

Table 3 The Effect of Years in Practice on Average Person-Hours per Week to Conduct Informed Consent and Documentation

Years in practice in 2006	Hospital A		Hospital B		Hospital C		Hospital D		Hospital E		Hospital F		Overall	
	1999	2006	1999	2006	1999	2006	1999	2006	1999	2006	1999	2006	1999	2006
Informed consent (person-hours/week)														
Less than 10 years	NA	3.96	NA	3.86	NA	3.18	NA	3.85	NA	3.90	NA	3.38	NA	3.74
10 to 19 years	3.17	3.93	3.96	4.07	3.52	3.98	3.96	3.88	3.67	3.84	2.73	3.51	3.56	3.91
20+ years	3.76	5.17	4.71	4.34	2.67	3.51	3.49	4.07	3.59	3.98	4.16	4.34	3.64	4.21
Overall	3.43	4.21	4.33	4.02	3.07	3.45	3.75	3.89	3.62	3.91	3.51	3.63	3.60	3.89
P-value (years in practice)*	0.386	0.089	0.851	0.965	0.126	0.827	0.972	0.755	0.695	0.907	0.875	0.175	0.820	0.115
Documentation (person-hours/week)														
Less than 10 years	NA	7.18	NA	6.71	NA	6.68	NA	6.51	NA	6.00	NA	8.93	NA	6.80
10 to 19 years	7.05	6.47	4.47	5.20	6.50	7.13	5.18	5.61	5.22	5.49	8.06	8.16	5.93	6.14
20+ years	5.60	6.69	5.80	6.78	4.96	5.16	6.64	8.00	4.93	5.97	8.54	9.96	5.76	6.71
Overall	6.42	6.88	5.08	6.35	5.68	6.39	5.82	6.56	5.05	5.88	8.33	9.04	5.84	6.64
P-value (years in practice)*	0.306	0.545	0.356	0.069	0.026	0.008	0.108	0.102	0.731	0.466	0.797	0.996	0.494	0.167

NA = not available

*Kruskal-Wallis rank test

Table 4 Increased Person-Hours per Week to Conduct Informed Consent and Provide Documentation between 1999 and 2006

Direct Estimation	Informed Consent			Documentation		
	n	Person-hours per week (95% CI)	P-value*	n	Person-hours per week (95% CI)	P-value*
Hospital A	177	1.28 (0.81 to 1.75)	< 0.001	178	0.26 (-0.29 to 0.82)	0.468
Hospital B	120	0.00 (-0.57 to 0.58)	0.312	115	0.70 (0.04 to 1.35)	0.048
Hospital C	147	0.58 (0.19 to 0.97)	< 0.001	140	0.59 (0.02 to 1.15)	0.035
Hospital D	149	0.60 (0.05 to 1.15)	0.001	145	0.91 (0.13 to 1.69)	0.019
Hospital E	175	0.61 (0.18 to 1.03)	< 0.001	173	0.95 (0.36 to 1.53)	0.001
Hospital F	62	0.85 (0.33 to 1.36)	< 0.001	59	1.04 (-0.22 to 2.30)	0.028
Overall	830	0.67 (0.47 to 0.88)	< 0.001	810	0.70 (0.42 to 0.97)	< 0.001

*P-values were calculated by non-parametric Wilcoxon matched-pairs signed-test.

Table 5 Adjustment Index for Indirect Estimations of Activity Volume and Cost Compared with Direct Estimations

