



References

- ¹ Spiegelhalter D. Surgical audit: statistical lessons from Nightingale and Codman. *J.R.Statist Soc* 1999;162 (Part1): 45-58
- ² Marsmall M, Shekelle P, Brook R and Leatherman S. Dying to know: Public release of information about quality of healthcare. *Nuffield Trust Series* 2000; No. 12
- ³ Christiansen C and Morris C. Improving the statistical approach to health care provider profiling. *Annals Int Med* 1997; 127: 764-8
- ⁴ Tu J, Sykora K and Naylor C Assessing the outcomes of coronary artery bypass graft surgery: how many risk factors are enough? *JACC* 1997; 30:1317-23
- ⁵ Spiegelhalter D. Surgical audit: statistical lessons from Nightingale and Codman. *J.R.Statist Soc.* 1999;162 (Part1): 45-58
- ⁶ Brennan TQ and Berwick DM (1996) *New Rules. Regulation, Markets and the Quality of American Healthcare.* Jowey-Bass Publishers, San Francisco
- ⁷ <http://www.drfooster.co.uk>
- ⁸ <http://www.nhsdirect.nhs.uk>
- ⁹ <http://www.nhs.uk>
- ¹⁰ <http://www.bbc.co.uk/health>
- ¹¹ <http://www.healthfinder.gov>
- ¹² <http://www.healthcentre.org.uk>
- ¹³ <http://www.healthinfocus.co.uk>
- ¹⁴ <http://www.Department of Health.gov.uk/indicat/nhshlpi.pdf>
- ¹⁵ http://www.chi.nhs.uk/eng/organisations/london/st_georges/index.shtml
- ¹⁶ <http://www.chi.nhs.uk/eng/organisations/london/hammersmith/index.shtml>
- ¹⁷ <http://www.chi.nhs.uk/eng/report/inv/locum/index.shtml>
- ¹⁸ <http://Department of Health.gov.uk/indicat/indicat.htm>
- ¹⁹ Chassin MR, Hannan EH, De Buono BA. Benefits and hazards of reporting medical outcomes publicly. *New Eng J Med* 1996; 334: 394-8
- ²⁰ New York State Cardiac Surgery Reporting System: <http://www.health.state.ny.us/nysdoh/consumer/heart/homehear.htm>
- ²¹ Harlan B. Statewide reporting of coronary artery surgery results: a view from California *J Thorac Cardiovasc Surg* 2001;121:409-17
- ²² Daley J, Grover FL, Hammermeister K. Using outcomes data to improve clinical practice: building on models from cardiac surgery. *Ann Thorac Surgery* 1994; 58 (Suppl):1809-84
- ²³ Wechsler A. Risk management in CABG: A continuing perspective. *Ann Thorac Surg* 1996; 62 (Suppl): S1-S32
- ²⁴ Wynne-Jones K, Jackson M, Grotte G, Bridgewater B and North West Regional Cardiac Surgery Audit Steering Group. Limitations of the Parsonnet score for measuring risk stratified mortality in the north west of England *Heart* 2000 84: 71-78
- ²⁵ Nashef SAM, Carey F, Silcock MM, Oommen PK, Levy RD, Jones MT. Risk stratification for open heart surgery: trial of the Parsonnet system in a British hospital. *BMJ* 1992; 305: 1066-7
- ²⁶ Treasure T. Risks and results of surgery. *Br Heart J* 1995; 74: 11-12
- ²⁷ Bridgewater B, Neve H, Moat N, Hooper T, Jones M. Predicting operative risk for coronary artery surgery in the United Kingdom: a comparison of various risk prediction algorithms. *Br Heart J* 1998; 79:350-5



- Shroyer ALW, Grover FL, Edwards FH. 1995 coronary artery bypass risk model: the Society of Thoracic Surgeons Adult Cardiac Surgery National Database. *Ann Thorac Surg* 1998; 65: 879-84
- ²⁹ Edwards FH, Clark RE, Schwartz M. Coronary artery bypass grafting: The Society of Thoracic Surgeons National database experience. *Ann Thorac Surg* 1994; 57: 12-9
- ³⁰ Marshall G, Shroyer L, Grover F, Hammermeister K. Bayesian-Logit Model for risk assessment in coronary artery bypass grafting. *Ann Thorac Surg* 1994; 57: 1492-500
- ³¹ Lovegrove J, Valencia O, Treasure T, Sherlaw-Johnson C, Gallivan S. Monitoring the results of cardiac surgery by variable life adjusted display. *Lancet* 1997; 350: 1128-30
