0.0505913	0.28	0.781	0.27	0.787
Lethargy	0.2264902	2.72	0.007	2.64	0.008
Alchol Depend	0.5223453	0.53	0.596	0.55	0.583
Cold Hands & Feets	-0.0908794	-0.68	0.495	-0.67	0.504
Hypertension	0.8142547	6.58	0	7.05	0
Diabetic	0.1302472	0.39	0.697	0.37	0.715
Colon Cancer	0.6328853	0.93	0.354	0.87	0.384
Stomach Cancer	1.683622	3.02	0.003	2.87	0.004
Sleep Hours	0.0355597	1.23	0.22	1.24	0.215
Female	0.4032244	4.13	0	4.22	0
30's	0.2580571	3.05	0.002	3.04	0.002
40's	0.3692803	3.67	0	3.68	0
50's	0.4676033	4.36	0	4.42	0
60's	1.008764	6.12	0	6.29	0
bmi	-0.017039	-1.78	0.075	-1.76	0.078
# of Gurgles	-0.0167318	-0.52	0.606	-0.52	0.604
# of Tbrushing	-0.0461383	-1.19	0.234	-1.18	0.237
Salary Class	0.038758	1.92	0.055	1.97	0.048
Regular Employee	-0.1053464	-1.17	0.241	-1.17	0.242
Marketing	-0.1545727	-1.34	0.18	-1.36	0.173
Engineers	-0.0254792	-0.13	0.895	-0.13	0.896
Sales	-0.1522992	-2.1	0.036	-2.05	0.04
Foreman	0.1380297	0.53	0.595	0.53	0.596
wothers	0.0098632	0.06	0.951	0.06	0.95
FxHeart	0.0059169	0.09	0.931	0.09	0.932
FxCirculatory	0.0264755	0.27	0.788	0.27	0.787
FxLung	0.099565	0.93	0.354	0.9	0.369
FxGastro	-0.0674592	-0.85	0.393	-0.85	0.395
FxDiabetic	-0.3072339	-2.71	0.007	-2.73	0.006
FxCancer	0.0177311	0.22	0.828	0.22	0.828
FxMSkeletal	-0.0466101	-0.23	0.82	-0.23	0.822
FxPeriodontal	-0.0343406	-0.26	0.791	-0.26	0.793
FxOthers	0.418732	4.12	0	4.11	0
MxHeart	0.138754	1.97	0.049	1.98	0.048
MxCirculatory	0.0508937	0.42	0.676	0.42	0.673
MxLung	0.2366831	1.88	0.06	1.9	0.058
MxGastro	0.1734528	1.86	0.062	1.85	0.064
MxDiabetic	0.0883437	0.71	0.478	0.7	0.487
MxCancer	-0.1845195	-1.86	0.063	-1.86	0.063
MxMSkeletal	0.0852906	0.66	0.508	0.66	0.508
MxPeriodontal	-0.0760603	-0.59	0.552	-0.58	0.565
MxOthers	0.2140313	2.57	0.01	2.52	0.012
9th Grade	0.4659766	1.47	0.14	1.34	0.181
Junior College	-0.032195	-0.17	0.861	-0.18	0.86
College	0.0563903	0.29	0.771	0.3	0.767
SpouseXRegular Emp.	-0.1225466	-1.76	0.079	-1.72	0.086
SpouseXNo Jobs	-0.2033695	-1.84	0.065	-1.89	0.059
Constant	0.1571249	0.33	0.739	0.33	0.739

Table 6 Estimation Results of Simultaneous Equation System by 3SLS

Equation	Obs	Parms	RMSE	R-sq	chi2	P
log Health Care Cost	18629	8	3.861154	-0.0289	2245.56	0
log Health Care Cost (-11)	18629	4	3.326195	0.2106	4839.88	0
Health Index	18629	7	0.738344	0.2365	5759.6	0

variables	coef	t-value	p-value
<b>log Health Care Costs</b>			
Self Evaluated Health	-0.3983	-6.62	0
log HCC(-11)	0.6063	36.03	0
Hypertension	1.4590	13.19	0
Diabetic	0.3255	1.05	0.293
Colon Cancer	1.7792	2.8	0.005
Stomach Cancer	2.1189	3.83	0
Gout	-1.4566	-2.64	0.008
Osteoporosis	1.2391	3.23	0.001
Constant	2.2679	10.96	0
<b>log Health Care Costs (-11)</b>			
log HCC(-12)	0.4490	68.98	0
SAH (-12)	-0.2628	-0.12	0.904
Pneumonia(-12)	0.0940	0.07	0.941
Stomach Ulcer (-12)	0.5085	1.91	0.056
Constant	1.1824	41.98	0
<b>Self Evaluated Health</b>			
Stress Index	-0.3163	-40.64	0
Overtime Hours	-0.0005	-1.14	0.253
Blurred Vision	-0.2518	-11.69	0
Headaches	-0.1667	-8.89	0
Numbness in extrem	-0.7132	-21.03	0
Lethargy	-0.5730	-36.72	0
Alcoholism	-0.5324	-2.87	0.004
Constant	4.3340	191.29	0

Table 7 List of Common Instruments

Sleep Hours
Female
30's
40's
50's
60's
bmi
# Gurgles
# Tbrushing
Salary Class
Regular Employee
Marketing
Engineer
Sales
Foreman
Wothers
FxHeart
FxCirculatory
FxLung
FxGastro
FxDiabetic
FxCancer
FxMSkeltal
FxPeriodontal
FxOthers
MxHeart
MxCirculat
MxLung
MxGastro
MxDiabetic
MxCancer
MxMSkeltal
MxPeriodontal
MxOthers
9th Grade
Junior College
College
SpousexRegular Emp.
SpouseXNo Jobs