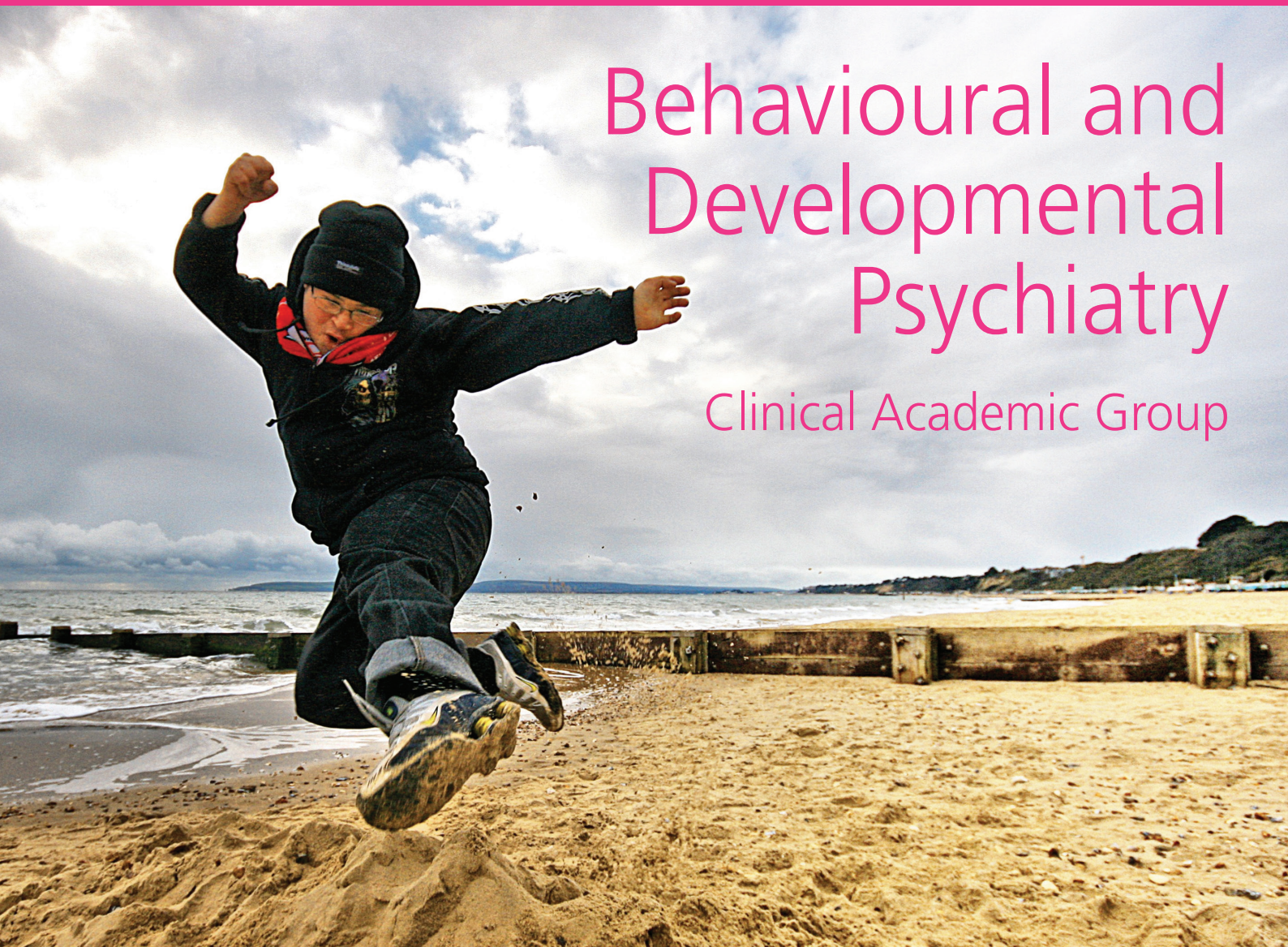


Behavioural and Developmental Psychiatry

Clinical Academic Group



King's Health Partners brings together:

- three of the UK's leading NHS Foundation Trusts;
- a university ranked 19th in the world;
- 3.6m patient contacts each year;
- 31,000 staff;
- 25,000 students;
- a combined annual turnover of £2.8bn;
- clinical services provided across central and outer London locations, including seven mental health and physical healthcare hospitals and many community sites;
- a comprehensive portfolio of excellent quality clinical services with international recognition in cancer, diabetes, mental health, regenerative medicine, cardiac and clinical neurosciences;
- a major trauma centre and two hyper-acute stroke units.

About King's Health Partners

King's Health Partners Academic Health Sciences Centre brings together one of the world's top research-led universities, King's College London, and three of London's most successful NHS Foundation Trusts – Guy's and St Thomas', King's College Hospital and South London and Maudsley.

The partnership provides an unrivalled combination of complex clinical specialties covering a wide range of physical and mental health conditions and a breadth of research expertise that spans disciplines from medicine and biomedical sciences to the social sciences and humanities.

There are three facets to our mission:

- to integrate clinical care
- research and education
- training in order to improve healthcare for people with physical and mental health care problems.

We are uniquely structured to deliver our mission for integration – our 21 Clinical Academic Groups (CAGs) bring together all the clinical services from the three trusts with the relevant academic departments of King's College London.

Foreword



Professor John Moxham, Director of Clinical Strategy

Across King's Health Partners we are committed to providing accurate and timely information about patient care and believe that identifying, measuring and publishing healthcare outcomes results in a culture of improvement and increased value. This is why we are publishing a series of outcomes books to help patients and referring clinicians make informed decisions and drive up the quality of the care we deliver.

These books report key outcomes for treatments provided by our 21 Clinical Academic Groups (CAGs). They are designed for a clinical and lay audience and contain a summary of patient volumes and measures e.g. length of stay, re-admissions, patient experience, clinical outcomes, technological and research innovations and publications. CAGs form the building blocks of our Academic Health Sciences Centre. We believe by bringing together our clinicians and academics across teaching, training and research, we can achieve better outcomes for patients.

The primary purpose of King's Health Partners is to improve health and well-being locally and globally. We must deliver this goal against a challenging economic environment, with rising demand for,

and costs of healthcare. We will only achieve sustainable health improvement if we strive always to increase value. We define value in terms of outcomes that matter to patients, over the full cycle of care, divided by the cost of producing those outcomes. By publishing outcomes books we have more information to support us measuring the value of the healthcare we provide.

These books are work-in-progress. Our goal is to increase the depth and breadth of reporting each year. Books will be updated annually to demonstrate progress across the tripartite agenda. We hope you find the data valuable, and we invite your feedback.

Please send comments and suggestions to us at kingshealthpartners@kcl.ac.uk For more information please visit our website at www.kingshealthpartners.org.

Yours faithfully,

A handwritten signature in dark ink, appearing to read 'John Moxham', with a stylized flourish at the end.

Professor John Moxham, Director of Clinical Strategy, King's Health Partners

June 2014

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Integrating mental and physical healthcare with King's Health Partners (KHP)

Mental and physical integrated healthcare

King's Health Partners' aims to create a centre where world-class research, education and clinical practice (the 'tripartite mission') are brought together for the benefit of patients.

We want to make sure the lessons from research are used more swiftly, effectively and sympathetically to improve healthcare services for people with physical and/or mental health care problems.

In transforming healthcare for the whole person, we will achieve this through our commitment to integrated mental and physical healthcare

research, education and clinical delivery, across our breadth of services and from conception to the last days of life.

We aim to:

- transform outcomes for patients with both mental and physical health conditions, to ensure that care in all healthcare settings address the whole person, and is patient centred;
- expand our international programme of research and provide comprehensive innovative staff education programmes;
- develop and evaluate novel and integrated mental and physical healthcare pathways in

collaboration with commissioners, patients and primary care colleagues.

More specifically, we will:

- address underlying physical health risk factors which contribute to the excess mortality experienced by patients with enduring mental health problems;
- reduce the adverse impact of mental health disorders on outcomes of long-term conditions and medically unexplained symptoms;
- integrate service provision for the whole person throughout all of our specialties.

Academic integrated care system

We are committed to working with our partners across local boroughs to integrate services at a local level to improve patient care. To this end we will use 2014/2015 to test the provider offer and new models of care to enable a more integrated academic health system.

We are a founder member of Southwark and Lambeth Integrated Care (SLIC), a movement for change aiming to genuinely shift how care services are delivered so they are coordinated around the needs of people, treating mental health, physical health and social care needs holistically.

This programme is vital to address the crisis of value within our healthcare economy: quality must improve significantly so people receive effective care and experience it positively.

A lot has already been achieved. Work to date has built an ever deepening shared understanding of the issues, a commitment to action, and an understanding of the options to reduce avoidable emergency admissions, speed up delays in discharge, improve mental and physical health liaison and reduce admission to residential care.

KHP's urban Public Health collaborative

Public health has been identified as a priority and is one of our grand challenges. We have developed a strategy approved by our Executive – 'Over the next five years we aim to be recognised internationally for our academic and service innovation in urban Public Health in addressing local and international issues, with a focus on inequalities in health and healthcare delivery, particularly with regard to ethnicity and deprivation.

Through our Clinical Academic Groups (CAGs) and the south east London sector will be an innovative test bed to develop and test solutions in prevention and management of long term conditions of Public Health importance, thereby achieving academic, training and service delivery to improve public health excellence.

In order to reduce morbidity, improve mortality and reduce health inequalities in south east London all CAGs have responded to a call for increased action in the following areas, with emerging progress. We have implemented both an alcohol and tobacco strategy which has so far:

KHP alcohol strategy

- Developed appropriate resources for clinical staff and patients
- Developed and implemented training for all staff on excess alcohol early identification and intervention
- Established ourselves as a centre of excellence for integrated research, training and practice in the management and prevention of alcohol misuse
- Attracted funding for future alcohol clinical, training and research initiatives
- Monitored the impact of the strategy on indicators of alcohol related harm.

KHP tobacco strategy

- Is now smoke-free in 1 CAG since 2013
- Developed an informatics structure for routinely and systematically recording smoking status
- Support referrals and treatment uptake for smoking cessation across the partnership
- Co-produced clinical care pathway for nicotine dependence treatment
- Co-produced nicotine dependence record card for service users
- Developed and implemented training packages for smoking cessation interventions for all our healthcare professionals
- Monitored the impact of our smoking cessation strategy in relation to knowledge and uptake of skills by staff, uptake of smoking intervention, outcomes of intervention, user satisfaction, prevalence of smoking, cost effectiveness of interventions.



There's a real potential for people to change their lives at the Maudsley. I'm very grateful for their pioneering work.

Introduction to Behavioural and Developmental Psychiatry CAG

Mental ill health has the potential to impact on all aspects of life and to undermine everything a person does. Severe mental illness and neurodevelopmental disorders are often long term conditions. Whilst interventions and therapies may help reduce the severity or frequency of symptoms and lead to increased resilience and coping strategies, such mental health disorders can have devastating consequences on family life, relationships, ability to parent, employment and social inclusion. They are often associated with stigma, perceived and actual discrimination, and increased vulnerability to abuse, health inequalities, multi-morbidity and premature deaths from treatable conditions.

The CAG's expertise lies in the assessment and treatment of adults with complex, challenging and difficult to manage behaviour. The Behavioural and Developmental Psychiatry CAG brings together a unique combination of adult psychiatric specialities including forensic services for patients with mental illness and a history of serious offending behaviours, prison health and specialist mental health services for those with neurodevelopmental disorders including intellectual disabilities (also known as learning disabilities), autism spectrum disorder (ASD) and adult Attention Deficit Hyperactivity Disorder (ADHD). There is increasing recognition of the contribution of neurodevelopmental factors in the aetiology of

violent and antisocial behaviours. Our patients are one of the most disadvantaged groups using mental health services, with the highest burden of physical health co-morbidity.

Our aim is to diagnose and treat early, to prevent disorder at a primary, secondary and tertiary level, to assess and manage risk and to promote recovery and social inclusion through a human rights 'equality to health' approach. Our academic agenda is aligned to our clinical services and addresses clinical and public health priorities.

Epidemiology

The estimated prevalence of intellectual disability (ID) is between 1–3% in the general population (or about 70–210 million people worldwide). People with ID have high levels of physical and mental health morbidity (30–50% will have a significant mental health need and they are three times more likely to suffer from schizophrenia than the general population, yet only 21% of the ID population are known to services). People with ID are 58 times more likely to die before the age of 50 years; more likely to be vulnerable to adult safeguarding concerns and receive poorer access to health care and poorer health outcomes. Autism Spectrum Disorder affects 1% of the general population, and the difficulties experienced by a person with ASD go to the core of human experience and socialisation. The

prevalence of ASD in people with intellectual disability is between 20–40%. The average worldwide prevalence for ADHD is 5% in children in the general population; in adults it is estimated at 2–4%. Up to 80% of adults who have ADHD also have comorbid mental illness such as anxiety, depression, personality disorders and autism. Our own research has found a high prevalence of unrecognised ADHD and ASD (17%) in forensic and prison settings even where there are mental health services present. In addition, ADHD is more common in people with intellectual disability. Seven percent of the prison population have an IQ below 70; 23% will have an IQ below 80. Ten to thirteen percent of adults in touch with ID services will have had contact with the Criminal Justice System at some time in their lives, as suspects (mentally disordered offenders) and a larger percentage will exhibit significant behaviours that challenge services. Physical and psychiatric morbidity in prison populations is high. The prevalence of psychiatric disorder, substance misuse and infectious disease in particular are greater than the general population; suicide risk is high and often linked to mental disorder. Our forensic service aims to promote and improve the mental health, well-being and safety of detained patients, and involves a dynamic negotiation of the conflicts between detention and care. We model our service on the recovery approach, involving the patient in the development of, research into and evaluation of our treatments.

