

Curriculum Vitae

Danny Keenan

**Professor of Cardiothoracic
Surgery**

**Central Manchester University
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Personal Details

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Summary

I have worked in various roles in the health service during my career. I was a highly successful cardiothoracic surgeon and led several important innovations in cardiac surgery, both in the hospital and nationally. I chaired the first Clinical Reference Group in Cardiac Surgery for NHS England. I have now moved on from this era and am working full time in the promotion of quality.

My expertise included important management roles in my Trust/Directorate. I was lucky to be Clinical Director when the Cardiac National Service Framework was introduced and led the development of the framework both in the Trust and in the Greater Manchester area, through the auspices of the Cardiac Network which I was instrumental in setting up. This allowed me to take to fruition important business cases both in the Trust and Greater Manchester.

I continue to work in the Trust, currently taking forward high quality appraisal leading to revalidation, but most importantly, improved services.

I have always been interested in the use of information to inform and assure patients in relation to our services. I worked on this, firstly in my own specialty and then, through the Healthcare Commission information strategy, in many other areas of healthcare.

I was a member of the Department of Health National Advisory Group on Clinical Audit and Enquiries (NAGCAE) and took up the role of Medical Director of the Healthcare Quality Improvement Partnership (HQIP) which leads on the overall national clinical audit and the Confidential Enquiries programmes; 40 in all. Again, this has been to use information to support the provision of high-quality services. I have been linking this with the indicator work that I chair for NICE so that the systems are aligned.

I have drive, enthusiasm and the interpersonal skills to allow me to influence change and to motivate and empower the entire multidisciplinary team in pursuing the goals of improved clinical

quality, safety and patient responsiveness. I believe that my achievements allow me to command credibility at any level, from clinicians, patients and the public through to the Hospital Board and at a National level. Crucially they afford me credibility with professional colleagues, both internal and external. My career demonstrates my leadership and managerial abilities and my ability to innovate in the many areas that I have worked in.

Qualifications

- 1972 BSc (Hons) Physiology (The Queen's University of Belfast)
- 1975 MB, BCh (The Queen's University of Belfast)
- 1979 FRCS (Edinburgh)
- 1996 FEACTS (Fellow of the European Association for Cardiothoracic Surgery)

Registration

General Medical Council (Specialist Register) 1382637
Revalidated Year 0; March 2013

ACCEA

Gold (level 11) 2009

Current Posts:

2013 to Present; Medical Director, Healthcare Quality Improvement Partnership (HQIP), London (two days per week)

2011 to Present; Associate Medical Director, Central Manchester University Hospitals NHS Foundation Trust (two days per week)

2009 to Present; Honorary Professor of Cardiothoracic Surgery, The University of Manchester

Current Roles:

Medical Director. Healthcare Quality Improvement Partnership (HQIP)

I am the Medical Director of HQIP, the national audit arm of NHS England (seconded part-time from the Trust). This was a new role to take forward clinical engagement in the National Clinical Audit and the Clinical Outcomes Review Programmes. This remit is to invigorate both national and local clinical audit and help to make this more meaningful to patients, clinicians and commissioners. Working with clinicians, managers, commissioners and the public, we have developed measures to assess the quality of healthcare and have developed strategies to performance. I am involved in the transparency agenda whereby audit data is released to the public in a meaningful way. I have taken this on developing the Consultant Outcomes Programme, transitioning this into the Clinical Outcomes Programme which presents the audit results on NHS Choices. This way meaningful information is presented to patients.

We concentrate heavily on quality improvement, both locally and nationally. To this effect, I have developed the National Clinical Audit Benchmarking initiative which translates, in a more meaningful way, the audit results for use locally. This initiative directs results to clinicians, managers and commissioners, as it is in their power to use these results to improve services.

I also manage the Clinical Outcomes Review Programme (previously the Confidential Enquiries programme). This is a national initiative directed at developing the safety culture. This programme reviews safety issues, looking at when things have gone wrong, thus developing strategies to ensure such events do not occur again.

