## **Appendix S1. UK GARFIELD-AF Investigators**

D Fitzmaurice, W Murdoch, N Chauhan, D Goodwin, L Lumley, R Patel, P Saunders, B Wong, A Cameron, P Saunders, N Patel, P Jhittay, A Ross, M Kainth, K Ladha, K Douglas, G Pickavance, J McDonnell, L Handscombe, T Gooding, H Wagner, D Cumberlidge, C Bradshaw, C Bromham, K Jones, S Suryani, R Coates, B Sarai, W Willcock, S Sircar, J Cairns, A Gilliand, R Bilas, P Hutchinson, A Wakeman, M Stokes, G Kirby, B Vishwanathan, N Bird, P Evans, M Clark, J Bisatt, J Litchfield, E Fisher, T Fooks, R Kelsall, N Paul, E Alborough, M Aziz, C Ramesh, P Wilson, S Franklin, S Fairhead, J Thompson, H Chowan, G Taylor, J Wakeling, D Tragen, M Parfitt, C Seamark, C Paul, M Richardson, A Jefferies, H Sharp, H Jones, C Giles, M Bramley, P Williams, J Aldegather, S Wetherell, W Lumb, P Evans, F Scouller, N Macey, S Rogers, Y Stipp, R West, P Pinney, P Wadeson, J Matthews, P Pandya, A Gallagher, T Railton, E Davies, J McClure, M Jacobs, C Hutton, R Thompson, B Sinha, K Butter, S Barrow, H Little, D Russell, U Choudhary, I Hag, P Ainsworth, C Jones, P Weeks, J Eden, L Gibbons, J Glencross, A MacLeod, K Poland, C Mulolland, A Warke, P Conn, D Burns, R Smith, R Kamath, J Webster, I Hodgins, S Vercoe, P Roome, H Pinnock, J Patel, A Ali, N Hart, R Davies, E Stuart, C Neden, M Danielsen, P Sharma, S Galloway, C Hawkins, R Oliver, M Aylward, M Pattni, G Irvine, S Ahmad, C Rothwell, F Choudhary, S Khalague, S Short, S Peters, W Coulson, N Roberts, A Butler, S Coates, B Ward, D Jackson, S Walton, D Shepherd, T Wong, M Boon, M Deacon, D Cornelius, S Davies, B Frankel, N Hargreaves, H Choi, J Sumner, T Myhill, S Estifanos, D Geatch, J Wilkinson, R Veale, K Forshaw, R Hirst, K Zaman, C Liley, R Wastling, P McEleny, A Beattie, P Cooke, M Wong, M Pugsley, C Dooldeniya, G Rogers, J Bennett, P Jacobs, R Muvva, M Adam, R Fox, N Thomas, S Cartwright, R, Reed, S Randfield, C A'Court, A Flynn, A Halpin, S Suryani, S Dobson, L Lomax, M Nadaph, I Munro, J Goram, H Stoddart, P Simmons, J Shewring, E Bowen-Simpkins, M Rickenbach, P Jacobs

## Box S1. Definition of bleeding events

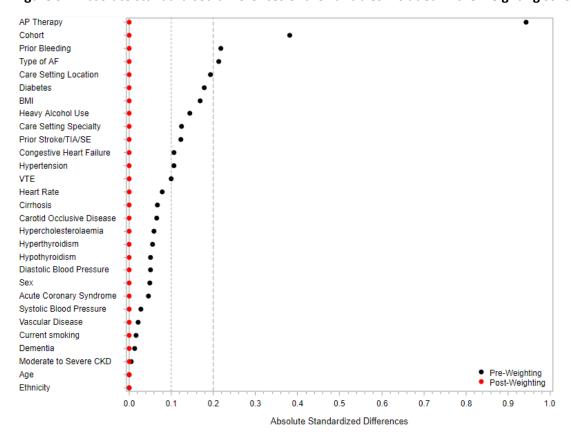
Major bleeding was defined as clinically overt bleeding that is associated with:

- A fall in haemoglobin of 2 g/dl or more, or
- A transfusion of 2 or more units of packed red blood cells or whole blood, or
- A critical site: intracranial, intraspinal, intraocular, pericardial, intra-articular, intramuscular with compartment syndrome, retroperitoneal, or
- A fatal outcome

Non-major clinically relevant bleeding was defined as overt bleeding not meeting the criteria for major bleeding but associated with medical intervention, unscheduled contact (visit or telephone call) with a physician, (temporary) cessation of registry treatment, or associated with discomfort for the subject such as pain or impairment of activities of daily life.

Minor bleeding - All other overt bleeding episodes not meeting the criteria for major or non-major clinically relevant bleeding was classified as minor bleeding.

Figure S1. Absolute standardised differences of the variables included in the weighting scheme



## **Box S2. Treatment changes**

Discontinuation of anticoagulation, defined as withdrawing from anticoagulant treatment for 7 or more days, was calculated in patients who enrolled in Cohorts 3-5. (This was because improved data collection from cohort 3 with good data on timing of treatments). In the UK cohort 14.1 % (12.5, 15.6) discontinued anticoagulation (n=264). Restricting to Cohorts 3-5, of the 677 patients on NOAC, 14 (2.1%) switched to a VKA within the 2-year follow-up. Among the 1173 patients on VKA, 130 (11.1%) switched to a DOAC within the 2-year follow-up.