

Mrs Andrea Roalfe BSc, MSc

Head of Statistics

Primary Care Clinical Sciences

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About

Andrea Roalfe is the Head of Statistics in the Primary Care Clinical Sciences unit of the School of Health and Population Sciences

Andrea is an applied medical statistician experienced in analysing large observational studies and clinical trials. She provides a statistical consultancy service to senior academics in Primary Care Clinical Sciences and also assists junior researchers plan their studies. She sits on the Primary Care Clinical Research & Trials Unit (PC-CRTU) New Business Committee, vetting new research proposals, and is a member of numerous project steering committees.

She has published over 60 research papers in scientific journals and has received grants from the National Institute for Health Research, The Health Foundation and the Medical Research Council.

Qualifications

- MSc Medical Statistics and Information Technology, University of Leicester 1997
- Fellow of Royal Statistical Society 1994
- BSc (Hons) Computing and Statistics, Cardiff University 1985

Biography

Andrea graduated from Cardiff University with a BSc (Hons) in Computing and Statistics in 1985. She then spent 12 years working as a statistician for the West Midlands Regional Health Authority & NHS Executive. During this time she completed an MSc in Medical Statistics at the University of Leicester. She joined the Department of Primary Care and General Practice (now Primary Care Clinical Sciences) at the University of Birmingham in 1997 as a Research Fellow and was promoted to Senior Lecturer in Medical Statistics in 2006. She has worked in a variety of clinical research areas including dyspepsia, irritable bowel syndrome and thyroid disease but more recently focusing on cardiovascular research. Projects have included large screening studies estimating the prevalence of heart failure (ECHOES) and sub-clinical thyroid disease (BETS); and randomised controlled trials including warfarin versus aspirin for stroke prevention (BAFTA), Birmingham Endoscopy Study, and Irritable Bowel Syndrome Hypnotherapy Trial.

She has been actively involved in the design of several cluster randomised trials, and is currently responsible for the statistical analysis of the HTA funded OTCH cluster randomised trial, assessing the efficacy of occupational therapy for residents with stroke in UK care homes.

Her present interests include feasibility and pilot studies, clinical prediction rules, validation and standardisation methods.

Her past teaching experience includes the design and delivery of short courses in statistics for Innovation in Practice-based Research for Optometrists (iPRO) and the Research Support Facility (RSF).

Teaching

Teaching Programmes

- [BMedSci Intercalated Degree \(/undergraduate/courses/med/biomedical-science.aspx\)](#)
- [Masters in Public Health \(/postgraduate/courses/taught/med/public-health.aspx\)](#)

Research

RESEARCH THEMES

Medical Statistics, Clinical Trials, Screening Studies, Observational studies, Pilot studies, Standardisation Methods, Cardiovascular Disease (Heart Failure, Stroke), Exercise, Thyroid Disease, Gastrointestinal disease (Dyspepsia, Irritable bowel disease)

RESEARCH ACTIVITY

Stroke

Andrea is lead statistician for BAFTA. This trial of thrombo-prophylaxis in elderly patients with atrial fibrillation (AF) showed that even among elderly patients with AF, anticoagulation with warfarin was superior to aspirin for primary stroke prevention. The BAFTA follow-up study is currently underway.

Exercise

Andrea is currently lead statistician on exercise intervention trials for reducing menopausal symptoms (ACTIVE WOMEN) and postnatal depression (PAMPeRS). She is also an applicant on several other funded physical activity trials.

Heart Failure

ECHOES (Echocardiographic Heart of England Screening study)

Andrea continues to work on ECHOES, one of the world's largest, intensively phenotyped and well cited cohorts of heart failure and left ventricular systolic dysfunction. Information was collected on over 6000 participants in the West Midlands including data on diagnosis, quality of life and mortality. The follow-up screening study of these participants, ECHOES-X, is due to be completed in 2011.

The MICE rule

Andrea was heavily involved with the development and validation of a clinical decision tool, to optimise referral for echocardiography of people identified in primary care with suspected heart failure. Research is now focusing on the prospective validation of the rule in GP practices (REFER).

IBS

As a key member of the Birmingham Irritable Bowel Syndrome Research Group, Andrea was involved with the development and validation of the Birmingham IBS Symptom Questionnaire. This tool is currently being utilised in clinical trials in the UK, Germany, Canada, Australia and the USA.

Publications

Tait L, Roalfe AK, Mant J, Cowie MR, Deeks JJ, Iles R, Barton PM, Taylor CJ, Derit M, Hobbs FD. **The REFER (REFer for Echocardiogram) protocol: a prospective validation of a clinical decision rule, NT-proBNP, or their combination, in the diagnosis of heart failure in primary care. Rationale and design.** (<http://www.ncbi.nlm.nih.gov/pubmed/23110558>) *BMC Cardiovasc Disord*. 2012 Oct 30;12:97. doi: 10.1186/1471-2261-12-97.

Roalfe AK, Mant J, Doust JA, Barton P, Cowie MR, Glasziou P, Mant D, McManus RJ, Holder R, Deeks JJ, Doughty RN, Hoes AW, Fletcher K, Hobbs FDR. Development and initial validation of a simple clinical decision tool to predict the presence of heart failure in primary care: the MICE (Male, Infarction, Crepitations, Edema) rule. *European Journal of Heart Failure*. June 2012.

Roalfe AK, Bryant TL, Davies MH, Hackett TG, Saba S, Fletcher K, Lip GY, Hobbs FD, Mant J; on behalf of the BAFTA investigators. **A cross-sectional study of quality of life in an elderly population (75 years and over) with atrial fibrillation: secondary analysis of data from the Birmingham Atrial Fibrillation Treatment of the Aged study.** (<http://www.ncbi.nlm.nih.gov/pubmed/22581625>) *Europace*. 2012 May 10.

Hobbs FD, Roalfe AK, Lip GY, Fletcher K, Fitzmaurice DA, Mant J. **Performance of stroke risk scores in older people with atrial fibrillation not taking warfarin: comparative cohort study from BAFTA trial.** (<http://www.ncbi.nlm.nih.gov/pubmed/21700651>) *BMJ* 2011 Jun 23;342:d3653. doi: 10.1136/bmj.d3653.

Parle J, Roberts L, Wilson S, Pattison H, Roalfe A, Haque MS, Heath C, Sheppard M, Franklyn J, Hobbs FD (2010). **A randomized controlled trial of the effect of thyroxine replacement on cognitive function in community-living elderly subjects with subclinical hypothyroidism: the Birmingham Elderly Thyroid study.** (<http://www.ncbi.nlm.nih.gov/pubmed/20501682>) *J Clin Endocrinol Metab*, 95(8):3623-32.

Mant J, Roalfe A, Barton P, Cowie MR, Glasziou P et al. (2009) **Systematic review and individual patient data meta-analysis of diagnosis of heart failure, with modelling of implications of different diagnostic strategies in primary care.** (<http://www.ncbi.nlm.nih.gov/pubmed/19586584>) *Health Technol Assess*. 13(32):1-232

Roalfe AK, Holder RL, Wilson S (2008). **Standardisation of rates using logistic regression: a comparison with the direct method.** (<http://www.ncbi.nlm.nih.gov/pubmed/19113996>) *BMC Health Services Res*, 8(1): 275.

Roalfe AK, Roberts LM, Wilson S (2008). **Evaluation of the Birmingham IBS symptom questionnaire.** (<http://www.ncbi.nlm.nih.gov/pubmed/18651941>) *BMC Gastroenterol*, 8:30.