As an off shoot of this, I chair for NHS Improvement (previously the regulator Monitor), the National Mortality Review working to review in-hospital death, again to improve our offer to patients.

Associate Medical Director. Central Manchester University Hospitals NHS Foundation Trust.

Following on from the national work I did on Appraisal and Revalidation, I have a similar role in the Trust. I oversee appraisal for the 1,200 doctors employed by the Trust and for whom the Trust acts as Responsible Officer. I have been working on training additional appraisers and improving the quality of appraisal. I have helped introduce 360 feedback, which has been running smoothly in the Trust.

I have been trained, fully, as a Responsible Officer having attended all the modules run by NHS England North. I perform the Responsible Officer functions for the Trust's revalidation process. In addition to leading on this, I support the Responsible Officer in dealing with doctors in difficulty and investigating concerns pertaining to consultants.

I was invited to carry out a major review of a dysfunctional service in another Trust. This was a major review delineating a bullying culture with an important action plan.

Finally, my Trust has been involved in several important reconfigurations of services in Greater Manchester. I have been involved in developing strategies and have represented the Trust at many important meetings. Currently I lead on joining the Corporate Medical Office governance functions with the merger of our Trust with the South Manchester Trust.

Chair. Indicator Advisory Committee. National Institute for Health and Care Excellence (NICE)

I chair this important committee for NICE. The Secretary of State for Health asked NICE to develop a raft of indicators from the NICE Quality Standards to measure hospital and commissioning performance. This is being extended to the new Sustainability and Transformation Partnerships (STPs). This will be primarily so that NHS England can hold the Partnerships to account for the delivery of improved outcomes and to support improvement in commissioning. We have produced several iterations of indicators that are populating the NHS Outcomes Framework and are being used as benchmarking tools.

During 2015, the original commissioning outcomes indicator committee (which concentrated on secondary care) was merged with the Quality and Outcomes Framework (QOF) advisory committee (this measured performance in primary care). I now chair the joint advisory committee looking at all indicators for the NHS. In this role, we are developing integrated indicators, based on Quality Standards and straddling the patient pathway, encompassing primary and secondary care and mental health.

Research.

I have been actively involved in the development, in the UK, of the Academic Health Science Centres and Networks. I am the Central Manchester representative on the Manchester Academic Health Science Centre (MAHSC), particularly in relation to the Cardiovascular Domain. In addition, I link with the Greater Manchester Academic Health Science Network (GMAHSN).

Teaching and Training:

As HQIP Medical Director, I run a national programme teaching all clinicians, but particularly consultants and trainees, in quality improvement, with a "Reporting for Impact" guide, how to

develop process control graphs and infographics and how to extract the improvement messages from audit. (Good to excellent feedback). Regular blog and social media Twitter feed.

I lecture and teach junior doctors in audit techniques. I participate in the National annual junior doctor audit event awarding prizes for best local audit, run by a junior doctor.

I am actively involved in the National Medical Director's Clinical Fellows programme. HQIP is partnered to this. I recruit, encourage and supervise the senior trainee doctors allocated to us, and run workshops on information and audit for all the Fellows. At HQIP they have, under my supervision, used our audit information on various projects including work with CQC and a Parity of Esteem project designed to move the audit programme forward into mental health.

In my role as MD of the national audit programme, I present nationally and internationally on measurement for improvement and concerning the use of data to improve services.

Medico-legal work:

Through my career, I have always been involved in this demanding area of work, My experience extends over the areas of personal injury and also, over the areas of malpractice and negligence. I am used to taking instructions, examining clients and preparing reports to pressurised time scales. I have represented both appellants and litigants and have worked for individual practitioners, legal firms and Hospital Trusts. My practice extends to all of adult cardiac surgery and chest trauma (thoracic surgery). I have appeared as an Expert Witness. This latter work has been very interesting, always necessitating extensive literature reviews.