Education and training

The CAG delivers education and training programmes to a range of professionals from undergraduate and postgraduate students to community support workers and other practitioners. We publish our research in high impact journals and our clinicians and academics serve on numerous committees – including US, EU, and UK Government advisory boards. We won an MRC case grant jointly with Eli Lilly, an American global pharmaceutical company, to link our clinical work to basic work in Industry; fostered links with ROCHE, deCODE (a genetics company based in Iceland) and NOLDUS (a software company). We are funded by Shire to discover novel biomarkers predicting treatment outcome in ADHD. Kings College London has now patented and licensing a new genetic diagnostic aid for autism we developed. This work won the Innovation of the Year Award, as part of the NHS Healthcare, Excellence and Leadership (HEAL) Awards 2010. We are feeding into major EU and USA initiatives that have just been awarded (2014). Professor Declan Murphy, our CAG Lead and Academic Director, now leads EU-AIMS (€29.9million) the largest autism research network

in Europe, EU Metrics (€4.5 million) which is exploring the biology and outcomes of children with conduct disorder, and the London lead for a US\$12.5 million NIH award on the genetics of learning disabilities and mental health problems in Velocardiofacial Syndrome.

Collaborative working

We work with CAGs across King's Health Partners, adopting a 'life-span' approach to our research. We are working with The Centre for the Developing Brain in St Thomas's Hospital to examine infants at risk of neurodevelopmental disorders in foetal and neonatal stages of development in the search for risk and protective factors. We are also working with the BRC for Mental Health to contribute to genetics profiling of individuals with ASD and ADHD; with neuroscientists at the James Black Centre to generate stem cells from hair cells from our patients with neurodevelopmental conditions to develop new treatment targets and drug screening assays and with Medical Genetics at Guy's Hospital to develop a research and clinical service moving towards personalised medicine for individuals with neurodevelopmental disorders.



The service provides invaluable support to those who need it, and in certain cases has undoubtedly been a lifesaver. I know that it has become a critical lifeline for me.

Team structure



Dr Jean O'Hara
Clinical Director



Prof Tom Fahy
Clinical Director



Prof Declan Murphy
CAG Lead/
Academic Director



Ellie Davies
Service Director

Dr Susie Whitwell
Head of Education
& Training

**Dr Grainne
McAlonon**
Head of Research

Julie Heyward
Head of Nursing,
Quality and
Assurance

Lyn Edwards
Head of
Occupational
Therapy

Rai Turton
Head of Psychology
and Psychotherapy

Jane Barnes
Head of
Social Work

Forensic Offender Health Pathway (FOHP)

Dr Andrew Forrester Service Line Lead
Wilmart Tsiga & Sally Anne Bailey Nurse Leads

Neurodevelopmental Disorders (NDD)

Dr Dene Robertson Service Line Lead
David Weir & Vin Ghansam Nurse Leads

FOHP Inpatients	National Autism & ADHD Services for Adults (NAASA)
Norbury ward (Bethlem Royal Hospital) Thames Ward (Bethlem Royal Hospital) Brook Ward (Bethlem Royal Hospital) Effra ward (Bethlem Royal Hospital) Spring ward (Bethlem Royal Hospital) Chaffinch ward (Bethlem Royal Hospital) Waddon ward (Bethlem Royal Hospital)	National Autism Unit (Bethlem Royal Hospital) Adult Attention Deficit Hyperactivity Disorder clinic (Maudsley Hospital) Adult Attention Deficit Hyperactivity Disorder clinic (adult and transition services, Kent) Behavioural Genetics clinic (Maudsley Hospital) Female Hormone clinic (Maudsley Hospital)
FOHP Community	Mental Health Learning Disabilities (MHLD)
Lambeth Forensic A&T Team Ward in the community (Lambeth) HMP Brixton HMP Belmarsh cluster HMP Isle of Wight Criminal Justice Team Forensic Intensive Psychological Therapy Services (FIPTS) community team	MHLD Croydon MHLD Lambeth MHLD Lewisham MHLD Southwark MHLD placement monitoring (out of area)
Forensic and Neurodevelopmental Sciences – Teaching Unit (FANS-TU) The BDP CAG works closely with the Department of Forensic and Neurodevelopmental Science at the Institute of Psychiatry. Our academics and clinicians run MSc, Postgraduate Diplomas and Doctorate degrees for graduates in psychiatry and psychology in addition to delivering an original research programme. FANS-TU oversees higher psychiatric training in forensic psychiatry across South London and offers training and conferences nationally.	
The Estia Centre delivers a portfolio of training offered routinely, via MHLD clinicians, to staff in social care, community homes and mental health services in SE London to increase local capacity to support adults with MHLD needs. It has a long history of collaboration with other countries and with people with intellectual disabilities. The Estia Centre oversees higher psychiatric training in the psychiatry of intellectual disability across South London, publishes books, training packs and the ‘Advances in Mental Health and Intellectual Disabilities’ journal.	

Our pathways

The Behavioural and Developmental Psychiatry CAG has a mixture of block and cost per case contracts for the provision of services. Local commissioners are Bexley, Bromley, Croydon, Greenwich, Lambeth, Lewisham and Southwark, with national and international commissioners (e.g. Gibraltar, Guernsey, Jersey, Scotland and Wales). The CAG has an active caseload of 3,000, with 1,000 attended community appointments a month, and in addition 1,000 phone and group contacts per month.

Forensic Offender Health Pathway (FOHP)

The purpose of our service is to ensure mentally disordered offenders are assessed and treated effectively, in the least restrictive environment. We aim to manage the risk, reduce further offending and support recovery throughout a person's stay.

Where our admissions and intensive care ward offers enhanced physical, procedural and relational security, our pre-discharge unit offers a high level of independence with a lower level of security, increased access to community programmes, and community outreach services, fostering the

development of living skills before moving to independent settings in the community. We also offer time-limited inpatient stays and community assessments.

Our innovative service utilises the Buddi tracker system, using GPS to monitor patients on leave. People are individually risk assessed and each person consents to the use of the Buddi system as part of their therapeutic leave programme. We also run HCR-20 patient groups, applying the recovery model to both risk assessment and management (HCR-20 is a violence risk assessment scheme, the Historical Clinical Risk Management – 20, which has a good predictive value for violence and other offences following discharge).

Our women's ward (Spring) supports a pathway to recovery from acute admission through to discharge in the community, using a holistic approach that accounts for their health, security and level of risk. We specialise in discharging women to suitable placements, many of whom have spent considerable time in secure facilities.

We also provide assessment, treatment and care for adults who have severe and ongoing mental health problems who have been remanded in

prison, to ensure they receive the same care they would in the community. We help people to maintain their health. We work with other mental health teams, to co-ordinate and plan people's care for when they leave prison. We have sought (through our research) to introduce specialist nursing support into pressurised prison reception areas as some prisoners with mental health and neurodevelopmental problems can be missed.

Our services are driven by a philosophy that prioritises effectiveness, efficient use of resources, safety and respect for patients, their families and the community. We seek to translate research into practice, to develop and evaluate innovative assessments and interventions. Our Personality Disorder Pathways model (Forensic Intensive Psychological Therapy Services known as FIPTS and Waddon ward) is a joint initiative between the Department of Health and National Offender Management Services, as part of the Dangerous and Severe Personality Disorder (DSPD) programme to divert from high security hospitals (e.g Broadmoor and Rampton hospitals) in favour of increased provision in the criminal justice system and community. The impact of this Personality Disorders Pathways model across a south east London probation service is currently being evaluated.

As a result of our successful education and training pilot (Psychologically Informed Practice, PIP), we are rolling out this work across south east London, seeking to develop and evaluate a

psychologically informed workforce for managing high risk offenders with personality disorder residing in a London Approved Premise. We are also working with partners across three London courts (in south, west and east London) to explore ways of offering alternatives to custodial remand for women who have been charged, as part of a Department of Health funded project.

National Autism and Attention Deficit Hyperactivity Services for Adults (NAASA)

We provide assessment and treatment for adults with attention deficit hyperactivity disorder (ADHD). Since the clinic's inception in the early 1990s, we have developed a specialist service providing diagnostic ADHD assessment and treatment for over 3,000 people. We undertake over 50 assessments each month, with a follow-up caseload of between 350 and 400 patients. This allows us to provide a unique, accomplished service in an area where there is currently little clinical experience or service provision in the NHS. Psychologists in our service have developed ADHD specific psycho-education workshops and individual CBT, to improve long-term outcomes.

We also offer evidence-based treatment and collaborative care for people who present with high functioning autism spectrum disorder (ASD)

and co-morbid mental health or behavioural problems. We offer skills-building packages designed to address some of the core features of autism spectrum disorder. On admission over 50% of patients were detained under the Mental Health Act, this fell to 27% on discharge. Patients no longer detained under the Act are able to move to less restrictive settings, avoiding the high costs associated with secure accommodation. Our National Autism Unit at Bethlem Royal Hospital is one of only two NHS units in the country that specialise in this area.

The Behavioural Genetics Clinic and Female Hormone Clinic are national, specialist services based at the Maudsley Hospital. Our unique clinical and research-led service offers an evidence-based approach to the assessment and treatment of people with neurodevelopmental disorders associated with cognitive abnormalities, behavioural problems or both. We serve two patient groups who have complex genetic neurodevelopmental disorders.

The first group are people with autism spectrum disorder (ASD), including autism and Asperger's Syndrome. We offer a diagnostic service for both the main disorder and co-morbid mental health and behavioural problems. We have identified up to 50% of people referred to us have previously undiagnosed mental health problems and have responded favourably to our treatment.

The second group of people are those with specific chromosomal abnormalities and single

gene disorders, who present with difficulties, behavioural problems or cognitive abnormalities. For example, we assess people with a significantly increased risk of dementia or age-related cognitive decline (Down Syndrome and premature menopause), social abnormalities and autism (Fragile X Syndrome, Tuberous Sclerosis, Turner Syndrome, Klinefelter Syndrome), psychosis (Velo-Cardio Facial Syndrome), and depression (Myotonic Dystrophy, Congenital Adrenal Hyperplasia). Our clinical team is renowned nationally and internationally, and is leading the way in this field of work. Many of the treatments we use are ones developed by us. They are evidence-based, with published results in peer reviewed journals.

Our NAASA portfolio is our CAG's premier research platform. We were awarded €29.9 million, the world's largest research grant for autism (EU-AIMS) as well as winning the NHS Innovation Of The Year Award for inventing the first 'brain scan' diagnostic tool for autism spectrum disorder, demonstrating early translation of research from 'bench to bedside'.

Mental Health of Learning Disabilities (MHL D)

Our service is for adults with learning disabilities and significant mental health problems who are unable to access mainstream mental health services because of their level of disability, atypical

presentation or complexity of need. Many have co-morbid autism spectrum disorder, ADHD or severe challenging behaviours that put themselves or others at risk; some may come into contact with the criminal justice system and have a forensic history. Many also have communication difficulties, significant co-morbid physical health problems and are vulnerable to exploitation and abuse. We aim to facilitate and support individuals with learning disabilities and mental health needs to access mainstream services wherever possible, to co-work with other mental health services and to provide specialist services and care coordination where needed. We are piloting an enhanced community offer for adults with severe challenging behaviours to try to minimise hospital admissions, length of stay or out of area placements.

Our teams are multi-professional and community based. Most of our assessments and interventions are delivered in the community, in people's homes, educational colleges and day centres as well as outpatient settings. We work collaboratively with primary care, social care, third sector providers, family carers and individuals with learning disabilities, promoting social inclusion and patient engagement in all that we do. Our clinicians, via the Estia (Evaluation, Services, Training, Intervention, and Assessment) Centre, set up in 1999 (www.estiacentre.org) provide training and consultancy to local community providers, to promote a 'capable environment' and network of support for highly vulnerable individuals. This remains an innovative concept combining clinical

services, training, research and development and is well aligned to our AHSC ambitions. To promote user, carer and practitioner awareness, a number of our publications are freely available via our website for improving care and standards for adults with intellectual disability and mental health problems. An example is an autism awareness literature developed by the Estia Centre, and produced on behalf of the Department of Health by the Royal College of Nursing in partnership with other key health and social care organisations, and circulated by the RCN to every nurse in England.

South London and Maudsley **NHS**
NHS Foundation Trust

Are you supporting someone with autism?

Autistic spectrum conditions (ASC) or disorders (ASD) include a number of closely related conditions that affect a person's social, communication and imagination skills. Up to one in 100 people are thought to display some ASC features.

ASC occurs across the range of intellectual functioning, with the majority of people having average intelligence. People with ASC are individuals, with their own unique personalities and autism will affect each of them differently.

The Estia Centre is committed to meeting the mental health needs of adults with learning disabilities. For more information visit www.estiacentre.org

What can you do to support people with ASC?

- Always explain what you are about to do and what is happening.
- Give the person enough time to understand the information you have given them.
- Use direct requests and check that the person has understood you, but avoid being patronising.
- Use concrete language with accompanying pictures where necessary and do not rely on your gestures or body language.
- People with ASC can take what you say literally, so avoid metaphors, words with a double meaning and humour that may be misunderstood.
- Routine and familiarity are important; try to make life as predictable as possible. Though people with ASC may get bored like anyone else!
- Social difficulties may include unusual body language and eye contact.
- Repetitive behaviours and special interests may be a way of coping and should be respected.
- Some people with ASC have heightened sensitivity to light, noise and touch, so pay particular attention to the environment and physical contact.
- If the person's behaviour becomes challenging, consider why this might be in the light of the person's ASC – this might help you to intervene more appropriately.

Estia centre



The UK is the only country to have specific training in the psychiatry of intellectual disabilities. The Estia Centre continues to attract overseas visitors to our services, to exchange ideas and learn about service models, philosophy of care and collaborate on research and training initiatives. Clinicians within our services develop and publish teaching materials and training packs.

We publish the only journal in the world devoted specifically to integrating research into mental health clinical practice in this population, called *Advances in Mental Health and Intellectual Disabilities*, published by Emerald Publishers.

Submit your research now!

