

**Steve Garratt – 22<sup>nd</sup> September 2015**

	<p>Good evening everybody. So my name's Steve Garratt and I'm the Senior Project Manager in charge of the imaging study that we're running currently out of Stockport. I've been in charge of the project now since the Summer of 2012 which is... the time's flow by and that was when we actually submitted the first initial funding application to the Wellcome Trust and the MRC in order to run our project but you know an awful lot of work that had gone on sort of 5 or 6 years, even before I came on-board.</p>
_00:00:39_	<p>Now I spent a number of those years hoping to procure the equipment in setting up the centres and we actually opened to scan our first participant in May last year so we've been open around 18 months now and I don't know, I'm assuming a reasonable proportion of you in here will at least received an invitation or been along... anybody?</p>
_00:01:04_	<p>No, well there you go that's... the invitation will be coming!</p>
_00:01:13_	<p>So what is the imaging project? This is good actually I can talk to people who don't necessarily know anything about it. So the imaging study itself is an ambitious project which we think will take about 7 years to complete operating out of 3 distinct imaging centres. We have the Coordinating Centre which is just South of Manchester and then we'll have another one in the South of England and another one in the North East so this is different from the original baseline study where we opened up lots of little centres all around the place because these centres are very big and very expensive to set up and pretty much impossible to move.</p>
_00:01:53_	<p>It's going to take around £35 million in funding and the aim is to get 100,000 participants so 20% of our cohort, 1 in 5 of you we hope to get through the imaging project.</p>
_00:02:08_	<p>So when I talk about the imaging project there are actually several different imaging stages to it and that's one of the things that makes this project quite unique. So we will aim to do a three tesla which is a strength of magnet, three tesla brain scan that's on a Siemens Skyra Scanner and that scan looks at anything to do with your brain. So the volumes of different areas of your brain as well as the total capacity of the brain itself. Looking at structures and also the connectivity within the brain so that gives you lots of very interesting information. We then do a cardiac and an abdomen scan on the same scanner one after another and that's on a Siemens Aero Scanner. The cardiac scan as you would expect looks at both the structure and the function of you heart, how well it pumps and the abdomen scan is actually pretty much full body. It goes from the knee to your shoulder and we're primarily looking at fat within your bodies so you may have heard about fat on the inside versus fat on the outside so there is a lot of research at the moment looking at how the fat is distributed within yourselves so people with very similar BMI's can actually have fat in very different places so that's really interesting piece of study we're doing.</p>
_00:03:35_	<p>We also do a dual echo x-ray dexa scan and that's primarily looking at bone density, looking for osteoarthritic changes things like that and we also do a carotid ultra sound using a Panasonic Cardio Health Station so we run a little ultra sound scanner, exactly the same as you would have to go and look at a baby when you're pregnant but we run it up the neck and we get the thickness of your carotid artery which is a key indicator of certain diseases and we'll also be able to look at things like plaque volume in there as well.</p>
_00:04:18_	<p>So the scientific value really is immense when put into the picture of every other little bit of data that we have. So we can start doing these different associations with all sorts of different aspects of your health and again the size, I mean 100,000</p>

	<p>images means that again we can do these generalizable studies, we can look for certain people with certain illnesses and look at their images before they actually started to present with the illnesses and we can start linking all of the different things that we have so you can start looking at the links between brain volume and alcohol consumption and dementia and you can start looking at genetics, looking at certain things that people have in common with the fat that I've just mentioned you can look at visceral fat volume against the physical activity monitors that my colleague's going to talk about shortly and link with the diet questionnaires that we're sending. So the amount of information we're able to pull together to start looking for these linkages is immense really and you know going back not even 50 years you know, nobody had the link between lung cancer and cigarette smoking and it was through an epidemiological study similar to this that that made that linkage. So that's the sort of thing that in 20, 30, 40 years' time we're hoping to look back and say "oh it's obvious, it's obviously that this and this combined will make you ill".</p>
_00:05:53_	<p>So as I think was mentioned before we're actually in this feasibility stage at the moment in phase 1 and we're looking to scan around 7,000 participants from the North West over a period of about 18 months so we're nearing the end of that and we've actually submitted our report into what we think is a success of the feasibility study to our funders. This was run out of South Manchester and was done with initial funding of £9.5 million provided by the MRC. Just to put this in context, this again, this is a pilot study, this is to see whether we can do it. The next biggest imaging studies in the world, so there's a study in Rotterdam there's something called Naser and the Ship study in Germany, they have around 5,000 participants in total and they're finished or moving along much more slowly and most of those are in just one or two modalities. So focussing on the heart for example, so we've already outstripped those studies and we have all of these different types of medical imaging available to us so it's really really amazing stuff.</p>
_00:07:07_	<p>So to date we've actually at the start of this week scanned 5,765 participants so we're well on our way to the 100,000 target.</p>
_00:07:24_	<p>So this is the rather beautiful imaging centre as I say in an industrial estate in Cheadle, Stockport and this was chosen for two very good reasons, one it's where we're based to it makes it very easy to manage the operations out of there but secondly we effectively have a large warehouse so it was incredibly quick and cheap to install these scanners. We literally lifted up the roller doors at the front of the building, rolled the machines in and built a room for them to go in. So a couple of photos, this is the scanner being delivered on a lovely summers day, it was completed and this is what the scanner looks like, nice bright and breezy room, large bore scanner so anybody with fears or claustrophobia should hopefully have their fears allayed and this is the Skyra, cunningly similar.</p>
_00:08:25_	<p>So at the moment we're operating out of this Cheadle Centre but we are recruiting from all over this area and in fact we are recruiting people from as far as Nottingham and Birmingham. We are... we're sending invites out to about 120km but some people a little bit further than there.</p>
_00:08:45_	<p>The idea is that we can scan 18 participants a day and you come in in groups of 3. We start at 8.00 in the morning and I know this says 10 o'clock at night but that's a real extreme, we're normally done for about 8 o'clock in the evening and we have six appointment slots throughout the day every couple of hours and the visits last approximately 4 hours. The imaging side of that is a little over 2 hours by the time you've got changed into sort of normal MR safe clothing but then we do a further repeat of the baseline visit. So you'll go through the touchscreen questionnaire,</p>