As is clear from my CV, my very wide experience in many areas of healthcare gives me the gravitas and credibility essential in an expert witness.

Previous Roles:

Consultant Cardiothoracic Surgeon, Manchester Heart Centre, Central Manchester University Hospitals NHS Foundation Trust and The Alexandra Hospital. 1985 to 2017

Surgical Career:

I have developed several important initiatives in Manchester:

- ✓ **Arterial grafting.** International reputation in developing this aspect of coronary bypass surgery. Developing the proven benefits of single arterial grafting into multiple arterial grafting.
- ✓ **Minimally invasive approaches.** Both small incision approaches (the MIDCAB operation) and less invasive approaches to coronary artery surgery with the development of the “off-pump” operation.
- ✓ **Mitral valve repair.**
- ✓ **Atrial fibrillation ablation surgery.**
- ✓ **Referral resource for complex cases.**

I was audit lead in the department linking with our national society. I initially collected the money to invest in our audit, persuaded commissioners to further invest in it and enrolled colleagues into the concept of an institutional audit held electronically. This then formed the basis of our audit programme, which since inception has been an improvement tool. I have worked with our society to develop the minimum data set and then with colleagues in the North West to carry out collaborative audit. This latter group endured and formed the North-West Quality Improvement Programme that used comparative audit as a quality improvement tool.

I led both in my department and nationally, the public release of individual cardiac surgical results. We initially displayed our results locally and, under national governance rules, took this forward nationally. My results were on the Manchester Heart Centre web site, the Society of Cardiothoracic Surgeons’ web site and with NHS Choices.

More latterly I took on a mentoring role, supporting junior surgeons and consultants who need additional training. I believe this is an important direction that we in interventional departments will need to develop. I very much enjoyed this role.

I regularly presented at surgical workshops for our society at the annual meeting in relation to various aspects of open-heart surgery.

Chair. National Clinical Reference Group (CRG), Adult Cardiac Surgery. NHS England. 2013-16

I chaired this advisory group (advisory to NHS England). The remit of the committee was to develop standards and metrics pertaining to adult heart surgery. In addition, we populated the NHS Outcomes Framework with metrics, particularly related to outcomes. We defined the current state of adult cardiac surgery and moved on to define the standards relating to mitral valve repair and surgery of the aorta. The CRG was subsumed into an overall cardiology CRG chaired by the National Clinical Director.

National Clinical Advisor; Healthcare Commission, (subsequently the Care Quality Commission) (2006-2012)

In 2006 I was seconded, part time, from the Trust as National Clinical Advisor to the Healthcare Commission. I and my two colleagues (a nurse and general practitioner) advised the executive team directly on matters pertaining to healthcare, in the broadest sense.

I was particularly interested in this role as the Commission wished to develop an information based regulatory system and was particularly interested in developing measures related to the quality of healthcare.

One of my main roles was to lead on developing much stronger links with the Royal Colleges and major societies. Indeed, I conceived this strategy. This was so that we, in the Commission, could enlist their experience and advice on clinical issues. I initiated the dialogue that has allowed us to help develop a better idea of what clinical markers are available to help us understand the difference between good and bad care; safe and unsafe care. This culminated in a workshop, which I conceived, organised and chaired, between the Academy of the Medical Royal Colleges, the Department of Health, NICE and the Commission, to develop a shared understanding of how to measure clinical quality. More importantly it reinforced that clinical quality is and should be one of the main tenants of the Colleges. We developed a suite of measures. Many of these were used but when the Care Quality Commission took over it became more of an inspectorate with less interest in developing measures. I worked for CQC on their Quality and Risk profile.

I was the lead clinician on several reviews of service failure and into the Independent Sector Treatment Centres (ISTC's). All of these involved in depth reviews with site visits and with major reports with significant recommendations for the service in general.