	Informed Consent						Documentation			
	Direct Estimation			Indirect Estimation			Direct Estimation		Indirect Estimation	
	Eligible Data*	< 10 years† (n = 1,588)	Missing Data‡ (n = 461)	Outlier§ (n = 28)	Non Response (n = 380)	Eligible Data* (n = 826)	< 10 years† (n = 1,588)	Missing Data‡ (n = 456)	Outlier§ (n = 54)	Non Response (n = 380)
Adjustment index for activity volume										
Hospital A	1.00	1.64	0.50	0.02	0.39	1.00	1.63	0.47	0.03	0.38
Hospital B	1.00	1.85	0.81	0.08	0.45	1.00	1.95	0.86	0.13	0.47
Hospital C	1.00	1.73	0.59	0.02	0.39	1.00	1.81	0.61	0.09	0.41
Hospital D	1.00	3.56	0.60	0.03	0.26	1.00	3.65	0.59	0.08	0.27
Hospital E	1.00	0.92	0.44	0.02	0.83	1.00	0.93	0.45	0.02	0.84
Hospital F	1.00	1.65	0.21	0.06	0.08	1.00	1.73	0.25	0.08	0.08
Adjustment index for cost estimates										
Hospital A	1.00	0.69	0.94	0.93	1.00	1.00	0.70	0.95	1.03	1.00
Hospital B	1.00	0.68	0.94	0.97	1.00	1.00	0.70	0.97	1.14	1.00
Hospital C	1.00	0.71	0.92	0.99	1.00	1.00	0.70	0.92	0.96	1.00
Hospital D	1.00	0.66	0.88	0.80	1.00	1.00	0.68	0.90	1.12	1.00
Hospital E	1.00	0.67	0.96	1.17	1.00	1.00	0.67	0.98	1.14	1.00
Hospital F	1.00	0.67	0.92	0.92	1.00	1.00	0.67	0.92	0.86	1.00

*Responders who assessed the amount of time spent and have more than 10 years in practice.

†Responders who have less than 10 years in practice.

‡Responders who did not assess the amount of time spent and had more than 10 years in practice.

§Responders whose answers involved amounts of time that were over the 95 percentile of whole answers.

Table 6 Increased Volume and Cost for Informed Consent and Documentation in Each Hospital per Year

Hospital	Informed Consent			Documentation			Total (n = 3,304)	
	Direct Estimation (n = 847)*	Indirect Estimation (n = 2,457)	Adjusted Total† (n = 3,304)	Direct Estimation (n = 826)*	Indirect Estimation (n = 2,478)	Adjusted Total† (n = 3,304)		
Person-hours								
Hospital A	11,857	30,070	41,927	7,460	2,378	5,984	8,362	
Hospital B	99	318	417	102	4,589	15,671	20,260	
Hospital C	4,458	12,192	16,650	3,565	4,271	12,476	16,747	
Hospital D	5,272	23,460	28,732	4,250	7,879	36,232	44,111	
Hospital E	5,694	12,615	18,309	3,391	9,459	21,295	30,754	
Hospital F	2,425	4,849	7,274	3,368	3,520	7,567	11,087	
Average	4,968	13,917	18,885	3,689	5,349	16,533	21,887	
Cost (US\$)‡								
Hospital A	418,169	601,737	1,019,907	181,478	124,347	191,339	315,686	
Hospital B	-542	-1,085	-1,627	-400	160,195	320,695	56,172	
Hospital C	161,051	411,737	572,788	122,653	140,161	394,508	480,890	
Hospital D	179,864	391,686	571,551	84,549	251,500	586,119	534,669	
Hospital E	216,754	689,517	906,271	167,828	348,483	1,172,017	837,619	
Hospital F	80,949	153,661	234,610	108,616	94,356	183,136	1,520,500	
Average	176,041	374,542	550,583	110,787	186,507	277,492	281,574	
						661,143	123,908	
						137,128	208,457	
							118,155	
							114,490	
							237,143	
							449,402	
							237,084	
							247,915	

*Because we included data that was eligible for time spent but was missing information regarding either job type or years in practice (N = 17, overall), the samples were different from the value in Table 4.

†Adjusted the number of hospital beds to 100.