- ³² Poloniecki, Valencia O, Littlejohns P. Cumulative risk adjusted mortality chart for detecting changes in death rate: observational study of heart surgery. *BMJ* 1998; 316: 1697-1700
- ³³ Westaby, S. League tables, risk assessment and an opportunity to improve standards. *Br J Cardiol (Acute Interv Cardiol)* 2002; 9; 1; AIC5-AIC10
- ³⁴ Iezzoni L. The risks of risk adjustment. *JAMA* 1997; 278:1600-12
- ³⁵ Omoigui NA, Miller DP, Brown KJ, Annan K, Cosgrove D, Lytle B, Loop F, Topol EJ. Outmigration for coronary bypass surgery in an era of public dissemination of clinical outcomes. *Circulation* 1996; 93: 27-33
- ³⁶ Is more information better? The effects of report cards on health care providers. Dranove D, Kessler D, McClellan M & Satterthwaite M. National Bureau of Economic Research, January 2002. <http://www.nber.org/papers/w8697>
- ³⁷ Burrack J, Impellizzeri P, Homel P & Cunningham J. Public reporting of surgical Mortality: A survey of New York State cardiothoracic surgeons. *Ann Thorac Surg* 1999; 68: 1195-1200
- ³⁸ Schneider E and Epstein A. Influence of cardiac surgery performance reports on referral practices and access to care. A survey of cardiovascular specialists. *New Eng J Med* 1996; 335:251-6
- ³⁹ Shahian D, Normand S-L, Torchiana D, Lewis S, Pastore J, Kuntz R and Dreyer P Cardiac surgery report cards: comprehensive review and statistical critique *Ann Thorac Surg* 2001;72: 2155-2168
- ⁴⁰ Grunkemeier, G. L., Zerr, K. J., Jin, R. (2001). Cardiac surgery report cards: making the grade. *Ann. Thorac. Surg.* 72: 1845-1848
- ⁴¹ Keogh B. Cardiac surgical mortality: the tip of the quality assurance iceberg. (Editorial) *Heart* 2000; 84: 7-8
- ⁴² Young G, Charns M, Daley J, Forbes M, Henderson W & Khuri S. Best practices for managing surgical services: the role of coordination. *Health Care Manage Rev* 1997; 224:72-81
- ⁴³ Daley J, Forbes M, Young G, Charns M, Hur K, Henderson W & Khuri S. Validating risk adjusted surgical outcomes; Site visit assessment of process and structure.
- ⁴⁴ Goss J, Whitten R, Phillips R, Johnston G, Hofer B, mansfield P, Tidwell S, Spertus J & LoGerfo J. Washington State' model of physician leadership in cardiac outcomes reporting. *Ann Thorac Surg* 2000; 70:695-701
- ⁴⁵ Marshall M, Shekelle P, Brook R and Leatherman S. Dying to know. Public release of information about quality of health care
- ⁴⁶ Davies HT. Public release of performance data and quality improvement: internal responses to external data by US healthcare providers. *Quality in Healthcare* 2001;10:104-10
- ⁴⁷ Schneider E & Lieberman T. Publicly disclosed information about the quality of Healthcare: response of the US public. *Quality in Healthcare* 2001; 10:96-103
- ⁴⁸ Schneider E and Epstein A. Use of public performance reports. A survey of patients undergoing cardiac surgery. *JAMA* 1998; 279:1638-42
- ⁴⁹ Shahian D, Yip W, Westcott G & Jacobson J. Selection of a cardiac surgery provider in the managed care era. *J Thorac Cardiovasc Surg* 2000; 120:978-989
- ⁵⁰ <http://www.doh.gov.uk/ipu/whatnew/deliveringit/index.htm>
- ⁵¹ <http://www.doh.gov/ipu/strategy/nsf/chdstrat/chdisdoc.htm>



-
- ⁵² English TAH, Bailey AR, Dark JF and Williams WG. (1984). The UK Cardiac Surgical Register 1977-82 *BMJ* 289:1205-8
- ⁵³ Clark RE, Edwards FH and Schartz M. (1994). Profile of pre-operative characteristics of patients having CABG over the past decade. *Ann. Thor. Surg.* 58 1863-5
- ⁵⁴ Guidelines and indications for coronary artery bypass graft surgery. A report of the American College of cardiology / American Heart association Task Force on Assessment of Diagnostic and Therapeutic Cardiovascular Procedures (Subcommittee on Coronary artery bypass graft surgery). *JACC* 1991; 17: 543-89