I was the lead clinical member of the Commission team that carried out a review of the defence medical services, at the request of the Surgeon General. This involved a weeklong visit to the defence medical services in Basra, Iraq, which I did, in person, in October 2008.

More recently I have been involved with more specific safety issues such as reviews into Never Events. I represented CQC on the CMO's National Patient Safety Forum and the Safer Surgery Board.

The National Advisory Group Clinical Audit and Enquiries. Member, (2009-2013)

I was a member of NAGCAE advising the Department of Health (NHS England) on clinical audit topics. (<https://www.gov.uk/government/policy-advisory-groups/national-advisory-group-on-clinical-audit-and-enquiries>). This group was set up by the Chief Medical Officer to reinvigorate clinical audit. It advised the Department/NHS England on the programme of national audits, in addition to working on local programmes of audit. We developed better governance standards for national audit so that these audits produced more meaningful results. We explored areas that had not been audited including links into social care. In addition, I was involved in the process of commissioning new national audits.

The other role of the advisory group was to improve the quality of local audit. I worked with HQIP in this process so that there are now many more "tools" available and many more examples of successful audits that demonstrate the principals to colleagues.

Memberships:

Clinical Forensic and Legal Medicine Section; The Royal Society of Medicine
The Society of Cardiothoracic Surgeons of Great Britain and Ireland
European Association for Cardiothoracic Surgery
The Royal College of Surgeons

ADDITIONAL POSITIONS HELD

- ✓ **2004 to 2012. NICE Specialist Advisor Interventional Procedures**
- ✓ **2004 to present. NHS R&D Technology Assessment Reviewer (now NIHR Grant Reviewer)**
- ✓ **2005 to 2010. Tripartite audit group, representing the Care Quality Commission, with the Society of Cardiothoracic Surgeons, DH and CCAD.**
- ✓ **2006 to 2010. NICE, topic selection consideration panels (cardiovascular disease)**
- ✓ **2006-07 External validation to the Regulation and Quality Improvement Authority, Northern Ireland**
- ✓ **2007 to 2010. Board member. National Steering group, Cancer Peer Review**
- ✓ **2007 to 2008 NICE Clinical guideline development group, prophylaxis against infective endocarditis**
- ✓ **2008 to 2011. National Institute for Health Research. Board member representing CQC.**
- ✓ **2008 to 2011. Academy of the Medical Royal Colleges project (revalidation) governance group. Member representing CQC.**
- ✓ **2008 to 2011. Data Management Committee of the Society of Cardiothoracic Surgeons of Great Britain and Ireland. Member.**
- ✓ **2009 to 2011. NHS Revalidation Support Team; associate. Medical Appraisal Framework (MAF) subgroup**
- ✓ **2008 to 2009. GMC Affiliates, northern pilot (Regional Medical regulation support team).**
- ✓ **2008 to 2014 IPREG (Intellectual Property Regulation Board), founder member; Chair Governance Board ; lay member**
- ✓ **2010 to 2012. North West SHA. Member of the Trauma Clinical Advisory Board**
- ✓ **2010 to present. ACCEA. Member of the North-West Selection Committee**
- ✓ **2010 to 2012. North West SHA. Member Revalidation Expert Group**
- ✓ **2012 to 2015 Civil Aviation Authority. Member of the Cardiovascular Advisory Committee**
- ✓ **2015 to present NICE. Technology Reviewer**

Appendix A

Research Contributions:

(a)Peer reviewed - Papers:

