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Annual Doctoral Student Conference
Book of proceedings
23rd April 2013

The School of Health Sciences is committed to providing a supportive learning environment for all its MPhil and PhD students.
Welcome to the School of Health Sciences inaugural Doctoral Student Conference.

The School is committed to providing a supportive learning environment for all of our MPhil and PhD students. A modern and interdisciplinary approach is central to the School’s research ethos. The aims of this School-wide conference are to provide the opportunity for our research students to gain experience and confidence in communicating and promoting their important research work, enable them to meet others engaged in doctoral research and strengthen our doctoral student community.

The breadth of conceptual, methodological, and logistical questions raised, confronted and overcome by our doctoral students is truly impressive. This book of abstracts highlights the rich and challenging array of doctoral research currently being conducted and supported within the School of Health Sciences.

I am confident that much of this research has the potential to be widely disseminated and influential across a range of professional areas and disciplines. It is evident from the quality of the abstracts presented that many of our doctoral students will go on to become research leaders of the future.

Professor Stanton Newman
Dean, School of Health Sciences,
City University London

Overview of the conference

9.00 - 9.30
Coffee and registration - Northampton Suite C, 4th Floor, University Building

9.30 - 10.00
Welcome - Northampton Suite A
Welcome and opening address from Professor Stanton Newman, Dean of the School of Health Sciences

10.15 - 11.35
Oral session 1A
Location: Northampton Suite A
Oral session 1B
Location: Room 307B
Oral session 1C
Location: Room 307C

11.35 - 12.00
Coffee and poster presentations - Northampton Suite C

12.00 - 1.00
Oral session 2A
Location: Northampton Suite A
Oral session 2B
Location: Room 307B
Oral session 2C
Location: Room 307C

1.00 - 1.45
Lunch and poster presentations - Northampton Suite C

1.45 - 2.45
Oral session 3A
Location: Northampton Suite A
Oral session 3B
Location: Room 307B
Oral session 3C
Location: Room 307C

3.00 - 3.30
Closing remarks - Northampton Suite A
Closing remarks from Professor Ken Grattan, Dean of the Graduate School, and presentation of poster prize
Overview of oral presentations

Session 1 - Oral presentations - 10.15 - 11.35

10.15 - 11.35

Oral session 1A
Location: Northampton Suite A
Chair: Dr Kathryn Waddington
BENATO, Rosa: Discursive Constructions of Transmasculine Identities and Sexual Orientations

Oral session 1B
Location: Room 307B
Chair: Dr Alhaya Subramanian
ABDEL-HAY, Ahmed: Early detection of Diabetic Retinopathy in Diabetic patients

Oral session 1C
Location: Room 307C
Chair: Prof Chris McCourt
OATES, Jennifer: The relationships between personal experience of mental health problems and subjective well being in UK mental health workers?

10.35 - 11.15

ROGERS, Mohamed Kemoh: Narratives of individuals and couples in relationships with one known HIV positive partner (serodiscordant relationships)

ALLISA, Ruba: Vision in subjects with hyperawareness of afterimages and “visual snow”

CHETTY, Sabah: Structured Illumination for low-cost three dimensional imaging of the human retina

IBRAHIM, Ghada H: The role of the health system on women’s utilization of maternal health services in Sudan

11.15 - 12.00

STOCKER, Robert: ‘We’re strange. We’re monogamous’: sex and commitment in the narratives of men who have married men (MMW)

LEE, Suzanne: Risk perception in women with high risk pregnancies

12.00 - 12.40

WICKWAR, Sadie: Predictors of Quality of Life (QoL) in patients with thyroid eye disease (TED) seeking orbital decompression surgery

TARIQ, Shema: ‘I just accept it, but in my heart it pains me because as a woman you have to breastfeed your baby.’ The impact of infant feeding decisions on African women living with HIV in London

TUFFOUR, Isaac: A Study of the Experiences of Black African Service Users (BASUs) of Mental Health Provision in England: An Interpretative Phenomenological Analysis

GAFOS, Mitzy: Intravaginal insertion in KwaZulu-Natal: sexual practices and preferences in the context of microbicide gel use

Session 2 - Oral presentations - 12.00 - 1.00

12.00 - 1.00

Oral session 2A
Location: Northampton Suite A
Chair: Dr Jitka Jancova
FTEROPOULLI, Theodora: In Good Heart: The Quality of Life of Adult Congenital Heart Disease Patient

Oral session 2B
Location: Room 307B
Chair: Dr Gill Craig
CLIFFORD, Gayle: Issues in cross-cultural interviewing in the Jamaican context

Oral session 2C
Location: Room 307C
Chair: Dr Julia Jones
ALTAWELI, Roa: Interventions use during the second stage of labour: An exploration of what affects their use in Jeddah, Saudi Arabia

12.20 - 1.00

McGLOIN, Sarah: The journey of ethical approval and access for data collection within the NHS

ROCCA, Lucia: An ethnographic study of the Barkantine Birth Centre

1.45 - 2.05

LEE, Suzanne: Risk perception in women with high risk pregnancies

PATTERSON, Emily: Can glaring light improve vision?

1.45 - 2.45

Oral session 3A
Location: Northampton Suite A
Chair: Prof Sally Hardy
WICKWAR, Sadie: Predictors of Quality of Life (QoL) in patients with thyroid eye disease (TED) seeking orbital decompression surgery

TARIQ, Shema: ‘I just accept it, but in my heart it pains me because as a woman you have to breastfeed your baby.’ The impact of infant feeding decisions on African women living with HIV in London

TUFFOUR, Isaac: A Study of the Experiences of Black African Service Users (BASUs) of Mental Health Provision in England: An Interpretative Phenomenological Analysis

Session 3 - Oral presentations - 1.45 - 2.45

1.45 - 2.45

Oral session 3B
Location: Room 307B
Chair: Dr Steve Gruppetta
LEE, Suzanne: Risk perception in women with high risk pregnancies

IACOVelli, Roberta: Gendered discourses in Speech and Language Therapy and Nursing: A review of the literature

1.45 - 2.05

ROCCA, Lucia: An ethnographic study of the Barkantine Birth Centre

PATTERSON, Emily: Can glaring light improve vision?

2.05 - 2.25

ROCCA, Lucia: An ethnographic study of the Barkantine Birth Centre

HOCKEY, Hannah: An investigation of skills involved in repeating real and nonwords and sentences

2.25 - 2.45

OVEN, Tom: Promoting quality of life in care homes

SAUNDERS, Luke: Avoiding a blind alley: Examining vision loss in patients with glaucoma during their predicted remaining lifetime

BEKAERT, Sarah: Challenges in choosing research methodologies (as a novice researcher)
that RG and YB colour thresholds can provide no DR often exhibited normal visual acuity (6/6), 0.048) or YB thresholds (r²=0.096). Patients with showed negligible correlation with either RG (r²=-0.008) and yellow-blue (YB) thresholds exceeding six times normal values).