- ⁵⁵ Chassin MR. The Missing, unconfirmed or unmapped ingredient in health reform: quality of care. *JAMA* 1993; 270: 377-8
- ⁵⁶ Chassin MR, Hannan EH, De Buono BA. Benefits and hazards of reporting medical outcomes publicly. *New Eng. J. Med.* 1996; 334: 394-8
- ⁵⁷ Kennedy JW, Kaiser GC, Fisher LD *et al.* (1980). Multi-variate discriminate analysis of the clinical and angiographic predictors of operative mortality. from *CASS J Thor Cardiovasc Surg* 80; 876-
- ⁵⁸ Pierpont GL, Kruse M, Ewalds S and Weir EK. (1985). Practical problems in assessing risk for coronary artery surgery. *J Thor Cardiovasc Surg* 89; 673-82
- ⁵⁹ McCormick JR, Schick EC, McCabe CH, Kronmal RA and Ryan TJ (1985). Determinants of operative mortality and long-term survival in patients with unstable angina. *The CASS experience. J Thor Cardiovas. Surg* 89; 683-8
- ⁶⁰ Parsonnet V, Dean D and Bernstein AD (1989). A method of uniform stratification of risk for evaluating the results of surgery in acquired heart disease. *Circulation* 79; 13-112
- ⁶¹ Higgins T, Estafanous F, Loop F, Beck G, Blum J and Parandhi L (1992). Stratification of morbidity and mortality outcome by pre-operative risk factors in coronary artery bypass patients. *JAMA* 192; 267; 2344-48
- ⁶² Nashef SAM, Roques F, Michel P, Guaducneau E, Lemeshow S, Salomon R and The EuroSCORE Study Group (1998). European system for cardiac operative risk evaluation (EuroSCORE). *Presented to the 12th Annual Meeting of The European Association for Cardio-Thoracic Surgery*
- ⁶³ O'Connor GT, Plume SK, Olmstead EM, *et al.* (1992). Multivariate prediction of in-hospital mortality associated with coronary artery bypass surgery. *Circulation* 85; 2110-2118
- ⁶⁴ Roques F, Nashef SA, Michel P, Gauducneau E, de Vincentiis C, Baudet E, Cortina J, David M, Faichney A, Gabrielle F, Gams E, Harjula A, Jones MT, Pintor PP, Salamon R and Thulin L. Risk factors and outcome in European cardiac surgery: analysis of the *EuroSCORE* multinational database of 19,030 patients. *Eur. J. Cardiothorac. Surg.* 1999; 15: 1: 816-22; discussion 822-3.
- ⁶⁵ Hanley JA and McNeil BJ. The meaning and use of the area under a Receiver Operating Characteristic curve. *Radiology* 1982; 143: 29-36
- ⁶⁶ O'Connor GT, Plume SK, Olmstead EM, *et al.* Multivariate prediction of in-hospital mortality associated with coronary artery bypass surgery. *Circulation* 1992; 85: 2110-2118
- ⁶⁷ Parry GJ, Gould CR, McCabe CJ, and Tarrow-Mordi WO. Annual league tables of mortality in neonatal intensive care units: longitudinal study. *BMJ* 1998; 316: 1931-1935
- ⁶⁸ De Leval MR, Francois K, Bull C, Brawn W and Spiegelhalter D. Analysis of a cluster of surgical failures. Application to a series of neonatal arterial switch operations. *J Thor Cardiovasc Surg* 1994; 107: 914-24
- ⁶⁹ Steiner SH, Cook RJ and Treasure T. Monitoring surgical performance using risk adjusted cumulative sum charts. *Biostatistics* 2001; 2
- ⁷⁰ Poloniecki J, Valencia O, Littlejohns P. Cumulative risk adjusted mortality chart for detecting changes in death rate: observational study of heart surgery. *BMJ* 1998; 316: 1697-1700
- ⁷¹ Spiegelhalter DJ, Kinsman R, Grigg O and Treasure T Sequential Probability ratio tests (SPRTs) for monitoring risk-adjusted clinical outcomes: applications to Bristol, Shipman and adult cardiac surgery. Accepted. *Quality in Healthcare.*
- ⁷² Marshall EC and Spiegelhalter DJ. Reliability of league tables of *in vitro* fertilisation clinics: retrospective analysis of live birth rates. *BMJ* 1998; 317: 1701-1704.