1. Kirmani BH, Brazier A, Sriskandarajah S, Alshawabkeh Z, Gurung L, Azzam R, Keenan DJ, Hasan R, Abunasra H. Long-term survival following off-pump coronary artery bypass grafting. *Ann Thorac Surg*. 2016; 102, Issue 1, 22–27
2. Kirmani BH, Brazier A, Sriskandarajah S, Azzam R, Keenan DJ. A meta-analysis of computerized tomography scan for reducing complications following repeat sternotomy for cardiac surgery. *Interact Cardiovasc Thorac Surg*. 2016 Apr;22(4):472-9
3. Hausenloy DJ, Candilio L, Evans R, Ariti C, Jenkins DP, Kolvekar S, Knight R, Kunst G, Laing C, Nicholas J, Pepper J, Robertson S, Xenou M, Clayton T, Yellon DM; ERICCA Trial Investigators. Remote Ischemic Preconditioning and Outcomes of Cardiac Surgery. *N Engl J Med*. 2015 Oct 8;373(15):1408-17. doi: 10.1056/NEJMoa1413534.
4. Tee A, Hasan R, McLaughlin KE, Keenan D, Datta S. Is pre-operative haemoglobin A1c level a successful predictor of adverse outcome after cardiac surgery? *J Cardiothorac Surg*. 2015 Dec 16;10 Suppl 1:A328. doi: 10.1186/1749-8090-10-S1-A328. Epub 2015
5. Martin R, Mayr M, Mhasa B, Choy M, Owens A, Chico T, Keenan D, Yonan N, Keavney B. Genetic variants associated with risk of atrial fibrillation regulate expression of PITX2, CAV1, MYOZ1, C9orf3 and FANCC. *J Mol Cell Cardiol*; 2015, 85, 207-214
6. Bilal RH, Keenan D. Role of computed tomography in tailoring reoperative procedures and changing trends in reoperative cardiac surgery. *Eur J Cardiothorac Surg* 2015; 47(5), 824-825
7. Hausenloy DJ, Candilio L, Laing C, ERICCA Investigators. Effect of remote ischaemic preconditioning on clinical outcomes in patients undergoing coronary artery bypass graft surgery (ERICCA). *Clin Res Cardiol*. 2012; 101(5), 339-348
8. Lynch FM, Izzard AS, Austin C, Prendergast B, Keenan D, Malik RA, Heagerty AM. Effects of diabetes and hypertension on structure and distensibility of human small coronary arteries. *J Hypertens*. 2012 Feb;30(2):384-9.
9. Barnard J, Keenan DJM. Endoscopic saphenous vein harvesting for coronary artery bypass grafts: NICE guidance. *Heart* 2011;97:327-329
10. Taggart DP, Altman DG, Gray AM, Lees B, Nugara F, Yu LM, Campbell H, Flather M; ART Investigators. Randomized trial to compare bilateral vs. single internal mammary coronary artery bypass grafting: 1-year results of the Arterial Revascularisation Trial (ART). *Eur Heart J*. 2010 Oct;31(20):2470-81. Epub 2010 Aug 30.
11. Pagano D, Freemantle N, Bridgewater B, Howell N, Ray D, Jackson M, Fabri B, Au J, Keenan D, Kirkup B, Keogh BE. Social Deprivation Reduces the Prognostic Benefits of Cardiac Surgery: an analysis of 44,902 patients from 5 hospitals over 10 years: an observational study. *BMJ* 2009; 338: b902.
12. Haslam D, Keenan DJM, Dean N, Bardsley M. Clinical quality; am I bothered? *International Journal of Clinical leadership* 2008 Dec; 16(2), 74-78.
13. Brooks N, Gibbs J, Keenan D et al. Prophylaxis against infective endocarditis: summary of NICE guidance. *Heart*. 2008 94(7), 930-1.
14. Wray D, Ruiz F, Richey R, Stokes T; Guideline Development Group. Prophylaxis against infective endocarditis for dental procedures--summary of the NICE guideline. *Br Dent J*. 2008 May 24;204(10):555-7.
15. Appleby C, Clarke B, Keenan DJM, Mahadevan V. Reversal of supra-systemic pulmonary artery pressures following mitral valve surgery in a young girl. *Int J Cardiol* 2006; 113: E113-E114.
16. Devbhandari MP, Duncan AJ, Grayson ADL, Fabri BM, Keenan DJM, Bridgewater Jones MT Au J; North West Quality Improvement Programme in Cardiac Interventions. Effect of risk adjusted non-dialysis dependant renal dysfunction on mortality and morbidity following coronary artery bypass surgery: a multi-centre study. *Eur J Cardiothorac Surg* 2006 Jun; 29(6): 964-70.