The clinical grading of disease progression indicator of the severity of vision loss. Changes in visual function may, however, precede detectable structural damage. In this study Red-green (RG) and chromatic sensitivity (with mean RG and YB visual function tests were used to assess visual acuity (VA), colour sensitivity, chromatic afterimage strength and duration and pupil response amplitudes and latencies to chromatic stimuli. Preliminary results show that the VS patients exhibited normal VA, colour sensitivity and chromatic afterimage strength. Both controls and three of the VS patients exhibited pupil constrictions to the onset of the coloured stimulus, followed by recovery during the stimulus and a further constriction at stimulus offset. The pupil responses in three of the VS patients lacked the rapid recovery phase following the initial constriction to stimulus onset. The absence of pupil recovery suggests the presence of a more sustained retinal afferent signal that drives the pupil response and this may be linked to differences in retinal processing of visual signals that cause the perception of visual snow.

Interventions use during the second stage of labour: An exploration of what their use in Jeddah, Saudi Arabia and delivery ward policies and guidelines from those hospitals were also collected. Data were collected between October 2011 and September 2012 in Jeddah, after seeking ethical approval from City University London and from each of the hospitals involved in the study. All participant observations, interviews, field diary, and hospital documentation was recorded using a word processing package (Word 2010) and then transferred into qualitative data analysis software (QDAS (Atlas.ti 7), which was used for the data analysis. My first impressions of these data are that there are many interventions used during labour and births, which are influenced by many factors mentioned by the healthcare professionals during the interviews or observed during birth. These factors are likely, however, to cluster into a smaller number of broad themes. One of the major themes that I am currently analysing is the routine use of the Electronic Foetal monitoring (EFM).

Challenges in choosing research methodologies (as a novice researcher)

‘Choosing’ your methodology as a novice researcher from the history of research to date is a mammoth task and challenging. What is the best methodology for how I wish to explore pregnancy choices in teenage women? In my methodology journey I found five main
challenges. Firstly, knowing yourself: what are my motivations to doing this piece of research and where are these motivations situated within a research paradigm? I found I was coming from a Foucauldian feminist perspective, wishing to give women voice and explore possible power relations in decision making. Secondly, exploring my ontological and epistemological ideologies. I feel that knowledge is cocreated and that there are multiple truths - leading me to a post-positivist, social constructionist, hermeneutic approach. Thirdly finding a framework that reflects these paradigmatic approaches; one which allows for exploration of power in relationships and doesn’t reduce the participants’ voices. It was easier to identify what my research was not (making me a critical theorist). A further challenge was settling with ‘story telling’ or a narrative approach as it is a broad tool. I needed to accept that a narrative approach could be simple and how I would examine the women’s ‘stories’ to reflect my paradigms was my focus: using the Listening Guide (Gilligan et al 1982) and the Voice Centred Relational Method (Mauthner and Doucet 2003) - listening for plot, reader response, the voice of ‘I’, resistance and relationships. As a novice researcher, setting down one’s methodology is a race through the history of philosophy, a crash course in learning to articulate your position and aim in a credible language and framework. Being comfortable with the fact that your own work may sit in a less established area of research has been my main challenge.

BULÁ, Agatha
Exploring experiences with home-based peer support of exclusive breastfeeding in the context of HIV in the rural Malawi

Exclusive breastfeeding (EBF) for 6 months is ranked as the most effective way of feeding babies in Sub-Saharan Africa where HIV positive women are poor and infant mortality is high. However, mixed feeding is common, increasing risks of infant death due to malnutrition, diarrhoeal, HIV, and other infectious diseases. Community-based Interventions has proved effective in promoting EBF in poor settings. Results of Maltawana intervention in Malawi are underway. However, there was little attention on the needs of HIV positive women during the design and conduct of these interventions. The aim of this study was to explore the importance and experiences with implementing the intervention in Mchini, Malawi in the context of HIV.

Method: I purposively selected and conducted qualitative in-depth interviews with 39 key informants in Mchini, Malawi between January to August 2012 using a pre-designed interview guide. Responses were analyzed by Framework analysis. The study was approved by the Malawi National Health Sciences and City University London research ethics committees.

Results: HIV positive and negative women were supportive of the intervention for continuity of infant feeding counselling as volunteers spend more time with them. HIV positive women appreciated the visit because they had to tell their story to someone. However, some did not disclose their status due to fear of stigma and abandonment by family members present during the visit, making it difficult for counsellors to effectively provide counselling on EBF. Service users also find the intervention as not being cost-effective due to lack of time and money to travel to the hospital for other health services.

Conclusion: It is important for projects to consider the needs of HIV positive women when designing community-based interventions to reduce HIV transmission and deaths among infants. Integration of services is desired considering the levels of poverty and distance to health facilities.

CHETTY, Sabah
Structured Illumination for low-cost three-dimensional imaging of the human retina

Screening for retinal diseases is important in order to identify issues at an early stage. There are many existing technologies for imaging the retina, ranging from the cheap and simple, yielding 2D images, to more sophisticated but expensive instruments producing 3D images. This research aims to apply an established microscopy technique in a novel way in order to create a low-cost, simple alternative which is capable of giving 3D images. The technique involves imaging the eye using structured light for illumination, instead of even illumination as in conventional imaging. A set of images collected using this atypical illumination are fed into a algorithm in order to produce a higher resolution 3D image than possible with an equivalent conventional system. There are many parameters of the design which can be explored using simulation and this forms a core part of the research. The first laboratory-based prototype system will produce evidence for proof of concept, whilst the next prototype will be used to collect retinal images from participants.
Background and aim: Previous research provides mixed findings about the quality of life (QoL) of adult congenital heart disease (ACHD) patients and the differences in terms of disease severity. Methodological limitations hinder the ability to draw conclusions on the subject. The present study sought to explore the impact of disease severity on QoL by utilising four pre-defined severity groups of ACHD patients and the associations between medical, operative, and psychosocial factors and QoL.

Methods: A cross-sectional comparative study was conducted. Participants included 314 ACHD patients, aged 18-76, recruited from the Heart Hospital in London. Self-reported questionnaires assessing QoL, mood, social functioning, and other psychosocial measures were administered. Demographic and medical information was obtained from the hospital records. A series of Analyses of Variance (ANOVA) were performed to explore differences in QoL between the four severity groups. Correlations were performed to explore potential associations between the variables.

Results: Preliminary results indicate reduced QoL in the most severe group compared to the other groups. Certain medical, operative, and psychosocial factors strongly associated with QoL.

Discussion: Disease severity appears to have an impact on the QoL of ACHD patients. A number of medical, operative, and psychosocial factors were found to be associated with QoL. The present preliminary analysis lays important foundations for further group comparisons and regression modelling between the factors after the completion of a longitudinal assessment.
A randomised controlled study was conducted to determine the effectiveness of non-nutritive sucking as a tool for enabling effective transition to full oral feeding. Seventy-two premature infants were enrolled onto a randomised controlled study to determine the effectiveness of non-nutritive sucking as a tool for enabling effective transition to full oral feeding. Sixty-eight infants completed the study. Parents were trained to carry out the intervention which included coaching to recognise infant states and involved supporting the infant to develop oral readiness signs.