	physical measures, have your samples taken again. So it's about 4 hours depending how quickly or slowly you do the touchscreen questionnaire.
_00:09:35_	And this is how we arrange the visit. So you come in and you go through your registration. You have another consent process to go through because the terms of the consent are a little bit different. You go through a pre-screening process which is very important. So when you receive your invitation you will actually be asked to telephone. So for the original baseline you were given a slot and asked to turn up for that slot and only call if you couldn't make it. So for this you have to ring up and you have to go through a little questionnaire to check that it's safe to scan you. So the obvious thing if you've ever had metal go into your eyes and you're not sure if that metal's still there or not we don't really want to put your head inside a powerful magnet. That wouldn't be nice and again for the research we're wanting to do it's just not worth the risk so we won't do that.
_00:10:28_	But there's actually also a quality side of things as well. So if for example you've had a hip replacement then some of the images just we'd not be able to use them. So at the moment we're saying that in that case you won't be invited to come in for a scan. Now depending how many people we are able to scan we may or may not decide to change that and start inviting people who have been excluded on quality purposes rather than for safety. So don't be too dismayed if you are turned down at this stage.
_00:11:04_	So then what you'll do one you're changed you'll go through into one of three stations. You'll either have your heart and abdomen scan or your brain scan or your carotid ultrasound and they all last roughly the same amount of time. You'll come out of there and then everybody swaps and you'll do one of the other stations and then you'll come out of there and everybody swaps and meanwhile, the next group of people have come in and are going through their consent and registration pre-screening so that when you are completed the 3 stations the next 3 people are ready to go in again. So it really has to work very very swiftly very smoothly and we can't have any downtime really if we want to do this in the time we have available and it really does make a difference. I think if we were only able to get through 15 participants in any one day then the project would run for nearly a year longer and it would cost over a million pounds more. So it's really crucial that we get this as smooth as we can.
_00:12:03_	I want to touch on the incidental findings process that Soren spoke about very briefly before, something that they were very much involved in. So ordinarily if you go for an MR scan it will be looked at by a Radiologist, by a doctor but the cost of having that done for 100,000 was too great for the project to bear so we have this incidental findings policy where we say that the images will be looked at by a Radiographer because a Radiographer is a person who captures your images, who actually puts you inside the scanner and runs the process. Now if the Radiographer sees something then they will refer it to a Radiologist to review. If the Radiologist then thinks that there is something potentially serious in there and we do have a definition for potentially serious which I'm going to read out. So a definition of potentially serious is it carries a real prospect of significantly threatening life or substantial impact on your life okay. So if it meets those criteria's then we will send you a letter to tell you about that and we will also contact your GP and tell you about that okay. Having said that don't think of this as a free health check because a Radiologist won't necessarily look at it and becomes of the sheer volume of participants that we're putting through this process, the Radiographer could very easily miss something. Again they are research scans so if we're talking about the abdominal scan which is there to look for fat to monitor fat, it's really not there to

	<p>look for detail. So we might see something in, I don't know for example in your kidney and we can't tell what it is and if it's spotted a Radiologist will look at it and he won't be able to tell what it is so you would get a letter and this is where the real significant... the real prospect of significantly threatening life becomes a little bit vaguer. So if it's a cancerous thing/shadow that we see then it would have real prospect of impacting your life but it might not be because we can't tell because it's a research quality scan. So I don't want to terrify you all and make you not want to take part in the study but I do want to try and make it clear that we have this ethical duty to report these things back to you and it's really important that we have that process in place but, it has its problems it's not necessarily as clear-cut as one might think with MR these fancy expensive machines they're bound to be able to see what the matter is. So a little word of caution there.</p>
_00:15:02_	<p>Having said that the feedback we've had is fantastic. So we have 90% of participants, we ask you to complete a little feedback survey at the end of the study, 90% of the participants say that they'd be prepared to come back again and do it all over again. 95% rate us as good or excellent. 90% would recommend a friend! So all really positive and should you get an invitation I really hope that you will seriously consider taking part.</p>
_00:15:35_	<p>I'll just leave this here with all the very important people who've made this possible, the incredible scientists who've had feedback into this process but other than that if anybody has any questions?</p>
	<p><b>ENDS 00:15:49</b></p>