17. Charalambous Cp, Zipitis CS, Keenan DJM. Chest re-exploration in the intensive care unit following cardiac surgery: a safe alternative to retuning to the operating theatre. *Ann Thorac Surg* 2006 Jan; 81(1): 191-4.
18. Karthik S, Musleh G, Grayson A, Keenan DJM, Pullan M, Dihmis W, Hasan R, Fabri B. Coronary surgery in patients with peripheral vascular disease: effect of avoiding cardiopulmonary bypass. *Ann Thorac Surg* 2004; 77(4): 1245-9.
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20. Karthik S, Srinivasan AK, Grayson AD, Jackson M, Sharpe DA, Keenan DJM, Bridgewater B, Fabri BM. Limitations of additive EuroSCORE for measuring risk stratified mortality in combined coronary and valve surgery. *Eur J Cardiothorac Surg* 2004 Aug; 26(2): 318-22.
21. Bridgewater B, Grayson A, Jackson M, Brooks N, Grotte GJ, Keenan DJM, Millner R, Fabri B, Jones M. Surgeon specific mortality in adult cardiac surgery: comparison between crude and risk stratified data. *BMJ* 2003; 327: 13-17.
22. Al-Ruzzeh S, Ambler G, Asimakopoulos G, Omar R, Hasan R, Fabri B, El-Gamel A, DeSouza A, Zamvar V, Griffin S, Keenan DJM, Trivedi U, Pullan M, Cale A, Cowen M, Taylor K, Amrani M. Off-pump coronary artery bypass (OPCAB) surgery reduces risk-stratified morbidity and mortality: a UK multi-centre comparative analysis of early clinical outcome. *Circulation* 2003; 108 (suppl 1): 11-1-11-8.
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24. Karthik S, Musleh G, Grayson A, Keenan DJM, Hasan R, Pullen M, Dihmis W, Fabri B. Effect of avoiding cardiopulmonary bypass in non-elective coronary artery bypass surgery: a propensity score analysis. *Eur J Cardiothorac Surg* 2003; 24: 66-71.
25. Musleh G, Patel N, Grayson A, Pullan M, Keenan DJM, Fabri B, Hasan R. Off-pump coronary artery bypass surgery does not reduce gastrointestinal complications. *Eur J Cardiothorac Surg* 2003; 23: 170-174.
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Peer reviewed - Case Reports:

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2. Chaugle H, Parchment C, Keenan DJM. Overdose of tetracycline pleurodesis leading to chemical burns of the pleura. *Eur J Cardiothorac Surg* 1999; 16(4), 469-70.
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8. Keenan DJM, Kieso HA, Johnson AM, Ross JK. Acquired aorto-pulmonary fistula-case report. *Thorac Cardiovasc Surg* 1984 June; 32(3):190-2.
9. Keeton BR, Keenan DJM, Monro JL. Anomalous origin of both coronary arteries from the pulmonary trunk. *Brit Heart J* 1983 Apr; 49(4): 397-9.
10. Keenan DJM. Tuberculous pyloric stenosis. *Brit J Surg*, Jan 1981; 68 (1):44.

Chapters written:

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2. Keenan D. Measuring surgical performance. ENT News. 2009; 18(3); 58-60.
3. Alexander Y, Heagerty T, Keenan DJM. Vascular calcification, characteristics and pathological characteristics. In: Rowlands DJ, Clarke B, Eds. Recent Advances in Cardiology 15. London: Royal Society of Medicine Press Ltd. 2008: 21-42.
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