**Patients and methods:** Infants who participated were born between 26-42 weeks gestation and were recruited from a Level 3 inner city neonatal unit. Infants with neuro-disability were also included. Infants with no significant difficulties were randomly assigned to one of three groups: Group 1, non-nutritive sucking pre-tube feeding; Group 2, non-nutritive sucking on onset of tube feeding and Group 3, Control. Group 4 included infants with neuro-disability who were randomly assigned to each of the conditions.

**Results:** The authors found no significant differences between the groups receiving non-nutritive sucking and the Control group. Group 1, NNS on onset of tube feeding, n = 19; Group 2, NNS pre-NGT feed, n = 20; Group 3, Control, n = 20, X^2 (2, n = 59) = 4.33, p = .115. Number of days for these three groups ranged from 8-50 days with additional outcomes as follows:

- Group 1: NNS onset NGT = 16.5 days average (range 9-48); mode = 14 days; Group 3: Control = 23.9 days average (range 9-50); mode = 25 days. A one-way ANOVA between all four groups evaluated number of days in hospital between the Control group and the other three groups; it is suggested that this could be due to increased parent confidence as well as parental skill in identifying oral readiness signs and other infant non-verbal cues, thus leading to effective management.

**Conclusions:** Non-nutritive sucking did not impact significantly on the transition to full oral feeding. There was a significant difference in the number of days in hospital between the Control group and the other three groups; it is suggested that this could be due to increased parent confidence as well as parent skill in identifying oral readiness signs and other infant non-verbal cues, thus leading to effective management.
Significance: This study fills a current gap in research on women’s behaviour in seeking perinatal health services in Sudan. It provides insights on the factors that determine women’s decisions to use maternal services, and how these decisions are influenced by their previous experiences. Also, the study examines the challenges faced by women who used the perinatal health services in the future as well as identifying the reasons of not using maternal services among nonusers.

Methods: This study developed a new conceptual framework that has been developed based on the behavioral model of the contextual and individual influences on health services’ use which was developed by Anderson. The framework contains three interrelated components which are environmental and human resources for health and women’s characteristics; they represent the input of the model whereas maternal health services utilization constitutes the process of care. Also maternal health output, maternal health outcome, and health impact are the three other components that are included in the model. Each component contains a set of indicators that have been calculated based on the three data sets and the qualitative data.

Results: The synthesis resulted in the identification of six themes: determinants of risk perception; not seeing it the way others do; normality versus risk; if the baby is ok, I’m ok; managing risk; the lesser of two evils.

Conclusion: This metasynthesis suggests women at high risk during pregnancy use multiple sources of information to determine their risk status. It shows women are aware of the risks posed by their pregnancies but do not perceive risk in the same way as healthcare professionals. They will take steps to ensure the health of themselves and their babies but these may not include following all medical recommendations. Professionals working with women with high risk pregnancies should be aware of this to ensure communication is open, respectful and realistic.

The relationships between personal experience of mental health problems and subjective well being in UK mental health workers?

Recent surveys of NHS staff have identified that healthcare workers experience high levels of mental ill health and distress, and that they access and require health services differently to the general population. There has also been in recent years a policy push to employ people with personal experience of mental illness as mental health workers, based on an appreciation of their ‘expertise by experience.’ Most existing studies of mental health workers’ history relates to their well being and resilience.

The journey to gain ethical approval and access for data collection within the NHS

The journey to gain ethical approval and access for data collection is often a long and tortuous path. As a PhD candidate I have travelled some distance along this path and my travels on this journey continue and I feel it important and helpful to share my experiences for those about to embark on a similar path. The presentation will focus upon my experiences of the key stages of gaining ethical approval for a nursing study to be carried out within two National Health Service Trusts (NHS). My study involves face to face interviews with ex-intensive care unit patients to examine their perception of the nursing contribution to intensive care. These stages focus upon the accurate completion and submission of the Integrated Research Application System (IRAS) application form and the development of a clear and coherent protocol for the study. The role of other key documentation such as the Site Specific Information (SSI) form will be explored. The process of simply booking the local National Research Ethics Service (NRES) ethics committee meeting will be discussed as will the experience of attending such an event as a novice researcher. The role of the research passport will be examined and the importance of the letter of access will be considered. The need for research governance training and what this involves is also explored. Finally, the complexities of liaising with the research and development at each individual NHS Trust will also be examined. The presentation will be a frank and candid reflection of the journey I have undertaken. Through this I aim to help those about to commence a similar journey and the trials and tribulations they may also have to face on the way.
The aim is to provide a new and more accurate model for estimating changes in an observer’s sensitivity to image contrast in the presence of bright light sources. An example of this is the visual loss experienced in the glare of oncoming car headlights. However, a reduction in target object contrast, leading to poorer quality images, is not the only effect. Light scattered within the eye reduces the ability of the retina to detect changes in brightness. This is why visual performance predictions are less accurate in the presence of glare. A study was carried out to test a model that takes into account the effects of glare on sensitivity. The results showed that the current model provides a more accurate way of estimating changes in an observer’s sensitivity to contrast in the presence of bright light sources.

Promoting quality of life in care homes

Owen, Tom

Older people have identified the importance of having control over how they lead their lives and the care that they receive. This is also echoed in government policy across all four nations of the UK. However, there remains a lack of real understanding of what this looks like in care homes and how to make it happen. Through working in partnership with care homes across the UK and adopting an analysis process called Grounded Theory (Borkan, 1999), the research to date has gathered insights into good practice in supporting ‘voice, choice and control’ for older people; the vital role of leadership in helping to create a culture that enables older people to experience ‘voice, choice and control’; and the obstacles to supporting voice, choice and control and how stronger partnership-working between care homes, the community and the wider health and social care system can make a difference.

Can glaring light improve vision?

Patterson, Emily

Purpose: Light scattered within the eye reduces object contrast, leading to poorer quality images in the presence of bright light sources. An example of this is the visual loss experienced in the glare of oncoming car headlights. However, the addition of veiling light due to light scattering over the retina can improve the sensitivity of the cells within the retina. It is poorly understood how these two factors—a reduction in target contrast and a possible increase in retinal sensitivity—interact to affect overall sensitivity to contrast. We investigate how contrast is affected by glare source intensity, surround luminance and test target location on the retina. The aim is to provide a new and more accurate way of modeling changes in contrast sensitivity in the presence of glare.

Methods: 40 subjects with normal vision were investigated. A psychophysical flicker-cancellation test (Ophthalmic & Physiological Optics, 17, 171, 1997) was used to measure the amount and angular distribution of scattered light in the eye. Contrast thresholds were measured using the Contrast Acuity Assessment test (ASEM, 74, 551-559, 2003). Three glare source intensities (i.e. 0.135 and 19.21 lm/m2 in the pupil plane), three eccentricities (50, 100 and 150), and three background luminances (1.26 and 26 cd/m2) were investigated.