‡JP¥100 = US\$0.85 (April 2007)

研究成果の刊行に関する一覧表

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原著論文：英文

1. Sekimoto M, Kakutani C, Inoue I, Ishizaki T, Hayashida K, and Yuichi Imanaka. Management patterns and healthcare costs for hospitalized patients with cerebral infarction. *Health Policy* (in press).
2. Ishizaki T, Imanaka Y, Oh EH, Sekimoto M, Hayashida K, Kobuse H. Association between patient age and hospitalization resource use in a teaching hospital in Japan. *Health Policy* (in press).
3. Sekimoto M, Imanaka Y, Kobayashi H, Okubo T, Kizu J, Kobuse H, Mihara H, Tsuji N, Yamaguchi A. Impact of hospital accreditation on infection control programs in teaching hospitals in Japan. *American Journal of Infection Control* (in press).
4. Fukuda H, Imanaka Y, Hayashida K. Cost of hospital-wide activities to improve patient safety and infection control: a multi-centre study in Japan. *Health Policy* (in press).
5. Fukuda H, Imanaka Y, Kobuse H, Hayashida K, Murakami G. The subjective incremental cost of informed consent and documentation in hospital care: a multi-centre questionnaire survey in Japan. *Journal of Evaluation in Clinical Practice* (in press).
6. Oh EH, Imanaka Y, Hayashida K, Kobuse H. Meta-analysis comparing clinical effectiveness of drug-eluting stents, bare metal stents, and coronary artery bypass surgery. *International Journal of Evidence-Based Healthcare*. 2007;5:296-304.
7. Ishizaki T, Imanaka Y, Sekimoto M, Fukuda H, Mihara H with the Treatment of Subarachnoid Hemorrhage Expert Group. Comparisons of risk-adjusted clinical outcomes for patients with aneurysmal subarachnoid hemorrhage across eight teaching hospitals in Japan. *Journal of Evaluation in Clinical Practice* (in press).
8. Fushimi K, Hashimoto H, Imanaka Y, Kuwabara K, Horiguchi H, Ishikawa KB and Matsuda S. Functional mapping of hospitals by diagnosis-dominant case-mix analysis. *BMC Health Services Research* (in press), 2007.
9. Hayashida K, Imanaka Y, Sekimoto M, Kobuse H, Fukuda H. Evaluation of acute myocardial infarction in-hospital mortality by risk adjustment based on Japanese administrative data. *J Int Med Res*. 2007; 35(5):590-6.
10. Kuwabara K, Matsuda S, Imanaka Y, Fushimi K, Hashimoto H, Ishikawa KB. The effect of age and procedure on resource use for patients with cerebrovascular disease. *Journal of Health Services Research & Policy* 2008;13(1):26-32.
11. Kuwabara K, Imanaka Y, Matsuda S, Fushimi K, Hashimoto H, Ishikawa KB, Horiguchi H, Hayashida K, Fujimori K . Impact of age and procedure on resource use for patients with

- ischemic heart disease. *Health Policy*. 2008;85: 196–206.
12. Kuwabara K, Imanaka Y, Matsuda S, Fushimi K, Hashimoto H, Ishikawa KB, Horiguchi H, Hayashida K, Fujimori K. The association of the number of comorbidities and complications with length of stay, hospital mortality and LOS high outlier, based on administrative data. *Environmental Health and Preventive Medicine* 2008 (in press).
 13. Hayashida K, Imanaka Y, Fukuda H. Measuring hospital-wide activity volume for patient safety and infection control: a multi-centre study in Japan. *BMC Health Serv Res*. 2007;7(1):140.
 14. Hirose M, Regenbogen SE, Lipsitz S, Imanaka Y, Ishizaki T, Sekimoto M, Oh EH, Gawande AA. Lagtime in incident reporting system at a university hospital in Japan. *Quality and Safety in Health Care*. 2007;16:101-104 .
 15. Murakami G, Inoue T, Saito M. On cognitive reliability of hospital organisational environment and work performance. *International Journal of Healthcare Technology and Management*. 2007;8(4):388-398.
 16. Evans E, Imanaka Y, Sekimoto M, Ishizaki T, Hayashida K, Fukuda H, Oh EH. Risk adjusted resource utilization for AMI patients treated in Japanese hospitals. *Health Economics*. 2007; 16 (4): 347-359.

和文論文

1. 福田治久, 今中雄一, 廣瀬昌博, 林田賢史. 臨床研修病院における医療安全システムの構築状況に関する研究. 日本医療・病院管理学会誌 2008;45(2): (in press).
2. 今中雄一. 医療安全のための医療費－品質原価の実証研究. 日本医師会雑誌 2007; 135(12): 2515-2519.
3. 福田治久, 今中雄一. 感染制御に係るコストとコスト計算の質の評価. 病院管理 2007; 44(2): 143-151.
4. 今中雄一. 質保証の持続と実質的に役立つ活動：内部評価(監査)から外部評価へ(その3). 日本医療機能評価機構ニュースレター 2007; 5(6): 5.