Advances in Mental Health and Intellectual Disabilities

www.emeraldinsight.com/amhid.htm

Integrating current research with practice

pier
professional

This title is indexed in
Scopus

Emerald

Our priorities

Personalised medicine and individualised therapies

We aim to prevent disorder by identifying infants at risk. Basic scientists, clinician scientists, clinicians and health economists are encouraged to work together at every level of research for patient benefit from discovery, through Proof of Concept testing (i.e demonstrating a scientific discovery has the potential for real-world application) to evaluating clinical outcomes including cost-benefit analysis. We have a BRC and EU funded infant, child and adult research programme, launched in April 2012, aimed at identifying novel treatment targets for individuals with, or at risk of, a neurodevelopmental disorder.

We have used MRI to show depleting brain serotonin restores the pattern of brain activity

in Autism Spectrum Disorders (ASD) towards a 'typical' control profile. We can now exploit this discovery for the benefit of patients. We are exploring ways to measure drug response in autism using MRI – a safe and painless brain scanning technique. The aim is to develop this tool to test whether new pharmacological treatments might work in autism and to help predict who might respond best to new treatments.

We have applied computer assisted classification tools (SVM) in diverse clinical settings to assist the diagnosis of autism.

We are examining predictors of absconding behaviour from medium secure forensic units, and predictors of community recall of patients detained under S37/41 of the Mental Health Act, with a view to developing risk screen tools.

Aims for integrated mental and physical healthcare

People with severe mental illness and people with intellectual disabilities have poorer health outcomes and are likely to die 15–20 years prematurely from preventable causes.

We aim to address the underlying physical health risk factors contributing to excessive morbidity and premature deaths in our patients with severe and enduring mental illness and in our patients with intellectual disabilities by:

- Working with other CAGs to better integrate mental and physical healthcare research, education and clinical delivery
- Working with the Psychosis CAG, we have developed IMPACT Therapy which includes a training programme to improve physical health in people with serious mental illness
- Implementing a training strategy to improve staff awareness and knowledge of physical health in people with serious mental illness
- Appointing Physical Health Champions who maintain quality standards in their local service area
- Ensuring all patients are registered with a GP and working closely with primary and secondary care and the local community to facilitate access to physical healthcare in the most appropriate way for the individual
- Assessing cardiovascular risk and have developed a register and exercise clinic for high risk patients. We are also examining care pathways for people with intellectual disabilities and respiratory problems as this is the most common cause of premature deaths

Helping our patients to stop smoking is the most significant physical health gain we can influence. Our smoking cessation pilot which began in March 2013 has resulted in all our inpatient services being smoke-free, without an increase in untoward incidents.

Co-morbid physical health problems

The CAG is committed to reducing these health inequalities and worked intensively in 2012/2013 to prepare for our smoking ban which was implemented across all our inpatient services in March 2013. We now screen all our inpatients for cardiovascular and respiratory risk factors, offer dental and sexual health screening via our links with primary care services and increased physical activity within our units and hospital grounds. We have established a chronic diseases register to better understand the health needs of our patients so that we can focus attention on where we can have the most significant impact. We can measure improvements in service users physical healthcare and disability through HoNOS-Secure and HoNOS-LD metrics.

In 2014 as part of our new service developments we will include collaborative service models and tenders with partner agencies (primary care, third

sector and other CAGs) to deliver a 'whole person' approach to healthcare in prison settings.

Public health

The experience from our smoke-free initiative has encouraged our Mental Health Trust to work towards going smoke free in 2014. We are sharing our experiences with other healthcare organisations, contributed to the NICE guidelines (2013), presenting this work at national conferences (e.g. International Congress, Royal College of Psychiatrists 2014) and embarking on a multi-centre research study with other medium secure units in the UK (2014).

We aim to raise the quality of care for people with intellectual disabilities by increasing awareness, targeted education and training initiatives. In response to 'Healthcare for All' (2008) and Winterbourne View (2011) we work closely with families, other service providers and commissioners to address safeguarding concerns and to support a more capable environment so people with intellectual disabilities and complex challenging needs can remain in their local communities. Our patients are often socially disadvantaged and a significant part of our approach is value-based and focussed on enhancing well-being and social inclusion.

Figure 1a | Going smoke-free across all our inpatient services

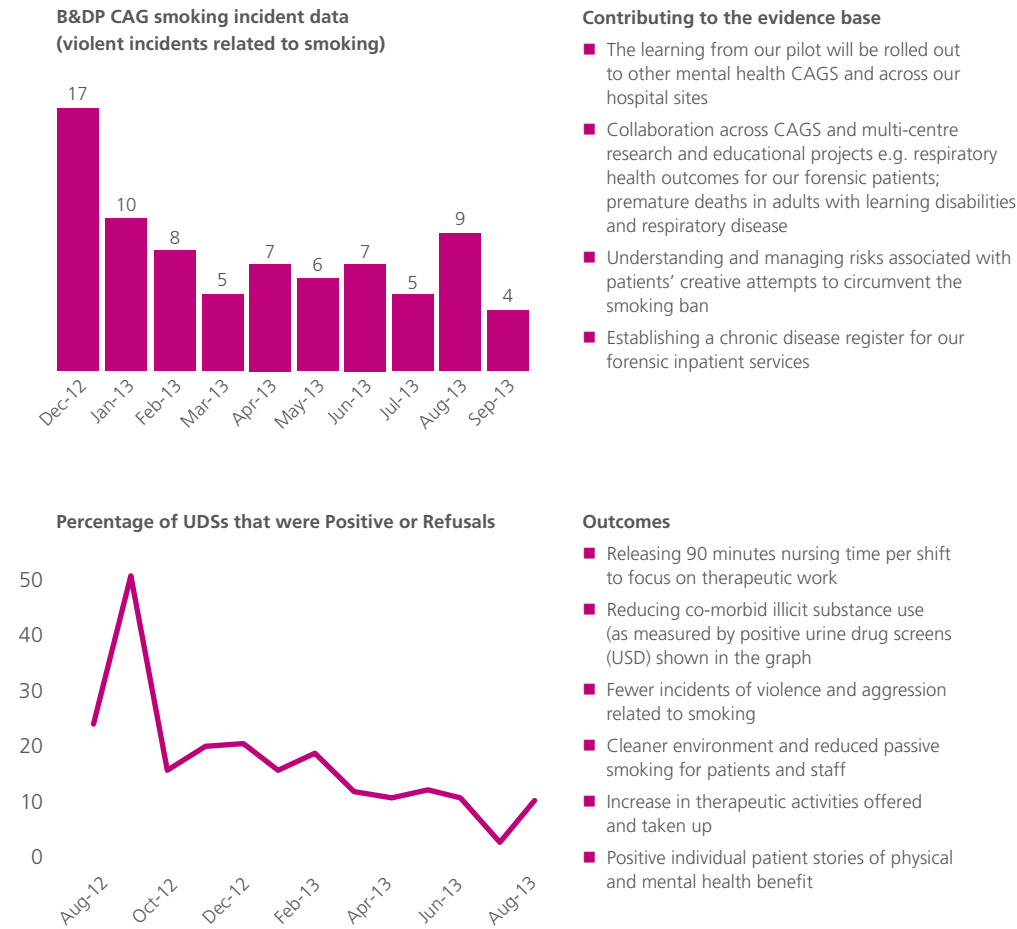
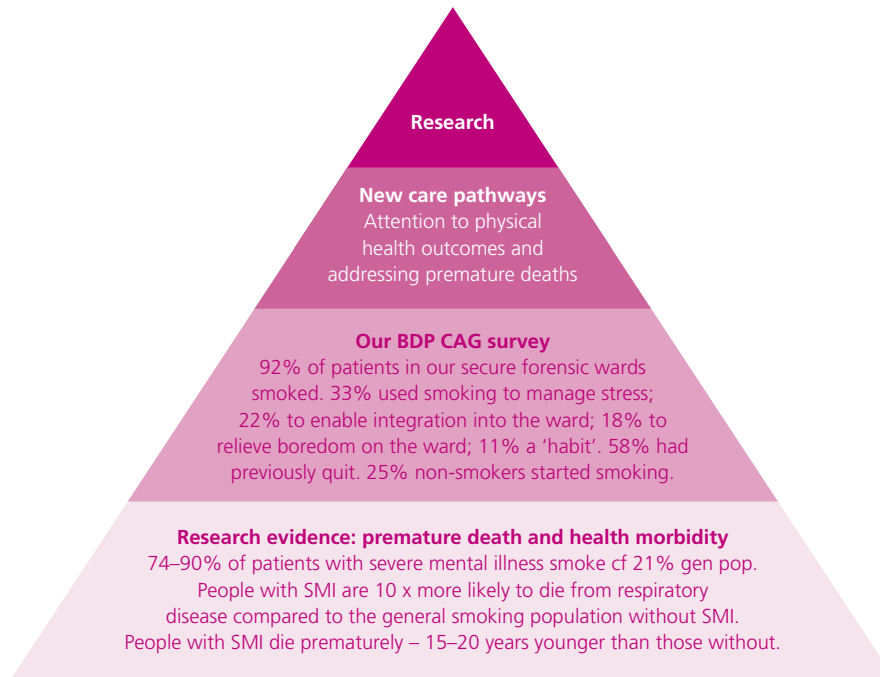


Figure 1b | Going smoke-free across all our inpatient services



Transforming the workforce and ward environment

- Securing Trust support to implement smoking ban as a pilot (based on research evidence)
- Ensuring all staff groups were engaged with implementing strategy via staff and patient focus groups, communication plan
- Active listening – to patients, staff and carers leading to creative solutions and individual focus to manage risks/issues
- E-learning one smoking cessation training rolled out to staff (target number = 174, staff trained 276); CQUIN monies for meeting targets used to purchase indoor and outdoor activity equipment
- Medical staff updated knowledge of Nicotine Replacement Therapy and interface with antipsychotic medication
- Multi-professional team approach to support lifestyle changes, address boredom, manage stress
- Identified project leads with consistent and visible leadership at senior CAG level

Key achievements

- Winning the Healthcare, Excellence and Leadership (HEAL) 'NHS Innovation of the year' award (2010), and named one of the 'Top 10 Science findings of the year' (2011) for inventing the first 'brain scan' diagnostic tool for autism spectrum disorder.
- Winning the only Sackler Centre for Neurodevelopmental Translational Research in the world to take research 'from the bench to the bedside'.
- Leading EU AIMS: Autism Research in Europe, which is the world's biggest grant (€29.9 million) in autism to discover new treatments for autism in collaboration with industry. Our Behavioural Genetics Clinic (BGC) is now leading and recruiting to this research project.
- Leading EU Metrics (€4.5million) which is exploring the biology and outcomes of children with conduct disorder.
- London lead for a US\$12.5 million NIH award on the genetics of learning disabilities and mental health problems in Velocardiofacial Syndrome.
- Implementing diagnostic research clinics for adult Attention Deficit Hyperactivity Disorder and Autism Spectrum Disorder including pathway work with local primary care, winning new tenders (e.g. Kent).
- Introduction of GPS tracking in our medium secure forensic inpatient services. The aim is to improve risk management by reducing episodes of leave violation (absconding and failure to return) and to increase the proportion of unescorted leave in episodes of leave granted. It has benefits on patient recovery, reduced lengths of stay, reduced costs and public safety.
- New research projects looking at neurodevelopmental disorders in forensic and prison settings.
- Being chosen as the 'Lead Educational Provider' for higher psychiatric training in South London for Forensic Psychiatry and Psychiatry of Intellectual (Learning) Disability.



- Developing a 'Basics to Excellence' framework – a benchmarking tool to measure excellence in clinical service delivery, education and training, and research and development.
- Going smoke-free on all our inpatient services from March 2013 with no increase in smoking-related incidents.
- The work of the Behavioural Genetics Clinic (BGC) was presented at No 10 Downing Street in 2013. The picture opposite includes Professor Declan Murphy with Samantha Cameron, two carers and a banker whom all attended the event.
- Publishing research in the highest impact factor journals (e.g. Science, Nature Neuroscience. Nature Medicine, Nature Reviews Neuroscience, Lancet, Archives of General Psychiatry, Molecular Psychiatry, Brain and JAMA Psychiatry).

Demonstrating our tripartite mission

Figure 2 | Adult attention deficit disorder and Autism spectrum service

Examples of BDP CAG input

- Leading international multi-centre research into novel assessment and treatment in ASD and ADHD e.g. Sackler Centre for Translational Research; EU-AIMS
- National diagnostic and research clinics with pathway into our outpatient specialist CBT programme, day service and National Autism unit
- Our core specialist services – increasingly delivered in the community, with primary, secondary and tertiary pathways, leading to decreased morbidity and co-morbidity, improved occupation functioning and decreased forensic behaviour
- Research and screening in prison for ASD and ADHD
- Research: scanning high-risk infants for ASD and infants of at-risk mothers
- Clinical Reference Group, input into development of NICE guidelines

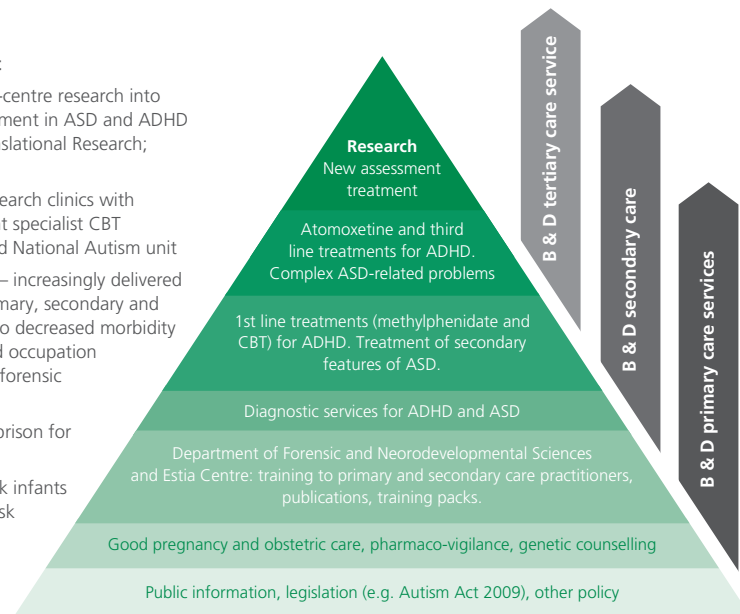
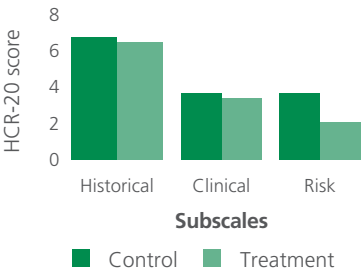