Results: As expected, sensitivity to contrast decreases in the presence of high intensity glare. However, in general, predictions of contrast based on scattered light overestimate the degradation of visual performance. By combining scatter-based predictions with a model of retinal sensitivity, the accuracy of predictions was improved.

Conclusion: In the presence of glare, observers tend to perform better than traditional methods of calculating image contrast would predict. The current model provides a more accurate way of estimating changes in an observer’s sensitivity to contrast in the presence of bright light sources.

An ethnographic study of the Barkantine Birth Centre

Rocca, Lucia

The Barkantine Birth Centre, opened in 2008, is a well-established urban freestanding birth centre with a target of 600 births/year. It is consistently achieving about 82% of spontaneous vaginal births and a similar percentage of normal births, keeping caesarean sections at 9% and instrumental birth at about 5%. Rates of normal birth within freestanding have also been reported nationally by the Birthplace Study. However, to date there is a knowledge gap regarding key elements in midwifery practice, environment, and organisation of care, which may potentially affect rates of normal birth. This ethnographic study aims to contribute to the theory generated in the arena of ‘how to keep birth normal’. This is the first ethnographic study of an inner city freestanding midwifery-led unit in the UK serving a multi-ethnic population. This is a post-critical ethnographic study carried out by an insider researcher, who has carried out fieldwork at the Barkantine from April 2011 to June 2012. Participants included birth centre service users and staff as well as stakeholders at the referral hospital. A total of 91 participants were recruited. The participants reflected the local multi-ethnic population. The fieldwork included participant observation, in-depth interviews, local operational procedures, guidelines and photographs. Audio recordings were transcribed and anonymised in order to maintain confidentiality. Analysis is currently being carried out using a constructionist Grounded Theory approach in order to develop a mid-range theory. Atlas.ti computer software is being used in order to manage the large amount of data but some manual analysis is still included. Constant comparative methods are being used throughout the analytic process. Two service users have helped at every stage of this project. The data is currently being analysed and emerging findings will be presented at the conference.

Narratives of individuals and couples in relationships with one known HIV positive partner (serodiscordant relationships)

Rogers, Mohamed Kemoh

Introduction: Knowledge about how the Human Immunodeficiency Virus (HIV) and Acquired Immune Deficiency Syndrome (AIDS) affect individuals and couples is changing. In order to understand the complexities of relationships where one person is known to be HIV positive, new theoretical constructions are needed. Within this qualitative PhD study, Strauss and Corbin’s (1990, 1998) grounded theory methodology was used to construct a substantive theory of serodiscordant relationships. Symbolic interactionism provided a theoretical framework to understand these relationships from the perspectives of “actors” for whom serodiscordance has symbolic meaning. This proposed oral presentation explores the interpersonal and social experiences of both the HIV positive and negative partners in serodiscordant relationships.

Method: Through direct involvement in data generation, transcribing, analysis and theory construction, the researcher repeatedly interacted with and immersed in the data. Ethical approval was granted by the South East London Research Ethics Committee (REC). Participants were purposively recruited from three NHS Genitourinary Medicines (GUM) clinics in North East London. Theoretical sampling focused on seeking to clarify concepts that emerged from data. 30 narratives were generated from 22 individuals and couples in current serodiscordant relationships. A qualitative data analysis software ‘Maxqda’ facilitated data management and analysis.

Findings: Analyses is ongoing but emerging themes include: (1) Experiencing challenges (2) Describing emotional impact of serodiscordance (3) Mistrusting own experience (4) Difficulties with disclosure within and outside of relationships.

Discussion: Albeit in different guise, HIV positive individuals and couples are confronted with psychosocial experiences and HIV is still a stigmatising disease with no cure. In order to understand and explain “how individuals and couples experience HIV serodiscordance”, it is essential to discover the meanings from those who interpret the relationships through symbolic interactions and interpretations.

Practical relevance: This research provides evidence that informs policy and develops interdisciplinary practice on HIV serodiscordant relationships.

Avoiding a blind alley: Examining vision loss in patients with glaucoma during their predicted remaining lifetime

Saunders, Luke

Glucoma is a chronic eye-disease that disrupts what can be seen in the visual field (VF) and can lead to irreversible blindness. Patients with glaucoma require continual monitoring with automated VF examinations, and are estimated to account for more than one million NHS clinic visits a year in the UK. One overall measurement of VF loss is represented by the mean deviation (MD). This study aimed to estimate the proportion of glaucoma patients in clinical care in the UK that are at risk of progressing to MD levels that correspond with visual disability in their lifetime.
Methods: Over 400,000 VF s from centres in London, Cheltenham and Portsmouth were retrospectively analysed. Deterioration rates for the VF s from the eyes of 3790 patients were calculated through regressing MD damage over time and individual patient residual life expectancies were used to extrapolate the level of MD damage at death. These MDs were compared against levels corresponding to visual impairment and statutory blindness. Novel colour coded motion plots written in R were used to explore MD loss simultaneously in both eyes over time against residual life expectancy.

Results: Of those patients with a series in each eye, 5.2% (95% CI: 4.5 – 6.0) were expected to progress to statutory blindness and a further 10.4% (95% CI: 9.4 – 11.4) were expected to reach visual impairment in their lifetime. 90.9% (CI: 85.7 – 94.3) of patients who progressed to statutory blindness had damage of -6dB in at least one eye at presentation.

Discussion: Only a small minority of glaucoma patients in clinical care, typically with worse damage at diagnosis, are at risk of progressing to visual impairment or statutory blindness. Efficient case finding methods are important in ensuring that patients do not suffer from visual disability in their lifetime.

STOCKER, Robert

‘We’re strange. We’re monogamous’: sex and commitment in the narratives of men who have married men (MWMM)

The sexual behaviour and relationship arrangements of male couples have been well documented in the sociological and health sciences literature. However, few studies have explored sex and commitment among men who have ‘married’ men (MWMM) in a legally sanctioned form (e.g. civil partnership). MWMM confront two sets of discordant discourses and norms into meaningful arrangements in their own lives. The majority reported monogamous relationships. Monogamy was more common among younger men, men in relationships of shorter duration, and men with minimal experience or engagement with gay sexual culture. Nine men reported arrangements that allowed for a degree of sexual non-exclusivity while also protecting their relationship, and partner, from emotional harm and sexual infection. Consistent with previous research this study finds that monogamy is not taken for granted but reflexively negotiated among male couples. Furthermore, the narratives of MWMM provide a more nuanced picture of same-sex couples who ‘marry’ uniformly acquiesce to emerging (homo) normativities.