国際学会発表

1. Fukuda H, Imanaka Y, Hirose M, Hayashida K. Evaluation of the impact of patient safety activities on the number of voluntary incident reports at teaching hospitals in Japan. In proceedings of the 13th Annual Meeting on International Society For Pharmacoeconomics & Outcome Research: 5-7 May 2008; Toronto. (accepted)
2. Fukuda H, Imanaka Y, Ishizaki T. Change in the use of breast conserving surgery before and after guideline publication in Japan. In proceedings of the 13th Annual Meeting on

International Society For Pharmacoeconomics & Outcome Research: 5-7 May 2008;
Toronto. (accepted)

3. Hayashida K, Imanaka Y, Murakami G, Otsubo T, et al. Assessment of Intensive Care Unit (ICU) functionality by patient acuity in Japan: A pilot study. The 23rd Patient Classification Systems International Conference, Venice, 7 – 10 November, 2007.
4. Otsubo T, Hayashida K, Imanaka Y. Supply-demand balance and diffusion of high-cost medical devices in Japan: an estimation based on casemix classification. The 23rd Patient Classification Systems International Conference, Venice, 7 – 10 November, 2007.
5. Anan M, Kuwabara K, Hisatomi Y, Fushimi K, Hashimoto H, Imanaka Y, Hayashida K, Horiguchi H, Ishikawa KB, Matsuda S, Fujimori K, Ikeda S, Akioka M, Shibata M. Correlating ICD-10 Coding with DPC Coding in Japan. The 23rd Patient Classification Systems International Conference, Venice, 7 – 10 November, 2007.
6. Ishikawa KB, Fushimi K, Hashimoto H, Horiguchi H, Kuwabara K, Imanaka Y, Hayashida K, Anan M, Matsuda S. Building a large-scale data warehouse for episode of care analysis. The 23rd Patient Classification Systems International Conference, Venice, 7 – 10 November, 2007.
7. Kuwabara K, Matsuda S, Imanaka Y, Fushimi K, Hashimoto H, Ishikawa K.B, Horiguchi H, Anan M, Hayashida K., Fujimori K., Ikeda S. Refinement of the Diagnosis Procedure Combination Payment System. The 23rd Patient Classification Systems International Conference, Venice, 7 – 10 November, 2007.
8. Hayashida K, Imanaka Y, Fukuda H. The annual activity volume and manpower cost for incident reporting systems in eight Japanese acute care teaching hospitals. The 24th International Conference on International Society for Quality in Health Care, Boston, U.S.A., 30 September - 3 October, 2007.
9. Fukuda H, Hirose M, Imanaka Y, Hayashida K. Relationship between the system design of incident reporting and the number of reports. The 24th International Conference on International Society for Quality in Health Care, Boston, U.S.A., 30 September - 3 October, 2007.
10. Kobuse H, Imanaka Y, Murakami G, Ishizaki T, Sekimoto M, Hirose M, Hayashida K. Development and validation of the hospital safety culture questionnaire. The 24th International Conference on International Society for Quality in Health Care, Boston, U.S.A., 30 September - 3 October, 2007.