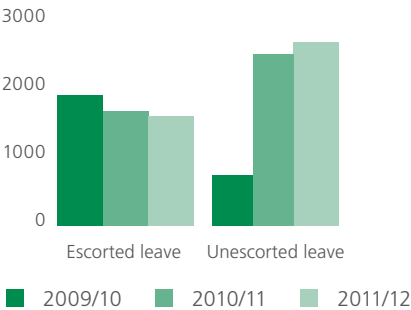
Figure 3 | Forensic offender health pathway

We deliver a range of interventions:

- Secondary screening in prisons with psychological work in preventing the onset of psychosis
- Rapid triage in police custody and court
- Teaching HCR-20 to forensic patients to reduce risk

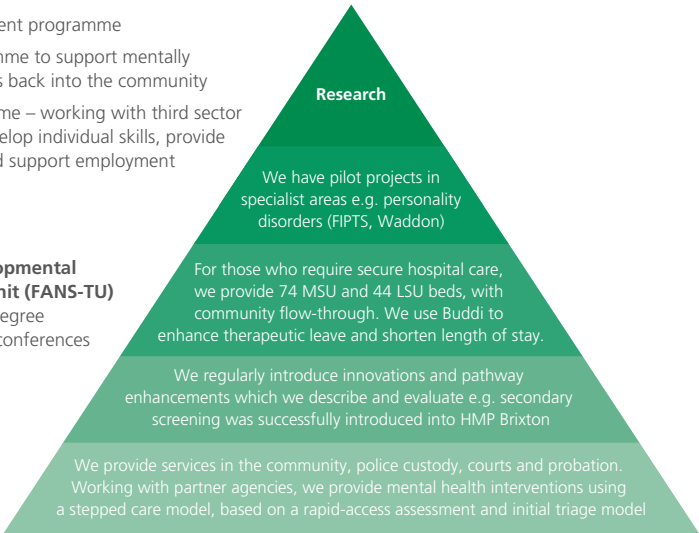


Outcomes from Buddi (GPS electrical tagging) showing significant increase in unescorted leave and reduction in leave violation



- Violence reduction programme to reduce numbers of incidents
- Sex offender treatment programme
- Educational programme to support mentally disordered offenders back into the community
- Vocational programme – working with third sector organisations to develop individual skills, provide work experience and support employment

Forensic Neurodevelopmental Science – Teaching Unit (FANS-TU) delivers postgraduate degree programmes, national conferences and original research



Where our service users are referred from

Figure 4 | Referrals from across England, Wales and Scotland

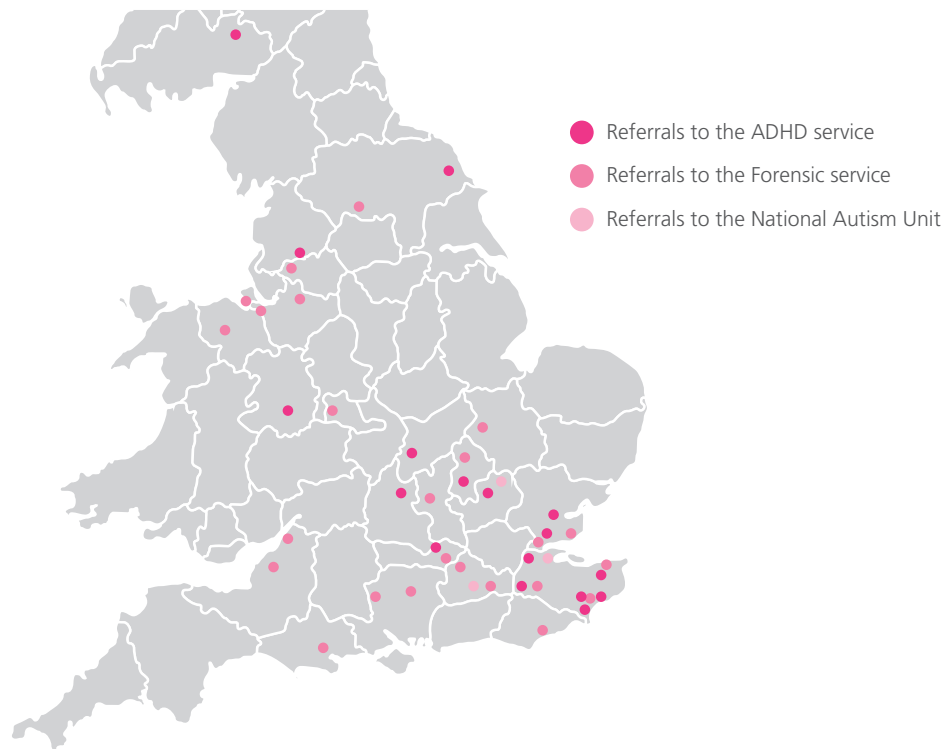


Figure 5 | Referrals across London

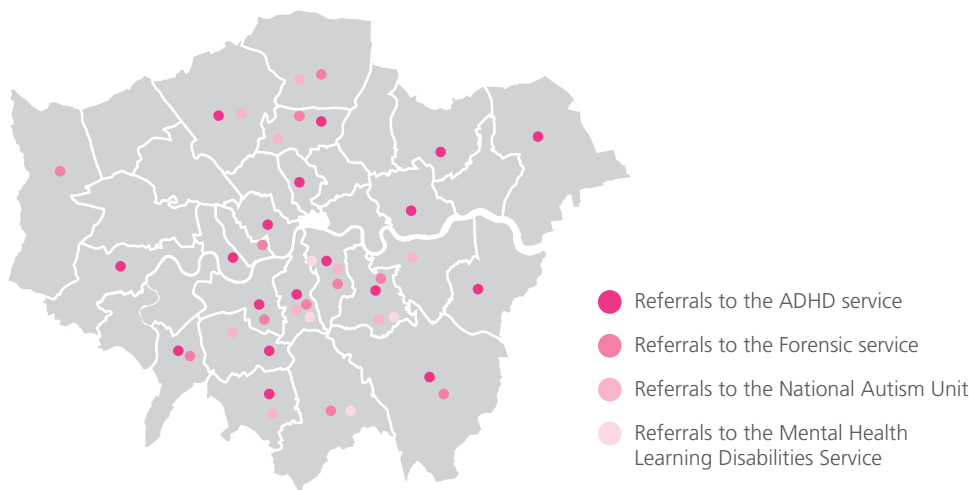


Figure 6 | Referral sources to the National Autism and ADHD services 2012/13

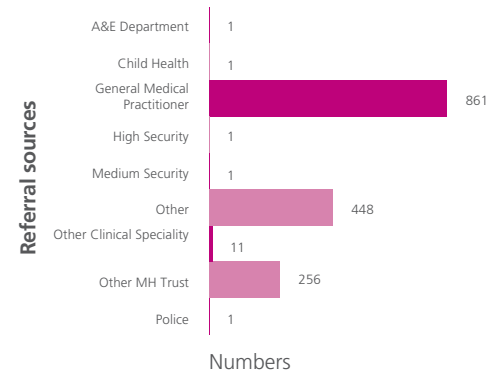
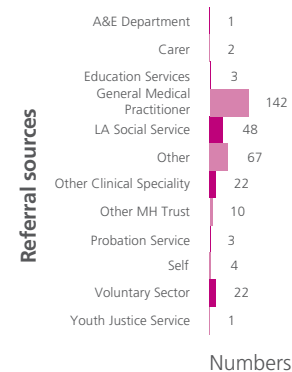


Figure 7 | Referral sources to Mental Health Learning Disability services 2012/13



Outpatient ADHD clinic

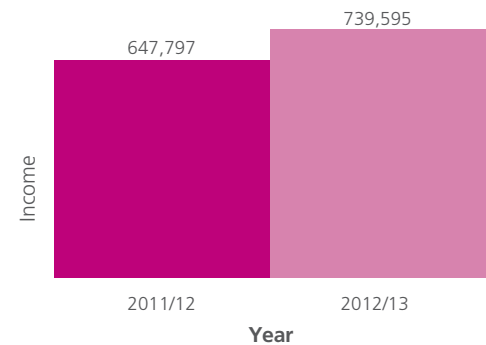
Productivity improvement project 2012/13

Pre-existing data showed over the past financial year, the clinic failed to meet its activity targets to achieve a position of break even. The Electronic Patient Journey System (EPJS) showed patients had historically been waiting for appointments for between nine and twelve months and patient complaints relating to this.

To understand the clinic's current productivity in more detail several key measures were used:

- the capacity of the clinic
- activity required for the income to achieve a break-even
- the referrals numbers that are accepted / authorised for assessment to understand how much resource is needed in the clinic to keep pace
- referral trends
- capacity mapping of a new model, resulting in the project seeing an increase in the number of patients seen. Figure 8 shows the increase in income into the ADHD outpatient clinic. It is specifically worth noting in 2013, waiting times in our Kent ADHD service had reduced from over 5 months to 11 weeks.

Figure 8 | ADHD Outpatient income

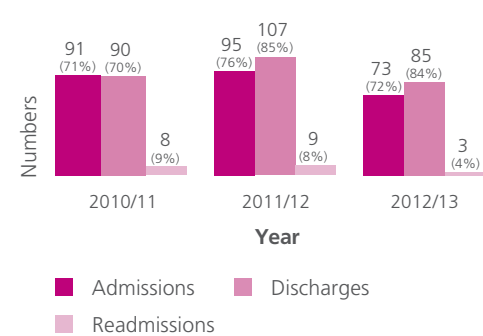


Forensic Offender Health Pathway

Figure 9 | Where Forensic Services get their referrals from over the last 3 years.



Figure 10 | Referrals, admissions, discharges and readmissions for the past 3 years.



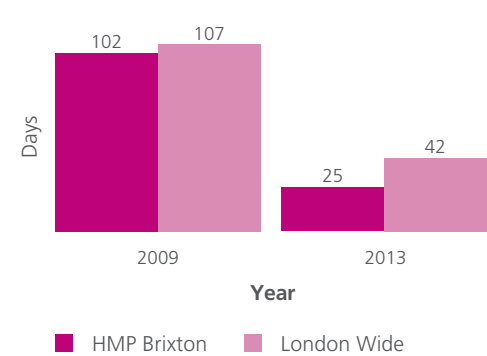
The graph shows high levels of admission activity. Readmission rates are mainly recalls for those who are on a restriction order under the Mental Health Act, and we have seen a reduction in 2012/13.

This is reassuring as there is also a trend towards a shorter average length of stay. Benchmarking against other service providers is not available at present. However, as shown in the graph, our current average length of stay is considerably less than the 18–24 months that is the traditionally quoted typical length of stay for medium secure patients.

Figure 12 | Forensic Offender Health pathway average length of stay (trimmed)



Figure 11 | Transfer waiting times in days



Prison-hospital transfer waiting times to the Forensic Medium Secure Unit

Historically, there have been difficulties with prison-hospital transfer waiting times, with transfer times in London being consistently longer than those reported in other parts of the UK. In 2009 these delays were reported at 102 days for HMP Brixton and 107 days across London.

Working with a neighbouring Trust, we sought to explore re-designed pathways to assess whether they could assist in reducing hospital transfer waiting times. A part-time pathway Community Psychiatric Nurse was introduced to specifically work with the prison population requiring transfer (including liaising with other services and the Ministry of Justice) and a rapid consultant response was introduced for all referrals. The pathways enhancements were compared across 2 sites and both yielded significant benefits (Forrester et al, 2013).

Clinical outcomes

What are Health of the Nation Outcome Scales (HoNOS)

This section of the booklet evidences clinical outcomes for patients in the Behavioural and Developmental Psychiatry CAG as measured with The Health of the Nation Outcome Scales (HoNOS). This is not currently a mandated requirement for forensic or learning disability mental health services. However, the CAG is piloting the usefulness of HoNOS-Secure and HoNOS-LD particularly as they are the assumed basis for future payment by results (PbR) tariffs.

The two approaches to measuring health outcome are the following:

1. Examines change in total HoNOS scores, which is useful for showing high level changes over a number of years.
2. Documenting the proportion of patients showing improvement or deterioration on each of the 12 HoNOS scales at first and last rating. The HoNOS measure behavioural problems, impairment, psychiatric symptoms and social functioning, and shows the detail of where the change in a person's behaviour has occurred.

Figure 12 | The 12 HoNOS scales:

The HoNOS scales cover a wide range of health and social domains- psychiatric symptoms, physical health, functioning, relationships and housing:

1	Overactive, aggressive, disruptive or agitated behaviour
2	Non-accidental self-injury
3	Problem drinking or drug-taking
4	Cognitive problems
5	Physical illness or disability problems
6	Problems associated with hallucinations and delusions
7	Problems with depressed mood
8	Other mental and behavioural problems
9	Problems with relationships
10	Problems with activities of daily living
11	Problems with living conditions
12	Problems with occupation and activities

How they are scored:	
0	No problem
1	Minor problem requiring no action
2	Mild problem but definitely present
3	Moderately severe problem
4	Severe to very severe problem

Forensic

HoNOS Secure scales

As well as the 12 HoNOS scales mentioned above there are additional scales called HoNOS-Secure that apply to the patients in Forensic services.

These extra scales are specifically designed for use in health and social care settings such as secure psychiatric, prison health care and related forensic services, including those based in the community.

Parts of the original HoNOS can be hard to interpret in secure settings, and this scale meets that need.