TARIQ, Shema

‘I just accept it, but in my heart it pains me because as a woman you have to breastfeed your baby.’ The impact of infant feeding decisions on African women living with HIV in London

UK guidelines advise the avoidance of breastfeeding in HIV-positive women. Although this minimises the risk of mother-to-child transmission of HIV, the consequences of formula feeding (FF) on the mother are often overlooked. This may be important given that 75% of pregnant HIV-positive women in the UK are from African countries, where breastfeeding is socio-cultural normative. We conducted semi-structured interviews with 23 pregnant African women who were likely to breastfeed due to the complex social environment in which feeding decisions were embedded and that this was unlikely to be revealed to clinical teams.

Conclusions: The decision to avoid breastfeeding came at considerable personal cost to this group of women. Financial and psychological support increased women’s capacity to adhere to their decision. Professionals working with HIV-positive women should be aware of the difficulties encountered by women and provide appropriate support and education both antenatally and postnatally.

TUFFOUR, Isaac

A Study of the Experiences of Black African Service Users (BASUs) of Mental Health Provision in England: An Interpretative Phenomenological Analysis

This research focuses on the experiences of Black African Service Users (BASUs) utilising mental health services in England, with particular attention to their experiences of the recovery approach to health care delivery. It examines the meaning of recovery and its various processes. Studies on recovery in the UK context are explored, and the theoretical explorations of transcultural nursing and the perceived inequalities of services to ethnic minorities provide a foundation for investigating the present question. This qualitative case study inquiry draws from Interpretative Phenomenological Analysis in its methodological approach, as it seeks to explore the lived experiences of BASUs of the recovery oriented approach in the mental health care system in England. Entering this field of study from a phenomenological perspective provides a potential opportunity to consider the Recovery model’s cultural sensitivity, and provide additional insight into the model’s impact on this specific service user community, that continues to contribute significantly to mental health statistics in terms of higher rates of mental health experience and significantly high ratios for enforced detention.

WICKWAR, Sadie

Predictors of Quality of Life (QoL) in patients with thyroid eye disease (TED) seeking orbital decompression surgery

This study examined factors associated with the Quality of Life (QoL) of patients with TED seeking orbital decompression surgery.

Methods: Ninety-two adult patients with TED due to undergo orbital decompression surgery at Moorfields Eye Hospital, London were assessed on illness severity, activity and duration, the Graves Ophthalmology Quality of Life questionnaire (GO-QOL: two subscales; visual and psychosocial function), and the Hospital Anxiety and Depression Scale (HADS). Regression models were used to identify which factors were associated with QoL in this population.

Results: Participants were 71% female, 80% white, had a mean age of 47 years and a mean disease duration of 53 months. Clinical levels of anxiety were found in 39% and clinical levels of depression in 24%. The regression model accounted for 81% of the total variance in the GO-QOL psychosocial function scores. After demographic and clinical variables were controlled, socio-cognitive processes explained...
the most variance (25%) in psychosocial function scores ($p < 0.001$). The model explained 67% of the variance in the GO-QOL visual function scores. After demographic, clinical and socio-cognitive process variables were controlled for, anxiety and depression explained 15% of the variance in GO-QOL visual function scores ($p < 0.001$).

**Conclusions:** After accounting for clinical and demographic characteristics psychosocial variables made a large contribution in accounting for QoL. It is of note that a large proportion of this population experience clinical levels of depression and anxiety. This paper emphasises the importance that clinicians when planning surgery for TED patients, are aware of the psychosocial factors that could potentially influence outcome. Longitudinal studies would need to be conducted to explore direction of causality.

**Poster presentations**

**BASS FAGAN, Fabia**

**Development of a Quality of Life assessment for patients undergoing a Transcatheter Aortic Valve Implantation (TAVI)**

Transcatheter Aortic Valve Implantation (TAVI) is indicated as a less invasive treatment option for patients with severe, symptomatic Aortic Stenosis (AS), who are of great surgical risk. TAVI involves implanting a stent-based prosthesis through minimally invasive measures. AS has become the most frequent valvular heart disease within Europe and North America, affecting 2-7% of the population >65 years. AS is a chronic, progressive disease; severe symptomatic AS is associated with significant morbidity and mortality, producing a number of symptoms, leading to a poor prognosis. There is a developing field of research concerned with the creation, evaluation and implementation of quality of life measures within health services research. Currently the only research surrounding quality of life within the TAVI population are quantitative studies, using generic or non-disease specific quality of life assessments. No attempt has been made to create a disease specific quality of life assessment, nor has there been a qualitative research study within the TAVI field. The ability to evaluate quality of life post TAVI is particularly significant in the elderly population it was developed within due to their often extensive comorbidities and a disease specific quality of life assessment can offer an effective way in which to measure the effectiveness of treatment, as well as aiding decision making within the multi-disciplinary team when considering the use of TAVI.

**The aims of the research are:**
1. To explore the participants quality of life pre and post Transcatheter Aortic Valve Implantation (TAVI)
2. To develop a TAVI specific Quality of Life assessment
3. To validate the research findings amongst a proportion of the research participants in the form of member checking.

This research will use grounded theory methodology.

**BEHN, Nicholas**

**Communication and quality of life outcomes in people with acquired brain injury (ABI) following project-based treatment**

**Introduction:** Communication impairments are common following acquired brain injury (ABI) and have a significant impact on a person’s quality of life post-injury. Treatment approaches typically involve training appropriate social skills to a person with ABI or training strategies to a communication partner. However, neither of these approaches has been shown to improve quality of life. A viable yet largely unstudied alternative, project-based treatment, has been proposed where the person with ABI works collaboratively towards a common goal (or project), providing a meaningful, engaging and motivating environment. To date, no study has evaluated its effects for people with ABI.

**Methods/Procedures:** Twenty-four people with ABI with communication impairments will be selected to participate. Following initial assessment, a project-based treatment will be conducted twice weekly for 4 weeks (each session lasting 2 hours) in groups of three people. Twelve people will be allocated into a delayed treatment condition, in order to provide a control group. Immediate and longer-term follow up (2-4 weeks) assessments will be conducted. Treatment effects will be measured using quality of life questionnaires before and after treatment, and through blind ratings of conversations between the person with ABI and
a significant other. Finally, participants will be interviewed to explore their experiences of the treatment.

Significance: The study is significant as it will further our understanding of an alternative treatment of communication impairments for people with ABI. It is hypothesised that the treatment will have a positive impact on a person’s communication skills, insight and awareness and quality of life. It will also enable people with ABI to engage in a motivating and meaningful project. Family members and/or paid carers may also benefit by being involved in training to improve their communication skills. Finally, the results will have strong implications not only for speech and language therapists but also, other members of the interdisciplinary team (occupational therapists, physiotherapists, psychologists) and for other clinical populations, namely dementia and learning disability.