-
- ⁷³ Coronary Artery Bypass Surgery in New York State 1992-1996. *Albany: New York: New York State Department of Health* 1996
- ⁷⁴ Christiansen C and Morris C. Improving the statistical approach to healthcare provider profiling. *Ann. Int. Med.* 1997; 127: 764-768
- ⁷⁵ Heyward H., and Howman A. personal communication 2002. Medical informatics and Clinical Governance Support Unit, University Hospital of Birmingham.
- ⁷⁶ Mohammed MA, Cheng KK, Rouse A, Marshall, T. Bristol, Shipman, and clinical governance: Shewhart's forgotten lessons. *Lancet* 2001; 357: 463-467.
- ⁷⁷ Adab P, Rouse A, Mohammed MA, Marshall, T. Performance league tables: the NHS deserves better. *BMJ* 2002; 324: 95-98.
- ⁷⁸ Egger M, Davey Smith G, Schneider M, Minder C. Bias in meta-analysis detected by a simple, graphical test. *BMJ* 1997; 315: 629-634.
- ⁷⁹ Stark J, Gallivan S, Lovegrove J, Hamilton JRL, Monro JL, Pollock JCS, Watterson KG. Mortality rates after surgery for congenital heart defects in children and surgeons' performance. *Lancet* 2000; 355: 1004-1007.
- ⁸⁰ Poloniecki J, Valencia O, Littlejohns P. Cumulative risk adjusted mortality chart for detecting changes in death rate: observational study of heart surgery. *BMJ* 1998; 316: 1697-1700
- ⁸¹ NHS Executive (HSC 2000/023. Quality and performance in the NHS. Performance indicators: July 2000) Leeds: Department of Health, 2001.
- ⁸² www.health.state.ny/nysdoh/commish/2001/cabg2001.htm
- ⁸³ Green J, Wintfield N. Report cards on cardiac surgeons – assessing New York state's approach. *N Engl J Med* 1995; 332: 1229
- ⁸⁴ Schneider EC, Epstein AM. Use of public performance reports. A survey of patient undergoing cardiac surgery. *JAMA* 1998; 279: 1638.
- ⁸⁵ Hannan EL, Stone CC, Biddle TL, DeBuono BA. Public release of cardiac surgery outcomes in New York: What do New York state cardiologists think of it? *Am Heart J* 1997; 134: 1120.
- ⁸⁶ Burack J, Impellizzeria P, Homel P, Cunningham JN. Public reporting of surgical mortality: a survey of New York State cardiothoracic surgeons. *An Thor Surg* 1999; 68: 1195.
- ⁸⁷ Hannan EL, Stone CC, Biddle TL, DeBuono BA. Public release of cardiac surgery outcomes in New York: What do New York state cardiologists think of it? *Am Heart J* 1997; 134: 1120.
- ⁸⁸ Green J, Wintfield N. Report cards on cardiac surgeons – assessing New York state's approach. *N Engl J Med* 1995; 332: 1229.
- ⁸⁹ Arom KV, Petersen RJ, Orzulak TA *et al.* Establishing and using a local/regional cardiac surgery database. *Ann Thor Surg* 1997; 64: 1245.
- ⁹⁰ Edwards FH, Clark RE, Schwartz M. Coronary artery bypass surgery - results, trends, and risk assessment from The Society of Thoracic Surgeons National Database experience. *Ann. Thorac. Surgery* 1994; 57: 12-19
- ⁹¹ Grover FL, Shroyer AL, Edwards FH, Pae W, Ferguson TB, Gay WA, Clark RE. Data quality review program: The Society of Thoracic Surgeons Cardiac Surgery Database. *Ann. Thorac. Surgery* 1996; 62: 1229-31
- ⁹² Shroyer AL, Edwards FH, and Grover FL. Updates to the data quality review program: The Society of Thoracic Surgeons Adult Cardiac National Database. *Ann. Thorac. Surgery* 1998; 65: 1494-7
- ⁹³ Edwards FH, Grover FL, Shroyer AL, Schwartz M, Bero J. The Society of Thoracic Surgeons National Cardiac Surgery Database: Current risk assessment. *Ann. Thorac. Surgery* 1997; 63: 903-8.
- ⁹⁴ Shroyer AL, Grover FL, and Edwards FH. 1995 Coronary artery bypass risk model: The Society of Thoracic Surgeons Adult Cardiac National Database. *Ann. Thorac. Surgery* 1998; 65: 879-84
- ⁹⁵ Edwards FH, Clark RE, Schwartz M. Practical problems in the management of large multi-institutional databases. *Ann. Thorac. Surgery* 1994; 58: 1841-1844