A	Risk of harm to adults or children
B	Risk of self-harm (deliberate or accidental)
C	Need of building security to prevent physical escape
D	Need for a safely staffed living environment
E	Need for escort on leave (beyond the secure perimeter)
F	Risk to individual from others
G	Need for risk management procedures

Figure 13 | Forensic offender health pathway – male admissions and discharges

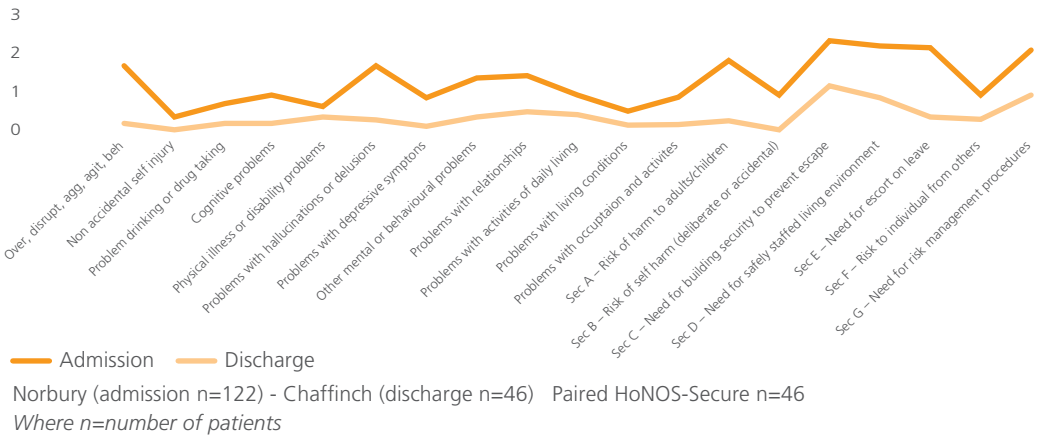
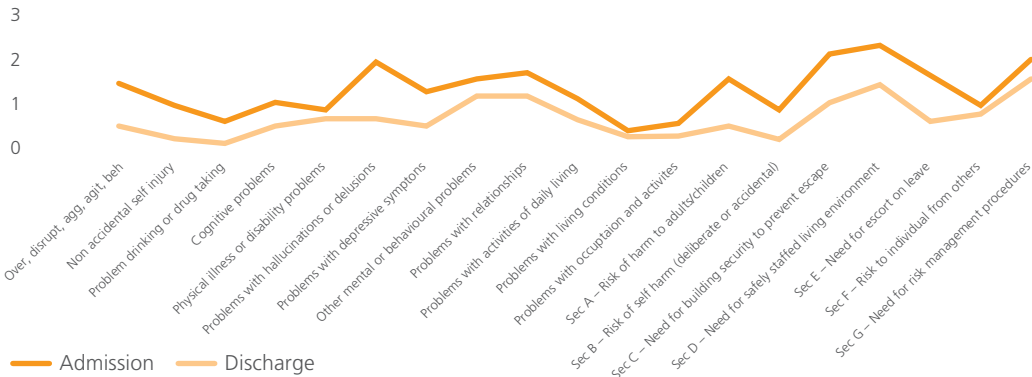
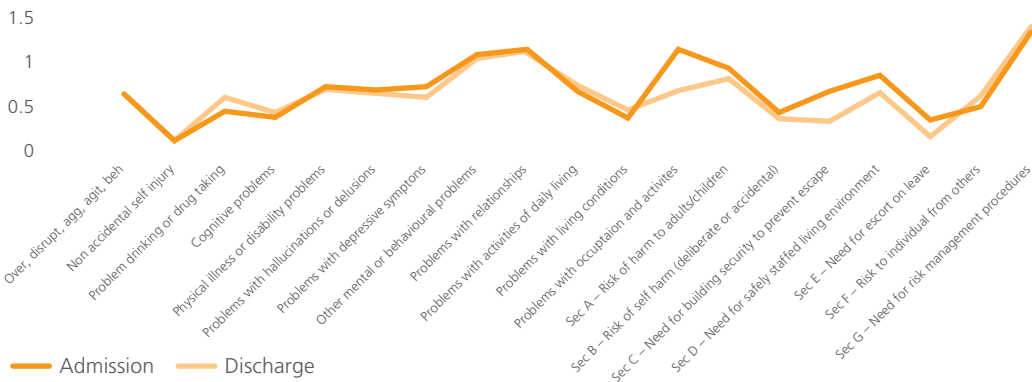


Figure 14 | Forensic offender health pathway – female admissions and discharges



Spring Ward HoNOS-Secure paired outcomes n=45 where n is number of patients

Figure 15 | Forensic offender health pathway – outpatient and community



Paired HoNOS-Secure n=10 where n is number of patients

Source: Trust Health Intelligence Team

Forensic – Example of other clinical outcome measures routinely used as part of our integrated research approach

New violence reduction programme for forensic known as HCR-20 Risk and Recovery Programme

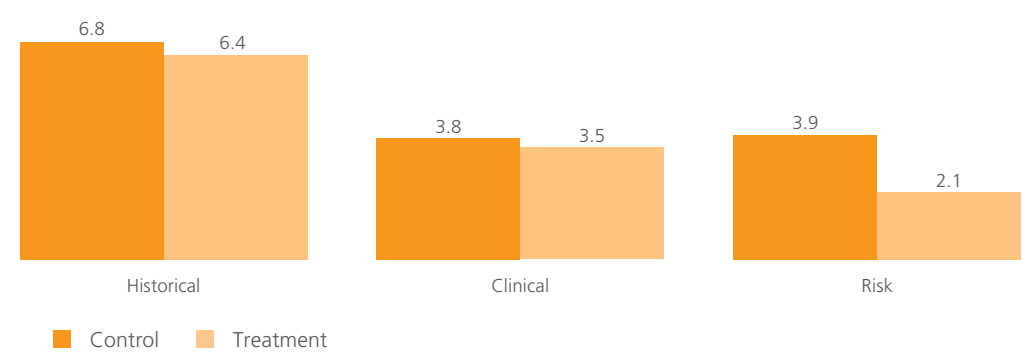
We applied the principles of the recovery model to create the HCR-20 Risk and Recovery Programme. The programme runs on all of our forensic inpatient wards. The purpose of this programme is to be transparent about risk by making the patient aware of exactly how risk is assessed and to empower patients to take an active role

in reducing their HCR20 scores and managing their risk.

We achieve this through holding weekly group sessions on the wards. Being transparent with patients about how and why we assess risk and encouraging them to understand the risk assessment process, the patients in the treatment group showed reduced scores on the overall risk items of the HCR-20 post treatment when compared with the control group.

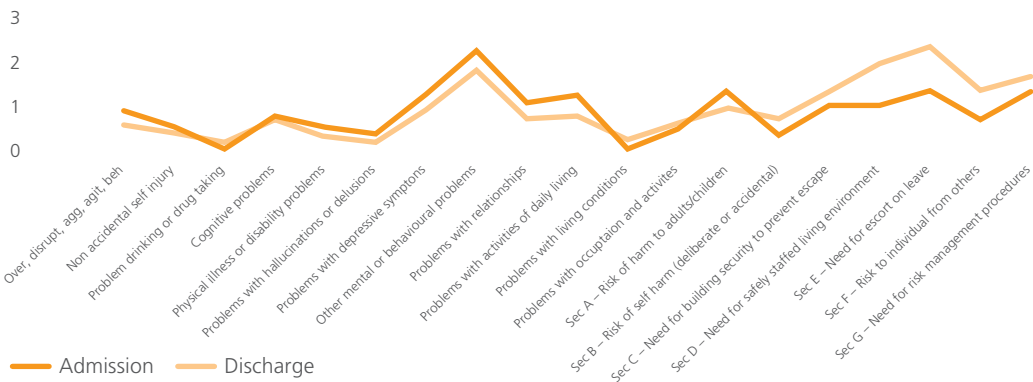
We have demonstrated involving patients in risk and recovery work and encouraging responsibility taking can introduce risk benefits (paper to be submitted for publication in the future).

Figure 16 | HCR-20 Risk and Recovery chart



National Autism Unit

Figure 17 | Neurodevelopmental disorders pathway – National Autism Unit (NAU) discharged patients



Paired HoNOS-Secure n=21 where n is number of patients

Lower ‘security-related’ scores on admission likely due to difficulties identifying need as opposed to longitudinal assessment and greater elucidation of social difficulties and associated risks during admission.

NAU – Example of other clinical outcome measures routinely used as part of our integrated research approach

Obsessive compulsive inventory scales:

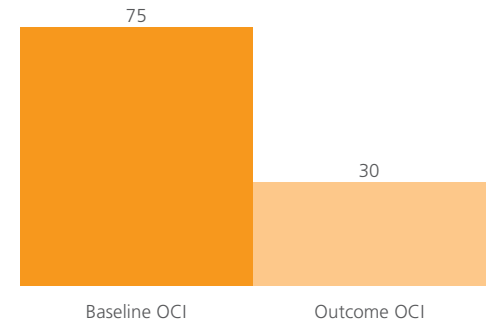
The OCI (Obsessive-Compulsive Inventory – Revised) is used routinely in our national diagnostic clinics to record a range of symptoms associated

with autism. For people with autism who require admission, obsessions and compulsions are often severe enough to meet diagnostic criteria for obsessive compulsive disorder, OCD (a disabling anxiety disorder).

Our National Autism Unit treats a combination of specialised psychological, pharmacological and social treatments adapted for people with autism. Figure 18 shows significant reduction in OCD symptoms using a standardised rating scale (OCI-R).

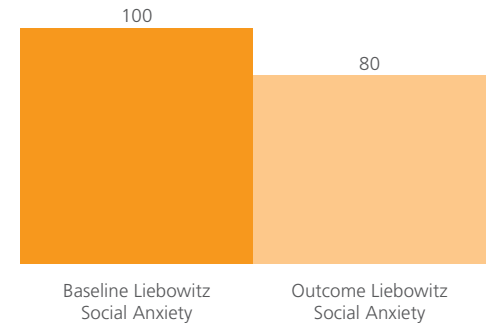
National Autism Unit – Treatment outcomes using the Obsessive-Compulsive Inventory (OCI)

Figure 18 | Discharges from the National Autism Unit between January – September 2013 with severe obsessive compulsive symptoms



National Autism Unit – Treatment effect on Liebowitz Social Anxiety (LSAS) self ratings

Figure 19 | Discharges from National Autism Unit between January – September 2013 for severe social anxiety



Liebowitz Social Anxiety scales:

Social difficulties are a core manifestation of autism, and often give rise to profound and disabling social anxiety. The Liebowitz Social Anxiety scale scores shown below demonstrates our autism-adapted treatments decrease our inpatients' social anxiety (and decrease avoidance behaviour).

This is likely to have secondary effects on self-esteem and overall function in the community.

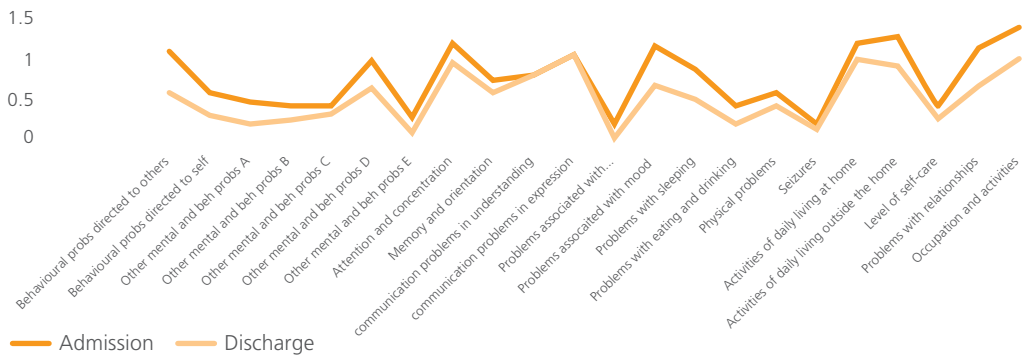
Mental health of learning disabilities

HoNOS-LD scales

As well as the 12 HoNOS scales mentioned above there are additional scales called HoNOS-LD. These extra scales are currently used in day-to-day work, to measure changes in people with intellectual disabilities who have additional mental health needs. The use of this scale is under review nationally, as it may not adequately reflect the complexity of health needs for this patient group (Radhakrishnan, Smith and O’Hara, 2012).

1	Behavioural problems directed at others
2	Behavioural problems directed towards oneself (self-harm)
3	Other mental and behavioural problems
4	Attention and concentration
5	Memory and orientation
6	Communication (problems with understanding)
7	Communication (problems with expression)
8	Problems associated with hallucinations and delusions
9	Problems associated with mood changes
10	Problems with sleeping
11	Problems with eating and drinking
12	Physical problems
13	Seizures
14	Activities of daily living at home
15	Activities of daily living outside of home
16	Level of self-care
17	Problems with relationships
18	Occupation and activities

Figure 20 | Neurodevelopmental disorders pathway – mental health learning disabilities community services



Paired HoNOS-LD n=621 where n is number of patients



When I look back to the rock bottom state I was in when we first met, and my life now, I'm filled with gratitude

Quality of care metrics

The Behavioural and Developmental Psychiatry CAG specialises in the assessment and management of risk. In the main, these are risks of violence and physical aggression towards others and adult safeguarding concerns for our vulnerable patient groups. Both have the potential to impact significantly on the safety, health and wellbeing of our patients and staff as well as the wider community.

Our most serious incidents are subject to external investigation and scrutiny; the most recent has led us to redesign the physical layout of our forensic acute admission ward and strengthening our nurse leadership. We have developed beneficial communication with our local police, councillors and Public Protection and Scrutiny of Bromley Local Authority.

Violence and aggression

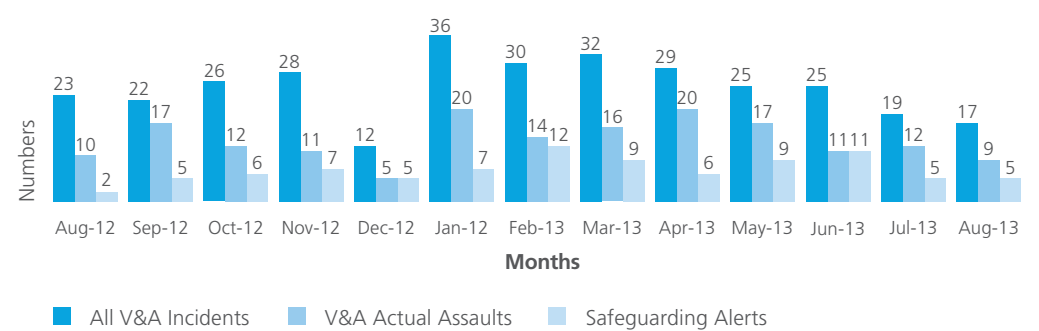
Managing incidents of violence and aggression is an important challenge for our services. We have been working to reduce the levels by monitoring

and understanding serious incidents to determine the best use of resources. In 2013, we introduced more therapeutic activities over the weekend on our forensic wards and piloted the care delivery system approach (see figure 21), which contributed to a significant reduction in violent incidents on our wards.