CAIN, Helen
A Prospective Study of Pre- and Early-Verbal Markers for Language Impairment

Background: Specific Language Impairment (SLI) and Autism Spectrum Disorder (ASD) are both developmental disorders which have a significant impact on language and communication skills. Because both disorders place children at risk of educational and psycho-social difficulties, early intervention in both cases is crucial. However, at the present time, little is known about the early development trajectories of the disorders, and what markers may be present even in infancy which will identify children who may go on to be diagnosed. This study aims to address this gap in knowledge by recruiting very young children and doing these markers predict language ability at 24 months of age?

Methods: The study will use two groups of “high-risk” infants and a control group, and will assess children at around 12 and 24 months of age. Children will be recruited to the high-risk groups on the basis of having an elder sibling with a diagnosis of either SLI or ASD. The children will be assessed using a “dynamic assessment” methodology, which measures how much support a child requires to complete a task, rather than simply whether or not they can complete it. Children will be video-recorded in play with a parent, which will be used to examine their non-verbal communication and spontaneous vocalisation. They will also participate in a more structured task with the researcher, which will assess their imitation skills and their receptive language.

3. Do early speech and pre-speech vocal behaviour differ across the three groups and do these markers predict language ability at 24 months of age?

DABASIA, Priya
The effects of spectacle correction of refractive error on results from the Moorfields Motion Displacement Test (MDT) Enhanced suprathreshold algorithm (ESTA)

Introduction/ Purpose: MDT is a software program that assesses the ability to discriminate movement of a line stimulus at various locations in the visual field (VF). Previous research demonstrated MDT to be a predictor of VF loss in glaucoma, and that MDT is robust to the effects of refractive error. However, other psychophysical vision-function tests (e.g., Zeiss Frequency doubling technology perimeter) recommend correction of refractive error for near spherical values exceeding +/-7.00DS. We investigated the effects of refractive error correction on ESTA in healthy eyes.

Results: Near refractive sphere at the testing distance was -7.75DS to +8.38DS. Global PTD test scores were significantly lower with spectacle correction compared to without (Wilcoxon signed rank test, p = 0.03). Pearson correlation between near sphere and global PTD without spectacle correction was weak (r² = 0.068, p = 0.268). Two subjects with normal VFs failed MDT both with and without spectacle correction. Specificity of MDT without spectacle correction was 0.65 (95%CI 0.41-0.84) rising to 0.85 (95%CI 0.61-0.96) with spectacle correction.

Conclusion: Correction of near refractive error is indicated when near refractive correction exceeds 4.50DS or 6.00DS. This is important if MDT is used as a community screening test where technicians may be unable to correct the near refractive error. Future research should refine the thresholds beyond which correction of refractive error is required, and include the effects of astigmatic defocus.

GALANTE, Lara
Cultural adaptation and psychometric testing of the Scenario Test for people with aphasia, with insight on cognitive aspects of independent communication

Background and aims: The Scenario Test, originally developed for use in The Netherlands, is used to assess the multi-modal (verbal and non-verbal) communicative effectiveness of people with aphasia, in a range of day-to-day settings. We aim to adapt an English version of this test for use in the UK. Moreover, a few preliminary studies have identified a possible link between ability to communicate effectively and nonverbal cognitive factors such as attention, working memory and executive functions, regardless of the individual’s severity of aphasia. In tandem with the development of the English Scenario Test, the study aims to investigate this relationship between independent and effective communication and nonverbal cognition via an accompanying battery of tests.

CTORI, Irene
An investigation of ethnic differences in the spatial profile of macular pigment

Macular pigment (MP) is thought to protect the central retina from the cumulative damage of blue light exposure and oxidative stress associated with the prevalence of age-related macular degeneration (AMD). It is believed that reduced levels of MP are associated with increased AMD prevalence. MP levels, measured as macular pigment optical density (MPOD) and its distribution (i.e. spatial profile) vary among individuals. MP spatial profiles may differ between ethnicities, possibly due to differences in the retinal architecture. This may contribute to the ethnic variations seen in prevalence of AMD with figures of 2.4% (Black), 4.6% (Chinese) and 5.4% (White) given in the past. The methodology for measuring MPOD varies, causing problems when comparing data from different ethnic studies. We propose to investigate the differences in MP spatial profile and its relation to retinal architecture in three healthy ethnic groups: 100 White, 100 Black and 100 Asian subjects. To our knowledge, this is the first study to include Asian subjects in a comparison study of MP levels. Measurements will be taken using non-invasive techniques including the MAP test (City University London) and digital retinal imaging (Spectralis OCT). Since the constituents of MP (lutein and zeaxanthin) are derived solely from the diet, information regarding the usual dietary intake of these will be collected. The impact of other known risk factors for AMD on the MP spatial profile (such as family history of AMD and smoking status) will also be analysed. The hypothesis is that MP spatial profiles significantly vary across different ethnicities. White subjects are predicted to exhibit lower MPOD measurements when compared to Asian and Black subjects, and the patterns of spatial profiles are expected to vary between the groups. In addition, it is anticipated that dietary intake of lutein and zeaxanthin influences MP levels in all the ethnicities investigated.

Poster presentations
Methodology and procedures: This project has two phases: 1) Pilot testing. We will adapt the English version of the Scenario Test, provided by the developers, for use in the UK. This will be tested together alongside all other assessments to be used in the study on a small group of people with aphasia (n=5) to test the English Scenario Test’s acceptability and the feasibility of the overall testing; and 2) Testing of the English Scenario Test’s psychometric properties (all aspects of reliability, validity, and sensitivity to change), and the participants’ cognitive and linguistic profiles on a large sample (n=60) of eligible people with aphasia and non-aphasic controls (n=20). Sensitivity to change will be tested on a subset of aphasic individuals (n=20) with recent stroke (~2 weeks post onset and after 3 months).

Contribution to the discipline: This project will produce an essential tool for the assessment of people with aphasia, and also provide systematic data on the contribution of cognition to communicative effectiveness. The Scenario Test also has potential to serve as a tool in future studies for measuring the efficacy of total communication/AAC training.

HORAN, Sarah
Development of an Atrial Fibrillation Specific Patient reported outcome measure

Atrial fibrillation is the commonest cardiac arrhythmia affecting 1% of the population (Reardon and Camm, 1996), its incidence increases with age and rises up to 17% of the population in patients over 84 years old (Dorian et al, 2000). It has been shown that atrial fibrillation can affect the quality of patients’ lives (Hannon et al, 2009) and has many symptoms including shortness of breath, tiredness and palpitations which can also impact patient’s quality of life. Atrial fibrillation also carries an increased risk of stroke, which can be life changing for patients. Treatment options for atrial fibrillation vary from medication to invasive procedures such as catheter ablations.

Quality of life is defined as ‘individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns’ (The WHOQOL Group, 1995).