学会発表

1. 関本美穂, 今中雄一. 病院感染管理におけるインフラストラクチャー・活動度・パフォーマンスの関係. 第2回横幹連合コンファレンス: 京都, 2007年11月29-30日.
2. 福田治久, 今中雄一, 廣瀬昌博, 林田賢史. 病院感染対策専従者の配置が対策活動の普及に与えるインパクトの推定. 第23回環境感染学会: 長崎, p.201; 2008年2月22-23日.
3. 林田賢史. 集中治療室 (ICU) の診療体制と診療パフォーマンス. (「岐路に立つ医療—「崩壊」から再建へ」<第二部> 質と安全確保のために、医療業務体制と労働環境はいかにあるべきか). 医療の質・安全学会第2回学術集会: 東京, 2007年11月23-25日.
4. 福田治久, 廣瀬昌博, 林田賢史, 今中雄一. 臨床研修病院における医療安全活動の展開. 医療の質・安全学会第2回学術集会: 東京, p.145; 2007年11月23-25日.
5. 福田治久, 廣瀬昌博, 林田賢史, 今中雄一. インシデント報告運用システムが報告件数に及ぼす効果. 医療の質・安全学会第2回学術集会: 東京, p.125; 2007年11月23-25日.
6. 村上玄樹, 小伏寛枝, 後藤悦, 佐々木恵, 林田賢史, 今中雄一. 病院安全文化の構造モデルの分析. 第2回医療の質・安全学会: 東京, 2007年11月23-25日.
7. 今中雄一, 福田治久, 廣瀬昌博, 林田賢史. 安全管理および感染制御に要するコスト: 全国大規模研究. 第45回日本病院管理学会学術総会: 横浜, 2007年10月25-26日. (抄録: 病院管理 44Supplement : p172, 2007.)
8. 林田賢史, 今中雄一, 桑原一彰, 他. 集中治療室 (ICU) の機能評価に関する検討—患者重症度の施設間バラツキの分析—. 第45回日本病院管理学会学術総会: 横浜, 2007年10月25-26日. (抄録: 病院管理 44Supplement : p79, 2007.)
9. 村上玄樹, 小伏寛枝, 佐々木恵, 林田賢史, 今中雄一. 入院満足度、患者特性および重要感の関係. 第45回日本病院管理学会学術総会: 横浜, 2007年10月25-26日. (抄録: 病院管理 44Supplement : p97, 2007.)
10. 福田治久, 今中雄一, 廣瀬昌博, 林田賢史. 安全管理活動の投入資源に関する施設要因の検証. 第45回日本病院管理学会学術総会: 横浜, 2007年10月25-26日. (抄録: 病院管理 44Supplement : p169, 2007.)
11. 大坪徹也, 林田賢史, 今中雄一. 都道府県別高額医療機器の需給バランスと導入傾向に関する一考察. 第45回日本病院管理学会学術総会: 横浜, 2007年10月25-26日. (抄録: 病院管理 44Supplement : p216, 2007.)
12. 勅使河原弘美, 氏繩優子, 清水厚子, 石崎達郎, 林田賢史, 今中雄一. 長浜市個別健康支援プログラム「ながはまメタボリックやっつけ隊!」の取り組み 1. 事業の概要と参加継続率. 第66回日本公衆衛生学会: 松山, 2007年10月24-26日.
13. 氏繩優子, 勅使河原弘美, 清水厚子, 石崎達郎, 林田賢史, 今中雄一. 長浜市個別健

康支援プログラムの取り組み 2.プログラム実施前後の検査値の変化. 第 66 回日本公衆衛生学会: 松山, 2007 年 10 月 24-26 日.

14. 大坪徹也, 林田賢史, 今中雄一. 自治体病院のパネルデータを用いた財務管理効果の検証. 第 2 回医療経済学会: 学習院大学, 2007 年 7 月 21 日.
15. 石崎達郎, 吉田英世, 鈴木隆雄, 今中雄一. 主観的健康度の加齢変化; 縦断データ分析による検討. 第 49 回日本老年社会学会大会: 札幌, 2007 年 6 月 20-22 日.
16. 林田賢史. 診断群分類の原価把握とそれに伴う収支分析、業務量分析、機能評価. (「DPC で何が見えるのか」). 第 11 回日本医療情報学会春季学術大会: 大阪, 2007 年 6 月 15-16 日.
17. 川崎一良, 関本美穂, 石崎達郎, 今中雄一. 日本の麻酔科医業務状況に関する調査(第 2 報). 日本麻酔科学会第 54 回学術集会: 札幌, 2007 年 5 月 31-6 月 2 日.
18. 関本美穂. 重症急性胰炎の臨床研究にまつわる諸問題. 第 107 回日本外科学会学術集会: 大阪, 2007 年 4 月 11-13 日.