Adult safeguarding

The CAG works with vulnerable adults. Awareness and reporting of potential adult safeguarding concerns is a priority. The CAG invested in local education and training for all staff and this resulted in the number of incidents reported increasing. Currently, safeguarding incidents are grouped together with violence and aggression in the Trust's incident reporting system. The next step is to understand these incidents within this reporting system and with our social care partners.

Figure 21 | CAG Violence and Aggression Incidents showing number of actual assaults and safeguarding alerts from August 2012 to August 2013

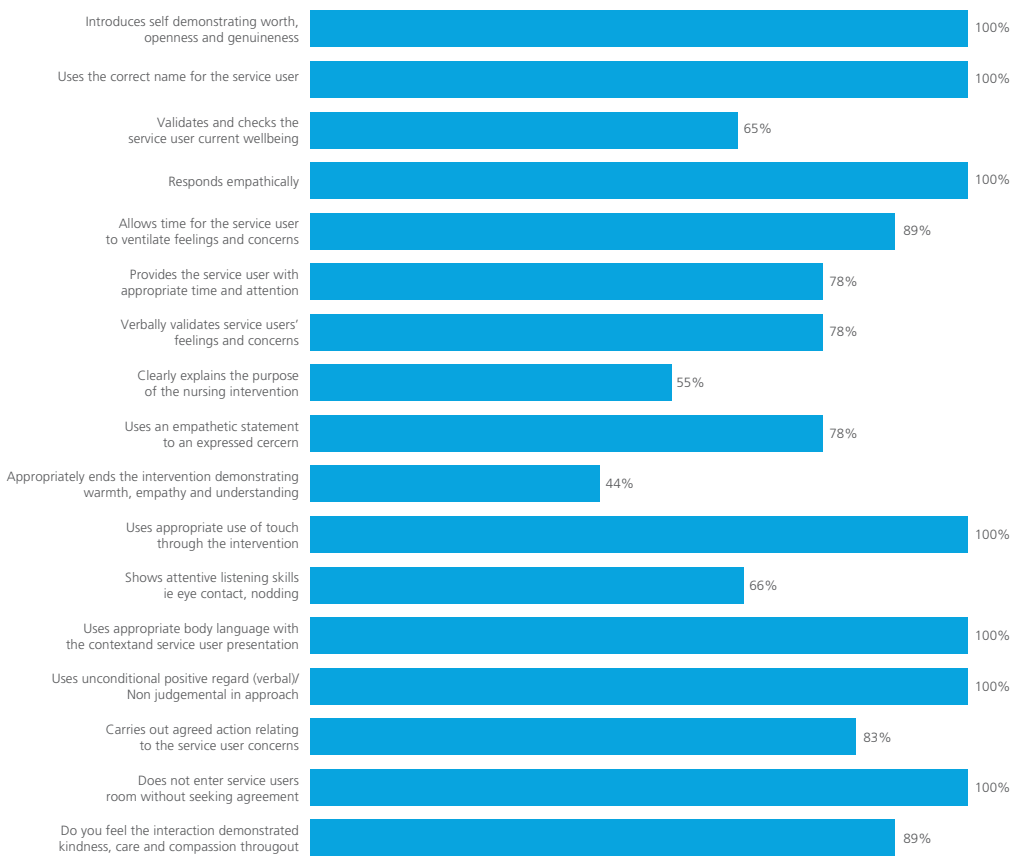


Compassion in practice

In 2012/2013 we piloted, with South London and Maudsley NHS Foundation Trust's Quality Improvement Team, the 'Care Delivery System' on our forensic ward with the highest number of serious incidents. This 'whole systems approach' involved a 5 month pilot, from Nov 2012 –

March 2013, and included direct observation of staff engagement by external clinicians, the implementation of a risk assessment tool called Dynamic Appraisal of Situational Aggression (DASA), communication tool (SBAR) and explicit agreements and shared goals between patients and their multi-professional care team.

Figure 22 | Observation on staff engagement for the Norbury ward (acute forensic admission ward)



The Care Delivery System is now being evaluated within the Trust with the intention of rolling out this approach to other inpatient services in combination with ‘Safer Wards’, an RCT evidence based initiative from KCL.

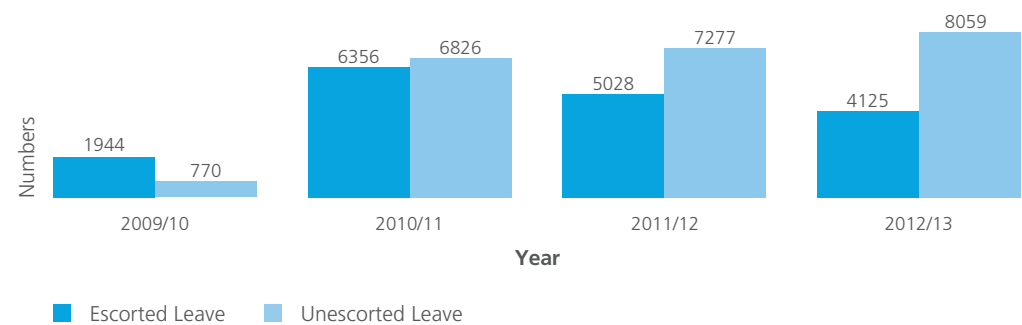
Managing risk and leave violation

The impact of the GPS (global positioning system) tracking of patients absconding or failing to return from unescorted leave has been dramatic. It also supports the therapeutic leave programme for patients with offending histories.

The CAG uses 100 GPS ankle bracelets to enable a more effective use of leave. This was introduced as part of a comprehensive protocol for risk management. The aim of this initiative is to

improve public protection and patient recovery. The system functions by alerting any violation of ‘exclusion zones’ or duration agreed in terms of a patient’s leave. Following introduction, an audit of 9000 leave episodes in March 2010 highlighted a problem with 0.5% of all leave (abscond, fail to return or late return). Leave has increased by 85% and positive press has been received from the patients, as well as on BBC Radio 4 Today Programme, BBC Breakfast and BBC London radio. We estimate that our risk rate has dropped by 90% since March 2010.

Figure 23 | Escorted and unescorted leave numbers



This study is important because leave is therapeutic in itself and patients view increased leave as moving towards recovery. Preliminary findings suggest that Buddi leave is financially

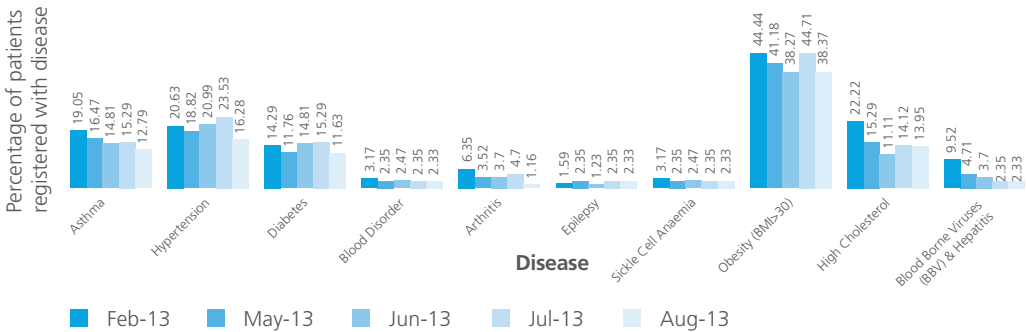
cost-effective ($p<0.003$) with £10 saved per leave episode. The cost of leave violations and saving from reduced length of stay in hospital is now being examined.

Co-morbid physical health problems

People with severe mental illness and people with intellectual disabilities have poorer health outcomes and are likely to die 15–20 years prematurely from preventable causes. The CAG is committed to reducing these health inequalities and worked intensively in 2012/2013 to prepare for our smoking ban which was implemented

across all our inpatient services in March 2013. We now screen all our inpatients for cardiovascular and respiratory risk factors, offer dental and sexual health screening via our links with primary care services and increased physical activity within our units and hospital grounds. We have established a chronic diseases register to better understand the health needs of our patients so that we can focus attention on where we can have the most significant impact.

Figure 24 | Forensic secure inpatient services at River House. Chronic Disease Register 2013. Total sample number = 104



We ensure all our patients are registered with a GP, and we are collaborating with other CAGs to examine access to and evaluation of care

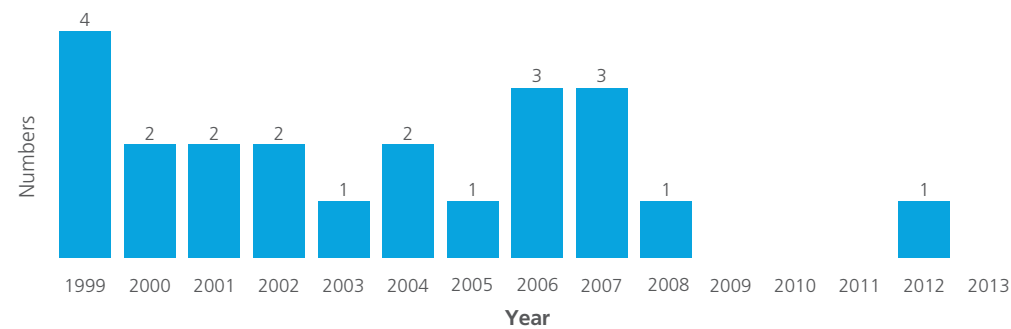
pathways for people with intellectual disabilities and respiratory disease, reported to be the largest cause of premature deaths.

Deaths in custody

After South London and Maudsley NHS Foundation Trust started providing services at HM Prison Brixton in 2008, there was a sustained reduction of deaths in custody rates. We worked with the prison service to introduce a multi-agency

system for monitoring risk of self harm and suicide and set up a weekly complex cases meeting with the prison's forensic psychology department. We also introduced a grant funded secondary screening layer for mental health.

Figure 25 | Number of deaths in custody over the last 15 years



Patient experience

Formal complaints

The monitoring of the number and nature of complaints is a useful indicator which, alongside other measures, can indicate the quality of the service we deliver. The following graph shows a reduction of the number of complaints between August 2012 and November 2013.