GERARD, Yvonne
Patients Experience of Cataract Surgery Using a Grounded Theory Approach

Patients diagnosed with cataracts are unable to see clearly as the normal transparent lens has become opacified (see figure 1). Acquired opacity of the lens, irrespective of the patients vision, is known as cataracts (Kanski, 2008). Surgery is the ultimate treatment, which affects their overall vision and quality of life. Despite the number of cataract surgeries performed, there has been no assessment of the surgical experience. Numerous cataract measurement tools exist in the United Kingdom (UK) such as Visual Symptoms and Quality of Life (VSQ), Visual Function 14 (VF-14), Vision Core Module (VCM1) etc. However, these tools have failed to identify the outcome of cataract surgery (DoH, 2005; DoH, 2007). Reasons for this are unclear; as research has yet to look in detail through qualitative studies at patients’ experience of the pre-operative and post-operative phases of cataract surgery. The research site will be at Moorfields Eye Hospital NHS Foundation Trust and outreach facilities. The outcome is to inform policy and procedure for improving the patient’s experience of cataract surgery and to develop a trajectory model of care.
KISTNER, Judith
Conversation in Aphasia

Background: Gestures play an important role in everyday communication. They provide additional information to conversation partners about the meaning of verbal utterances and help to clarify even abstract concepts. There is also evidence that gestures are not simply produced for the benefit of the listener but also support the speaker. People with aphasia have speech and language impairments, usually as a result of stroke. Given the role of gesture in communication, it is important to know how people with aphasia use gesture as both an accompaniment to speech and as a compensatory modality.

Aims: This study will examine the natural conversational use of gestures in aphasic speech and addresses the following questions:

(a) To what extent do people with aphasia employ gestures in conversation, and how does this compare to non-aphasic people?

(b) What roles do gestures play for people with aphasia? Is there evidence for gestures being used in communative and/or facilitative ways?

(c) What meanings are expressed in gestures and how do these relate to the co-occurring speech?

(d) How does the use of gesture in aphasia relate to the severity and nature of the linguistic impairment?

Methods and Procedures: 20 people with aphasia will be recruited, ten with syntactic and 10 with lexical impairments. This will enable us to explore the impact of contrastive language impairments on gesture. Data will also be collected from 20 controls matched for age, gender and education level. Conversation samples will be collected with two different conversation partners (familiar and unfamiliar) and two different conversation genres (procedural and narrative). Video samples will be transcribed and analysed for both gesture and speech production. Examples of analyses include the following: Instances of word retrieval difficulty will be coded and analysed for resolution. The co-occurrence of gesture with these instances will be investigated. This will illuminate the potentially facilitative role of gesture. Gestures that accompany speech (iconic, metathorhic, beat, and cohesive gestures), and gestures that replace speech (pantomime and emblems) will be explored. This will indicate whether participants are using gesture mainly to supplement or to replace speech. In the case of co-speech gesture, the relationship between speech and gestures will be explored, e.g. to illuminate how gesture and speech are combined to convey meaning.

MOSS, Becky
Assistive technologies, writing and social participation in people with aphasia

Background: Aphasia is an acquired language and communication impairment which affects approximately one third of people who have a stroke; it can also be caused by traumatic brain injury or tumour. Aphasia is not an intellectual impairment, but causes difficulties with processing and producing language. Speaking, auditory comprehension, reading and writing may all be affected, and every person with aphasia will experience a unique constellation of strengths and difficulties in these areas, which may sharply dissociate. Therapeutic interventions for aphasia sometimes focus primarily on regaining speech and comprehension, but writing and reading deficits can also have a significant impact on social participation and self-esteem. Standard writing therapies improve treated words but can be time-consuming and have limited carryover.

Aim: A small number of studies have indicated that assistive technologies (voice recognition software, text-to-speech software), though originally developed for other user groups, may benefit people with aphasia who have chronic writing and reading impairments. This mixed-methods, case series study will work with ten such participants to test whether an assistive technologies training intervention can harness their retained speaking and auditory comprehension skills and enable compensatory communication strategies, bypassing the need for conventional writing and reading.

Methods: Over the course of 10-15 tailored one-to-one sessions, supplemented by practice exercises at home, each participant will be trained and supported to use assistive technologies. Quantitative assessments of language, social participation and well-being will be conducted before the intervention, immediately afterwards, and three months later. Qualitative data from participant observation and artefacts will be collected during the intervention, and in-depth semi-structured interviews will take place before, after and three months post-intervention.

Potential impact: Data will be analysed to explore the impact of assistive technologies on writing and reading, and examine the relationship between writing, social isolation and participants’ sense of identity and quality of life.

PAGE, Pamela
“Who is visiting who?” – A descriptive, qualitative appraisal of visiting experiences within adult general critical care units (AGCCUs) utilising a Grounded Theory methodology.

Aims of the study: To examine the lived experiences of family members, patients and practitioners in relation to visitation in AGCCUs; To formulate a middle-range theory in
Background & Methods: If we profess to deliver family centred care then it is essential to understand the experiences of both patient and family members in AGCCUs. We know that illness is a crisis to a person and his/her family and therefore care of the family unit is an integral feature of holistic care. A qualitative methodology has been selected to yield rich, in-depth descriptions of visitation experiences of patients, family members and practitioners within AGCCUs. The study requires a process of documentation and description. The emerging thematic approach is directed towards bringing new knowledge to view. There are several qualitative methodologies and a Grounded Theory approach has been selected for the following reasons. The ontological basis is "open", and is deemed to be appropriate in exploratory, small-scale, humanistic research which is sought in this study.

Ethical approval: The participants include practitioners, patients and relatives who work or have been cared for within AGCCUs. The protection of their human rights is facilitated by seeking ethical approval via the Integrated Research Application System (IRAS) and the Research and Development department of a NHS Trust. Informed consent will be sought at the point of interview.

Summary: This study may contribute towards a framework for preventative, supportive and therapeutic intervention to those patients and their families who have to experience critical care.

PATEY, Andrea
Development of a theoretical and methodological basis for designing interventions tailored toward the direction of behaviour change

Clinical practice guidelines assist clinicians in providing best practice healthcare in an evidence-based manner. Changing practice behaviour is difficult, requiring interventions to support behaviour change. Interventions aim to either decrease actions that are ineffective or harmful (e.g. routine preoperative test ordering) or increase actions that are beneficial (e.g. Intermittent Auscultation for foetal surveillance). Many studies have used theory-based approaches to develop these interventions, but no distinction has been documented to guide intervention content depending on whether the aim is to increase or decrease the frequency of the target behaviour change (i.e. doing more of something versus doing less). However, research findings suggest that this distinction may be important. Operant Learning Theory makes a crucial distinction between techniques that increase a desired behaviour (e.g. application of reinforcement) and those that decrease an undesired behaviour (e.g. withdrawal of the reinforcement, punishment), suggesting that there are discrete approaches to changing behaviour depending on the direction of change. The proposed study, using mixed methods approach of quantitative synthesis, content analyses, descriptive analysis, as well as triangulation methodology aims to inform the development of interventions to change clinicians’ behaviour in terms of the desired direction of change. Specifically, we will 1) analyse intervention content of three behaviour change interventions (one of each: increasing, decreasing or replacing behaviour), to identify behaviour change techniques used in these interventions; 2) assess clinicians’ perceptions about the influences of clinical behaviour change, using examples from three categories (increasing, decreasing or replacing behaviour); 3) assess whether predictors of behaviour change differ depending on the direction of behaviour change; 4) develop draft guidelines for designing interventions based on the three categories of clinical behaviour change in healthcare settings. This project will enhance intervention development methods by focusing on desired direction of behaviour change improving the effectiveness of implementation interventions and ultimately patient care.

