Currently the majority of research activity within the Directorate is centred around translational research in Dermatology and Ophthalmology. However, there are close collaborative links with plastic surgery who support lab-based skin research. Moreover, the Directorate structure and our academic and subject links, means there is significant potential for interaction to encourage and support research within the whole directorate and to increase NIHR-funded and portfolio activity.

**Dermatology:** Newcastle was the first academic dermatology department in England and has a long-standing history of excellence in translational research. We have strong links with Newcastle University. Reynolds and Haniffa hold substantive appointments in ICM and Rajan is based in IGM. Non-clinical dermatology PIs Birch-Machin, Lovat and Reichelt within ICM collaborate with clinical PIs, ACFs and training fellows. Grant income within dermatology over the last 5 years was >£3.8M. Over the last 3 years 950 patients were recruited into Dermatology NIHR portfolio studies within Newcastle Hospitals; additionally annual recruitment increased by 225% between 2010/11 and 2012/13. Major translational discoveries within the last 2 years include: role of apoptosis in clearance of psoriasis by UVB (Reynolds, *J Invest Dermatol* 2011, Faculty 1000); prophylactic penicillin in preventing cellulitis (Reynolds, *N Engl J Med* 2013); paradigm shifting classification and functional analysis of dendritic cells in human skin (Haniffa, *Immunity* 2012 and 2013); role of TRK signalling in pathogenesis of cylindroma tumours (Rajan, *Oncogene* 2011, *J Pathol* 2011). This latter work has recently resulted in the award of £521K from the Health Innovation Challenge Fund (DOH/Wellcome Trust). Our NHS clinicians are research active. For example, Hampton is Principal Investigator on a RfPB NIHR grant comparing localised PUVA with narrowband UVB for hand eczema (£208K).

Newcastle provides one of the strongest training environments within dermatology in the UK. Since 2008, three of our SpRs have been awarded the only Wellcome Trust Intermediate Fellowships in Dermatology (two are based in Newcastle). We were one of three national centres awarded ACFs in dermatology; we have one ACF in post and one starting 1 August 2013.

**Ophthalmology:** Yu-Wai-Man and Clarke hold substantive University appointments with strong links to the IGM and interactions particularly with Professors Lako and Chinnery. Ophthalmology have been particularly successful in securing competitively externally funded research grants over the last 5 years raising >£4.3M, including >£1.7M from NIHR/MRC Translational Research grants and > £250K from NIHR funded trials and projects. A major focus is human embryonic stem-cell and human induced pluripotent stem-cell transplantation. Other important areas include the role of mitochondrial DNA abnormalities in inherited optic neuropathies and the identification of neuroprotective agents for patients with Leber's hereditary optic neuropathy, an important cause of mitochondrial blindness. Major discoveries over the last 3 years include vision abnormalities in Parkinson’s disease and Parkinson’s disease dementia (*Brain* 2013), a randomised placebo-controlled trial of idebenone in Leber's hereditary optic neuropathy (Yu-Wai-Man, *Brain* 2011), as well as differentiation of human pluripotent stem cells toward retinal photoreceptor cells (*Stem Cells* 2012). Ophthalmology provides an excellent training environment supporting 3 MRC/NIHR clinical training fellows over the last 5 years, 1 of whom (Yu-Wai-Man) recently secured an MRC clinician scientist fellowship. Currently 8 clinical and basic PhDs are supervised within Ophthalmology, along with 2 ACFs. Over the last 3 years 572 patients have been recruited to Ophthalmology NIHR portfolio studies within Tyne and wear CLRN; moreover, annual recruitment increased by 230% between 2010/11 and 2012/13. Ophthalmology also has significant activity in commercial portfolio and non-portfolio studies (main PIs Talks and Figueiredo) and has a major supporting role in SBRU trials, which will be strengthened by two recent consultant appointments in medical retina and medical ophthalmology.

**Plastic Surgery:** the department collaborates in clinical research in many areas across the NUTH. Hodgkinson is lead investigator on two NIHR-funded projects - TOPS (timing of palatal surgery) and Cleft Care UK (second highest recruiter to this study in the UK).

**Our Directorate vision:** is to further capitalise on our excellent scientific and patient base to further increase MRC and NIHR-funded studies within the RVI, to further support and enhance our training environment, and to build on our external collaborations within industry. For example, our recent laboratory studies using an atopic eczema skin equivalent model have significantly reduced drug development time and led directly into a GSK Phase 1 clinical trial for atopic eczema patients. We also envisage increased opportunities for cross-disciplinary research within the Directorate.