Figure 26 | Total number of formal complaints from August 2012 to November 2013

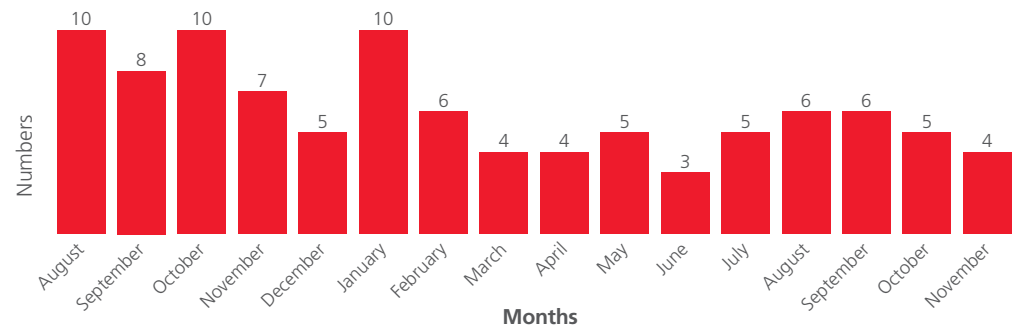


Figure 27 | Total complaints by themes

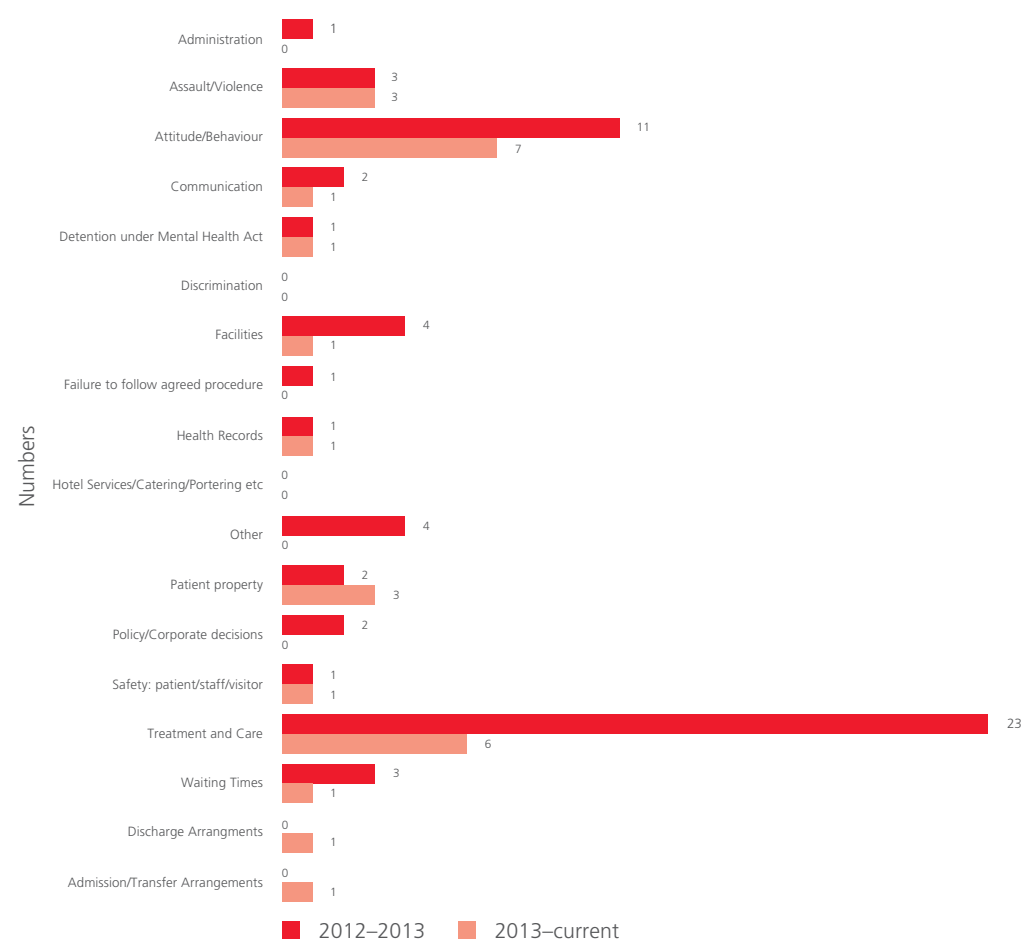
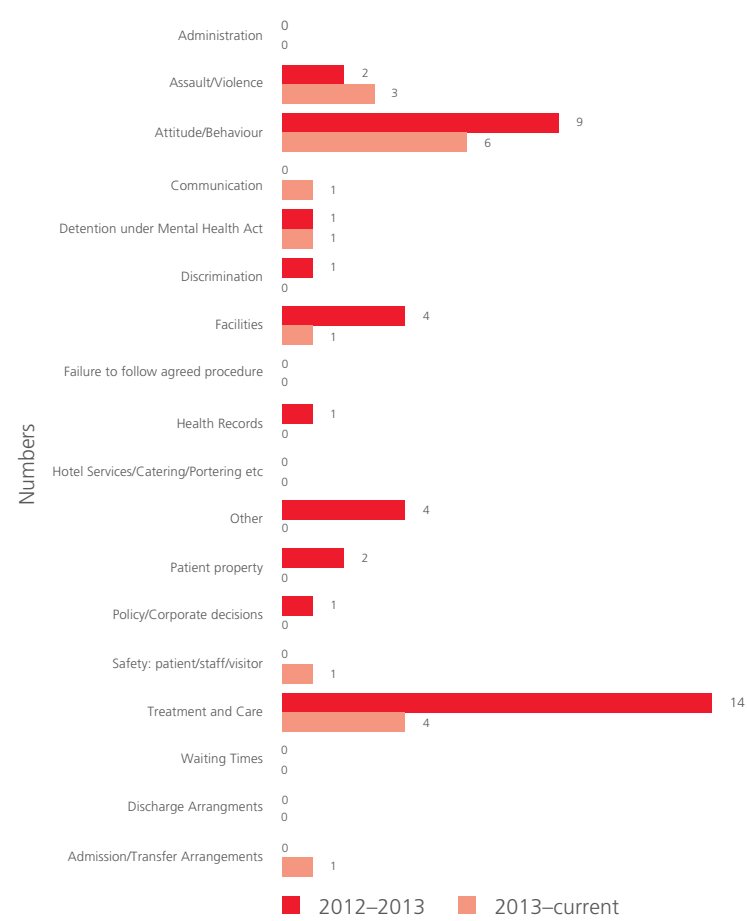
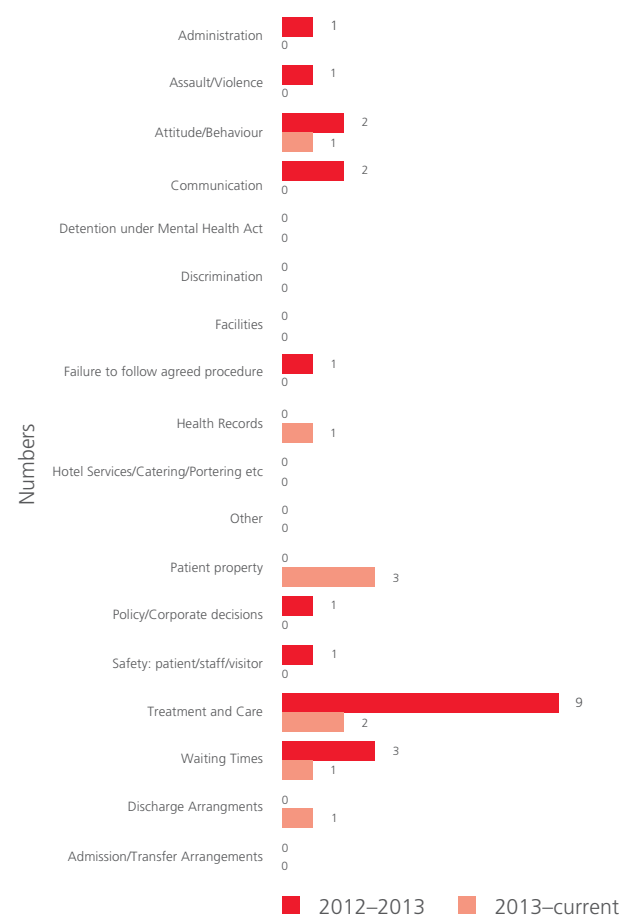


Figure 28 | Total complaints by theme – Forensic Offender Health Pathway



In 2013 we worked with the Trust Patient Advisory Liaison Services (PALS) and introduced PALS/ complaint surgeries in our inpatient wards to better understand patient issues and complaints.

Figure 29 | Total complaints by theme – Neurodevelopmental Disorders



The CAG worked to improve productivity and reduce waiting times for our national diagnostic clinics, and to better explain expectations and

assessment processes, leading to a reduction in complaints from patients.

Patient experience

PEDIC is the Patient Experience Data Information Centre provided by South London and the Maudsley NHS Foundation Trust. PEDIC is routinely used across our CAG services via electronic tablets in community/clinic settings and inpatient booths. We are exploring ways of making the

process more meaningful to patients who spend a long time with us, as well as to those with intellectual disabilities. The following are a sample from patient experience questionnaires for the Behavioural and Developmental Psychiatry CAG completed between 1st April and 30th September 2013.

Figure 30 | Forensic Offender Health Pathways. Sample size = 35

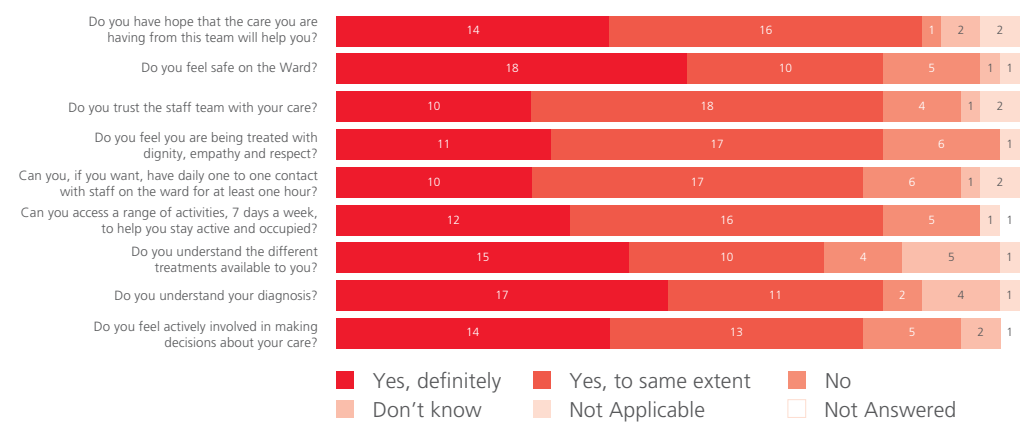


Figure 31 | National Autism Unit. Sample size = 7

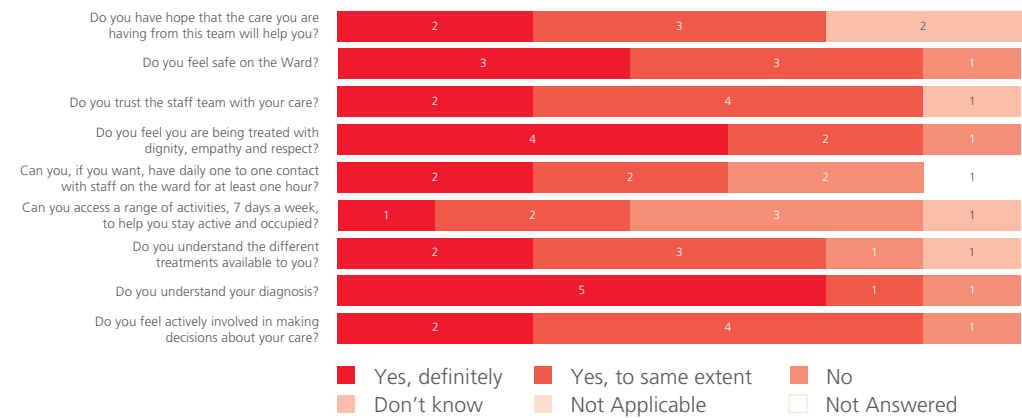
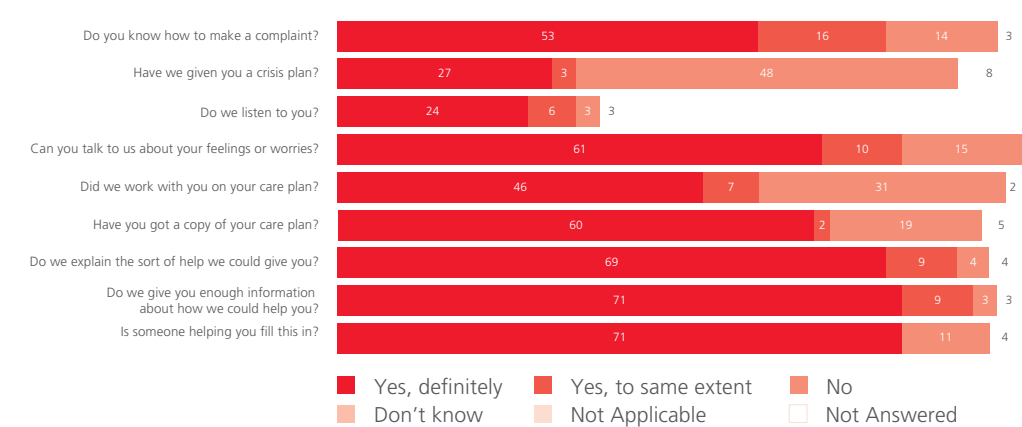


Figure 32 | Mental Health Learning Disabilities outpatients. Sample size = 86



The CAG is aware of the specific challenges the PEDIC questionnaire may pose when given to adults with intellectual disabilities. We know from our recent published research for example, that the meaning of 'crisis' or 'care plan' may be

understood differently by patients, carers and clinicians (Hemmings, Obousy and Craig, 2013). The following shows the level of satisfaction of patients in terms of how helpful their assessment was in 2012.

Figure 33 | ADHD clinic

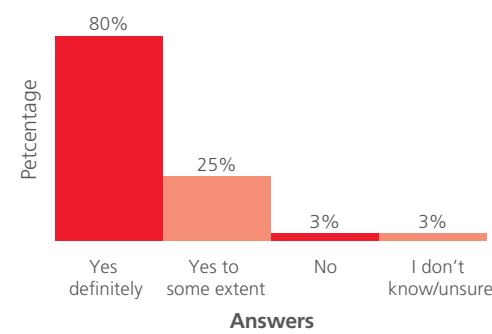
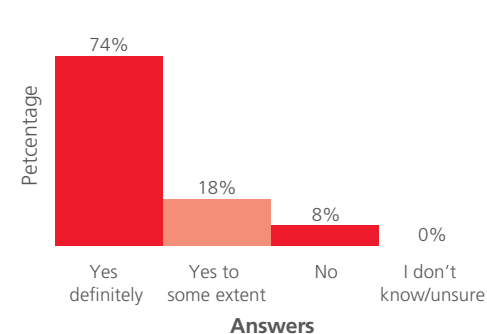


Figure 34 | Behavioural Genetics Clinics



"Mental illness doesn't make you a bad person, or mean your life is over. It's not something people need to be ashamed of or hide behind. It can be something to celebrate that can make your life unique and different", Emma said of her experiences



Education and training

The CAG delivers a range of professional training in forensic psychiatry, risk management, offender health, and mental health of learning disabilities, autism spectrum disorder and adult attention deficit disorder. There is a long history of positive collaboration between the university, clinical services, patient advocacy groups and third sector providers. The CAG aims to deliver excellent evidence based education and training programmes to support a competent and modernised workforce in delivering high quality mental health care promoting recovery and social inclusion. We:

- ensure the effectiveness of the training is measured and the results of novel training programmes are published in peer-reviewed publications;
- ensure all education and training activities support the translation of evidence and research findings into practice;
- embed a culture of lifelong learning and professional/career development;
- develop in collaboration with others, innovative approaches to education and training opportunities.

The CAG was awarded 'Lead Provider' status for the delivery of higher psychiatric training across south London for forensic psychiatry and psychiatry of intellectual disability. The CAG supports the training of undergraduate medical students via allocated 'firms' as part of a general psychiatry placement, special study components in forensic and neurodevelopmental psychiatry, electives from within the UK, placements of students from overseas universities and the annual psychiatry summer school.

New developments include:

- a funded study to investigate KCL student clinical placements in psychiatry to understand how we could improve the student experience;
- E-learning supervision packages being piloted for ASD and Adult ADHD;
- a new MSc in Neurodevelopmental Disorders from 2014.

In 2014, we were awarded funding from Health Education South London (HESL) to establish and host a collaborative educational network to improve awareness across community, primary

and secondary healthcare to better meet the needs of people with intellectual disabilities in our local communities.

Undergraduate student experience

Figure 35 is a sample of the questions and responses on the overall quality of the teaching from the 2012/13 student satisfaction survey for students taught in the Behavioural and Developmental CAG. Better coordination of student placements across CAGs is likely to improve overall student experience.