PHILIPPAKI, Eva
"In vitro Measurement of Intraocular Lens Glistenings"

Background: Intraocular lenses, after being implanted, often develop inclusions in their polymer matrix, known as glistenings. Such optical imperfection can contribute to retinal straylight and disability glare due to light scatter. The purpose of this study is to evaluate and quantify light scatter by measuring in vitro light angular distribution on intraocular lenses with different amounts of glistenings.

Methods: Six IOL samples were placed in an incubator for 3 days at 50 °C to induce lens glistenings. Lenses were removed and left for one day to settle at room temperature. Both pre and post incubation, digital images of the IOL were taken with a Nikon FS-2 slit-lamp using standardized settings. Measurements of scattered light intensity were recorded for 24 different angles. Two sets of measurements were taken, one for a 3mm and another for a 5mm pupil size corresponding to photopic and mesopic conditions respectively.

Results: In all cases, increased light scatter appears in IOLs with glistenings compared to clear IOLs. The distribution of scattered light for clear IOLs (no glistenings) shows insignificant changes between a 3mm and a 5mm pupil size, while for IOLs with glistenings, the angular distribution of scattered light increased for the small pupil size. This is shown in both small-angle (central) and large-angle (skirt) domains.

Discussion: Pupil size has little effect on retinal straylight in the normal eye. However, in the case of IOLs with glistenings pupil size dependence is evident. Correlation of pupil size and glistenings’ size and distribution for different IOLs should be investigated further as well as the significance of the association between glistenings and human visual function and perception.

RICE, Brian
Trends in the incidence of tuberculosis among heterosexuals living with HIV in England and Wales

Background: Many persons diagnosed with heterosexual acquired HIV infection in the United Kingdom originate from countries where the prevalence of both HIV and tuberculosis is high, primarily countries in sub-Saharan Africa. We calculate annual tuberculosis incidence rates, and investigate risk factors for tuberculosis, among heterosexual adults seen for HIV care in England and Wales.

Methods: Records of heterosexual adults (>15 years of age at diagnosis) in England and Wales reported to the national HIV and AIDS Reporting Systems between 2002 and 2010 were linked to the national tuberculosis database (1999 to 2010). Annual incidence rates of tuberculosis among heterosexual adults living with diagnosed HIV were calculated on the basis of the number of heterosexual adults entering care each year, and the number, in that same year, with a first episode of tuberculosis at the time of, or subsequent to, their HIV diagnosis.

Results: Between 2002 and 2010, almost one in 10 (4265/45 322) heterosexual adults seen for HIV care in England and Wales were diagnosed with tuberculosis, of whom the majority (92%) were diagnosed at the time of, or after, their HIV diagnosis; 84% (3307) were black African. The annual tuberculosis incidence rate decreased from 30 per 1000 in 2002 to 8.8 per 1000 in 2010 (P<0.01). The annual tuberculosis incidence rate among those not on antiretroviral therapy (ART) was significantly higher than among those using ART (2010: 36 versus 3 per 1000; P<0.01).

Conclusions: The annual tuberculosis incidence rate among heterosexual adults seen for HIV care in England and Wales has declined significantly over the past decade. However, the 2010 rate remains significantly higher than in the general population. Our findings support routine HIV testing in tuberculosis clinics, screening for latent tuberculosis in HIV diagnosed persons, and the prompt initiation of ART where appropriate.

ROPER, Abi
Testing a computer gesture therapy for aphasia (GeST): who might benefit and how?

Background: Aphasia is a language disorder commonly acquired following stroke. Those severely affected can be almost entirely unable to produce written or spoken language.
Gesture therapy has been shown to improve the ability to communicate non-verbally in people with severe aphasia (Caute et al., 2012) however we know that outcomes are affected by therapy intensity (Bhogal et al., 2003; Pulvermüller et al., 2001, Daumuller & Goldenberg, 2010). Current speech and language therapist resources however make high intensity therapy delivery difficult to achieve. The introduction of well-designed computer delivered therapy resources proposes a promising solution to this challenge. Researchers at City University (Marshall et al, under review) developed and piloted a novel computer gesture therapy tool (GeST) with 9 people with severe aphasia. Findings demonstrated that pilot participants were significantly more able to gesture practised items following intervention, although gains only occurred when supported by a speech and language therapist.

**Aims:** To further assess the efficacy of GeST; to reveal who might benefit most from its use; what gains users experience across communication and whether access to the tool affects users’ attitudes towards technology.

**Methods:** A repeated measures design across two treatment groups will be used to investigate therapeutic gains across 30 participants who have access to the tool with support from a speech and language therapist. Methods will include quantitative and qualitative data collection techniques and a range of standardised and novel assessments. Details will be reported within the proposed poster.

**Intended Outcomes:** Outcomes are intended to supplement and extend the results of Marshall et al.’s pilot project and to contribute clinically relevant prognostic indicators. Findings will also contribute to the growing evidence base surrounding technology use in healthcare.

**TUROLA, Massimo**

4D Light Field Ophthalmoscope: a fast and low-cost instrument to image the retina

**Introduction:** The lack of early diagnoses of eye diseases, such as glaucoma, is one of the causes of blindness and loss of quality of life. A simple and inexpensive instrument as the 4D Light Field Ophthalmoscope makes possible early diagnosis with rapid scans of subjects, especially high-risk patients, in settings including GP surgeries, with great benefit for patients.

**How it works:** Traditional instruments capture two-dimensional images. The 4D Light Field Ophthalmoscope will be able to record the light field, that is a function containing information about radiance and direction of all the light coming from the retina. Therefore in one snapshot we could get information about its three-dimensional volume, enabling features such as 3D topography, synthetic focusing of different layers, stereoscopic imaging and dynamic aberration correction. For example getting a 3D profile of the surface of the retina would give instantaneous information about the depth of optical disc, and could be an ally in diagnosing an early stage of glaucoma, with reduced costs compared with conventional instruments.

**Technique and work plan:** Positioning an array of micro-lenses on the image plane of an imaging system captures the Light Field. Each micro-lens could be thought as a pixel of the final image, while each pixel of the detector under it contains the information regarding the direction of the rays. Development is divided in two stages.

1. Numerical simulations of both simple and retinal imaging system
2. The building of the first prototype, including getting the ethical approval, and the first measurements of the retina.

Both stages will also include the development of image post processing methods and software, conference attendance and networking with other research groups and companies related the 4D light field imaging.