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Major imaging study uses Siemens MR technology to transform disease research

UK Biobank, a world-leading health research resource, is putting preparations in place for a study to help scientists gain a more detailed understanding of a wide range of diseases including dementia, cancer and heart, bone and brain disorders. Drawing on the MR imaging capabilities of a MAGNETOM® Aera and a MAGNETOM Skyra from Siemens Healthcare, it is expected to be the most detailed study of its kind ever undertaken. The MR systems will be used to obtain the crucial translational research images of participants' hearts and brains. Bone scans and scanning of the carotid artery (in the neck) are also planned.

Funded primarily by the Department of Health, Medical Research Council and Wellcome Trust charity, UK Biobank will monitor the health of 500,000 Britons over many years. The imaging part of the project, due to take place in spring 2014, will be the first time researchers have attempted to image so many people in a single study. It is anticipated the research will provide additional information for scientists and clinicians seeking to develop a better understanding of illnesses that cause disability, pain and premature death.

The MAGNETOM Aera and Skyra MR systems feature 48 RF channels as standard and lightweight coils. The systems' Open Bore design with a 70cm wide aperture, allows a wide variety of body types to be scanned either feet or head first, significantly improving comfort for research participants. The systems also feature Tim™ 4G (Total imaging matrix) and Dot™ (Day optimising throughput) technology integration for high resolution imaging, enhanced productivity and improved efficiency.

“UK Biobank is the major health research success story of recent decades. Our

500,000 participants have already provided lots of information about their health, lifestyles and wellbeing, as well as blood, urine and saliva samples for long-term storage and analysis, including genetic research,” states Professor Rory Collins, Principal Investigator at UK Biobank. “Adding this detailed extra information will help in many ways. For instance, it may help to identify early changes that indicate the start of disease, and it may suggest new ways to slow that process, or to prevent the disease altogether.”

“Siemens MR technology is already pivotal to many imaging research projects across the UK and we are delighted to take this one step further by taking part in one of the most detailed imaging studies of its kind,” states Jane Kilkenny, MR Business Manager at Siemens Healthcare. “We look forward to supporting the project with the MAGNETOM Aera and Skyra’s excellent image quality and rapid acquisition times, with the end goal of producing images of a quality that can help with pioneering research into the cause and treatment of major diseases.”

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Picture caption: The MAGNETOM® Aera and a MAGNETOM Skyra from Siemens Healthcare were delivered to UK Biobank for a study to help scientists gain a more detailed understanding of a wide range of diseases.

