8   Rosen, Allison, and David Cutler. (2007) Measuring Medical Care Productivity

Table 1. Conceptual Model of Satellite National Health Accounts

Inputs	Outputs

Medical Care
  Market labor/capital
  Volunteer labor
Time invested in own health
Other consumption items
Research and development
Quality of the environment
	Health status
	  Longevity
	  Quality of life
	Financial externalities

9   Cutler, David M., and Elizabeth Richardson. (1999) Your Money and Your Life

Table 5.2

Disease incidence and quality of life

Condition	Prevalence		QALY weight		
	1970	1990	1970	1980	1990
Amputee	6.1	6.0	0.87	0.88	0.89
Arthritis(a)	111.8	127.8	0.69	0.74	0.79
Blindness	8.6	2.0	0.73	0.80	0.87
Other vision	48.0	30.2	0.84	0.88	0.93
Cancer(b)	11.1	18.7	0.70	0.70	0.70
Cardiovascular disease(a)	64.7	99.3	0.57	0.64	0.71
Diabetes(a)	45.9	54.3	0.65	0.65	0.66
Hearing	80.9	91.2	0.91	0.92	0.93
Orthopedic(a)	102.1	135.0	0.70	0.79	0.88
Paralysis(a)	7.4	7.1	0.62	0.65	0.68

Note: Prevalence is adjusted for the change in the age- and sex-mix of the population.

a There are also interactions for these QALY estimates which are not reported.

b QALY estimate is based on review of literature rather than model estimate.

10   Cutler, McClellan and Newhouse. (1999) The Costs and Benefits of Intensive Treatment for Cardiovascular Disease.

Table 7: Estimated Acute Mortality Benefits of Changes in Acute Treatment of AMI

Therapy	Absolute Benefit*	Adjusted Benefit**	Change in Use, 1995-1975 (%)	Share of Mortality Reduction Explained (%)			
				Estimate 1	Estimate 2	Upper	Lower
Pharmaceuticals							
Beta Blockers	0.021	0.018	29	5%	5%	9%	1%
Aspirin	0.042	0.038	60	23	23	30	11
Nitrates	0.010	0.008	30	0	3	5	0
Heparin/anticoagulants	0.040	0.008	4	0	1	2	0
Calcium-channel Blockers	-0.020	-0.015	31	0	-2	3	-5
Lidocaine	-0.060	-0.045	-15	0	7	0	0
Magnesium	-0.003	-0.003	8.5	0	0	7	0
ACE inhibitors	0.010	0.008	24	2	2	3	1
Thrombolytics	0.045	0.036	31	11	11	13	9
Procedures							
Primary PTCA	0.045	0.036	9.1	3	3	4	3
Other PTCA	0.010	0.008	15	0	1	6	0
CABG	0.010	0.008	6.7	0	1	3	0
Total				45%	55%	85%	20%

Note: Based on data analysis in Heidenreich and McClellan (1997).
* based on meta-analysis odds ratio and 1975 mortality of 22%. ** adjusted for interactions between therapies.
† % of 1995-1975 decrease in AMI case fatality rates explained by changes in use of each treatment. Estimate 1 assumes mortality effect for only beta-blockade, aspirin, thrombolytics, ACE inhibition, and primary PTCA. Estimate 2 assumes that the true benefit or harm for each drug equals the estimate from meta-analysis. "Upper" uses the favorable 95% confidence limit from meta-analysis of the mortality reduction for each drug. "Lower" uses the unfavorable 95% confidence limit, and assumes only aspirin, primary PTCA, thrombolytics and ACE inhibitors affect mortality.

Table 6: The Costs and Benefits of Changes in Medical Spending

	Years of Life Approarch	QALY Approarch
(million yen)	1990-1999	1990-1999
age 0, male		
Change in health capital	2.1	1.9
Change in medical spending	0.6	0.6
Effectiveness ratio	28%	30%
	[23%, 29%]	[26%, 57%]
age 0, female		
Change in health capital	2.5	1.9
Change in medical spending	0.5	0.5
Effectiveness ratio	18%	24%
	[12%, 21%]	[25%, 26%]
age 65, male		
Change in health capital	6.8	5.1
Change in medical spending	1.4	1.4
Effectiveness ratio	21%	28%
	[18%, 24%]	[27%, 28%]
age 65, female		
Change in health capital	12.1	3.6
Change in medical spending	1.1	1.1
Effectiveness ratio	9%	30%
	[8%, 10%]	[35%, 27%]

Note: Baseline calculations assume the real discount rate is 3 percent. The numbers in [.] are the effectiveness ratio assuming a 0 percent discount rate and a 6 percent discount rate respectively.

12   WHO (2000) *Health Systems: Improving Performance*.

Annex Table 10 Health system performance in all Member States, WHO indexes, estimates for 1997

PERFORMANCE ON HEALTH LEVEL (DALE)					OVERALL PERFORMANCE				
Rank	Uncertainty interval	Member State	Index	Uncertainty interval	Rank	Uncertainty interval	Member State	Index	Uncertainty interval
1	1 – 5	Oman	0.992	0.975 – 1.000	1	1 – 5	France	0.994	0.982 – 1.000
2	1 – 4	Malta	0.989	0.968 – 1.000	2	1 – 5	Italy	0.991	0.978 – 1.000
3	2 – 7	Italy	0.976	0.957 – 0.994	3	1 – 6	San Marino	0.988	0.973 – 1.000
4	2 – 7	France	0.974	0.953 – 0.994	4	2 – 7	Andorra	0.982	0.966 – 0.997
5	2 – 7	San Marino	0.971	0.949 – 0.988	5	3 – 7	Malta	0.978	0.965 – 0.993
6	3 – 8	Spain	0.968	0.948 – 0.989	6	2 – 11	Singapore	0.973	0.947 – 0.998
7	4 – 9	Andorra	0.964	0.942 – 0.980	7	4 – 8	Spain	0.972	0.959 – 0.985
8	3 – 12	Jamaica	0.956	0.928 – 0.986	8	4 – 14	Oman	0.961	0.938 – 0.985
9	7 – 11	Japan	0.945	0.926 – 0.963	9	7 – 12	Austria	0.959	0.946 – 0.972
10	8 – 15	Saudi Arabia	0.936	0.915 – 0.959	10	8 – 11	Japan	0.957	0.948 – 0.965