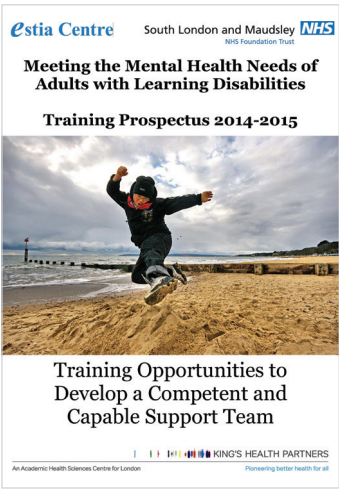
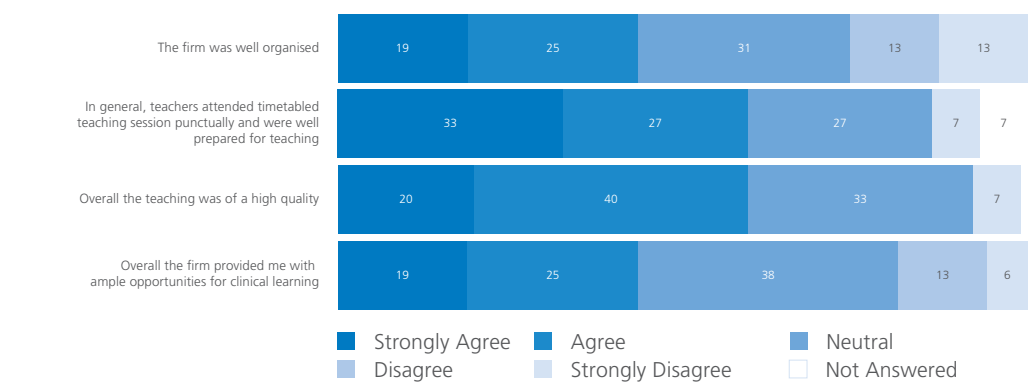


Figure 35 | Phase 3 student experience survey 2012/13



Students ratings of special study components (SSCs) delivered by the Behavioural and Developmental CAG

Figure 36 | Forensic 2009/13

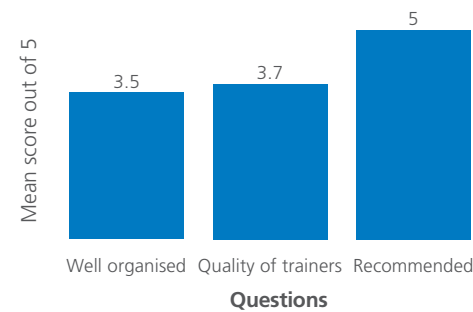
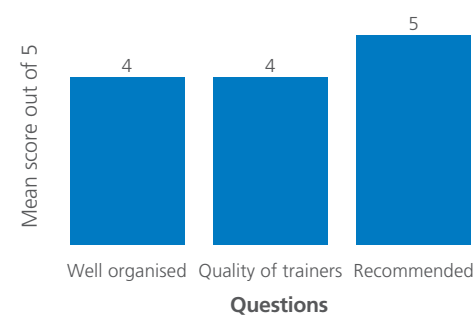


Figure 37 | Art in psychiatry 2011/13



Special study components are chosen by medical students in their 3rd to 5th year of training. We offered a new SSC in Neurodevelopmental Disorders which has yet to be evaluated.

Evaluation of further training events

Since 2011 the CAG has delivered 452 forensic education and training events which have been

evaluated by those who attended. We have now implemented a more consistent evaluation and feedback process across all our education and training delivery.

The following figures show the evaluation for our in-house multi professional academic programmes attended by clinicians and academics across south London and our forensic MSc students.

Figure 38 | Students who would recommend this training

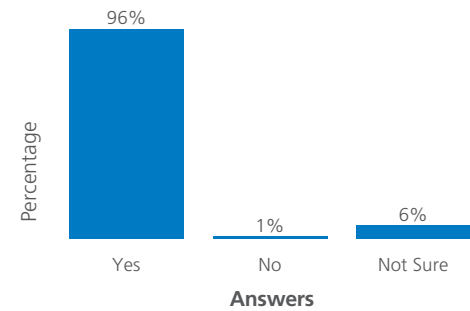
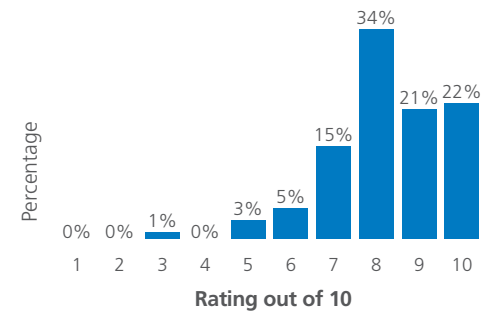


Figure 39 | Student rating on how good they thought the training was out of 10



How many students has the CAG attracted?

In 2011, we produced an introductory booklet for medical students, covering core aspects of working with adults with neurodevelopmental disorders. This booklet is freely available as a PDF download and is on the CAG SharePoint, Estia centre website, Maudsley training website and via the 'London Deanery'.

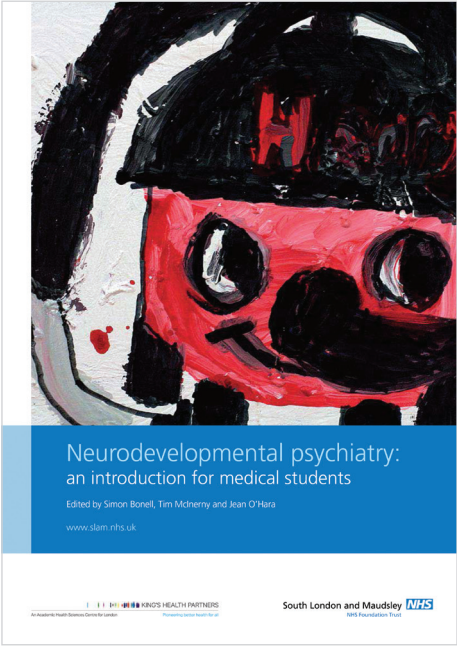
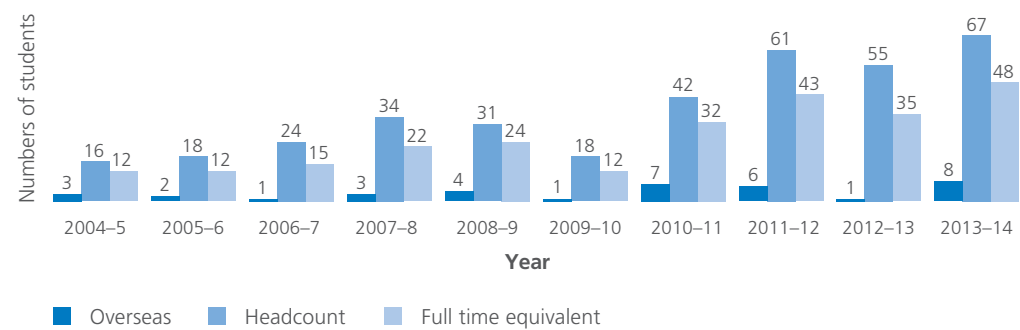
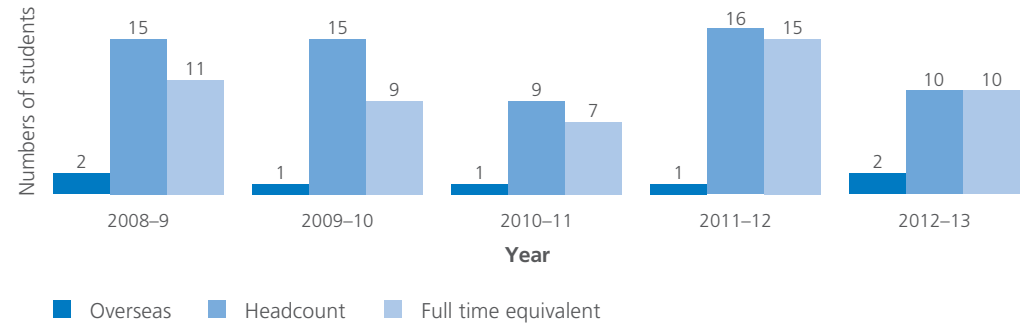


Figure 40 | Forensic MSc student numbers



The graph shows an increase in the number of forensic mental health MSc students the CAG has taught over the last 10 years.

Figure 41 | Mental health in learning disabilities MSc student numbers



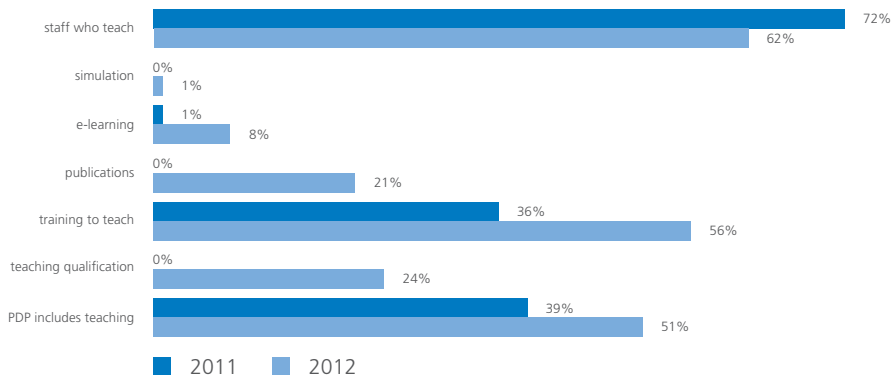
The graph shows the number MSc students the CAG has taught through the Mental Health in Learning Disabilities service.

Developing scholarship within the CAG

The CAG is committed to supporting and developing our staff as teachers, educators and trainers. We have surveyed our workforce to better understand the skills and expertise we have within the CAG and how best to develop and support our staff.

These results show the majority of clinical staff of which included, all seniorities across all disciplines a breakdown being 23% doctors, 24% nurses, 24% clinical psychiatrists, 10% social workers, 9% administrators, 6% occupational health therapists and 4% management – who responded to the survey are taking on teaching as part of their role, and increasing numbers are training in this. A small but increasing number of clinical teachers are using innovative teaching methods such as simulation and e-learning.

Figure 42 | Workforce survey



Key:
2011 had 171 survey respondents
2012 had 109 survey respondents

Estia Centre work shops

In 2013, the Estia Centre delivered 24 MHLDRelated workshops to community support workers

from the London Boroughs of Lambeth and Southwark, and 9 workshops specifically for staff from the London Borough of Lewisham. Of those who attended, 235 individuals provided feedback.

Figure 43 | Content and level of training

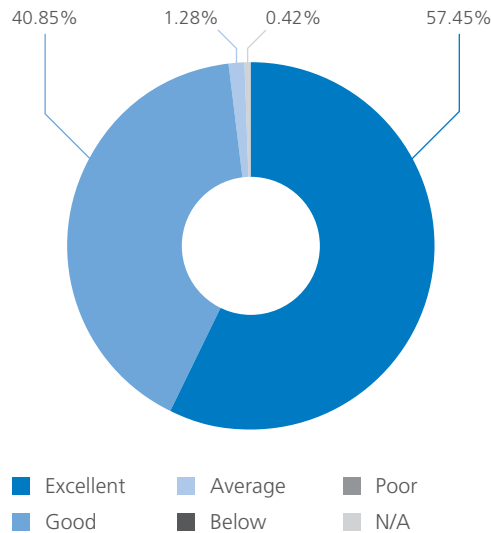
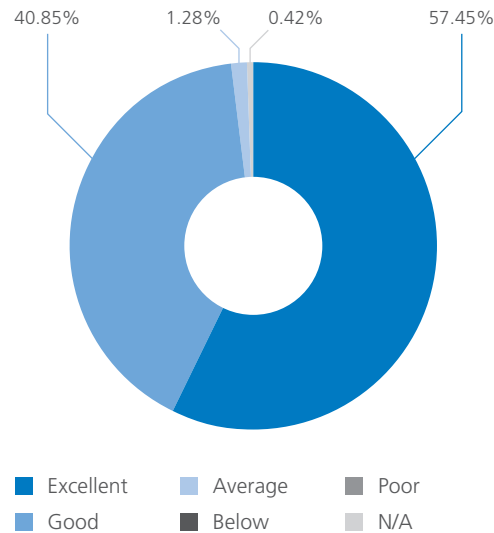


Figure 44 | Training evaluated as being 'appropriate to my needs'

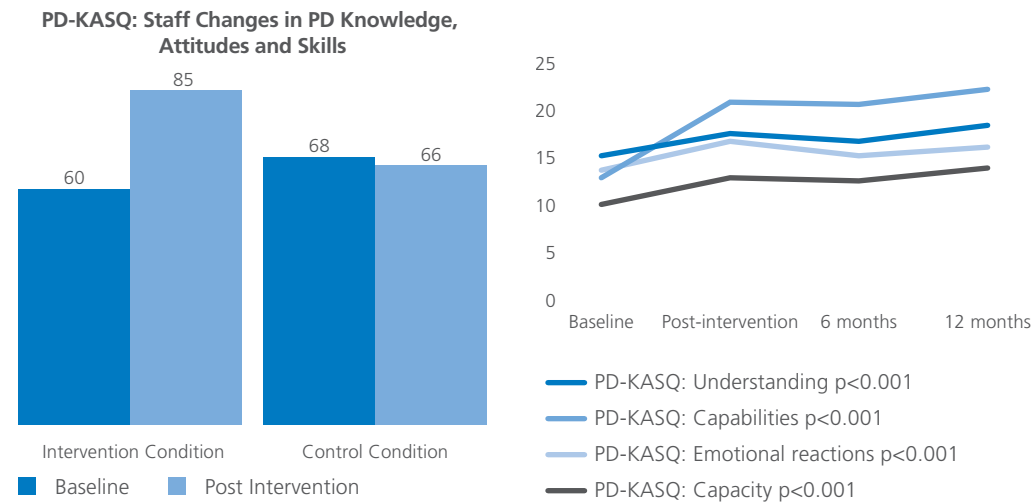


Example of innovative training evaluation:

We evaluated the effectiveness of a small novel partnership intervention – Psychologically Informed Practice (PIP) – in improving staff performance and reducing antisocial behaviour in high risk offenders

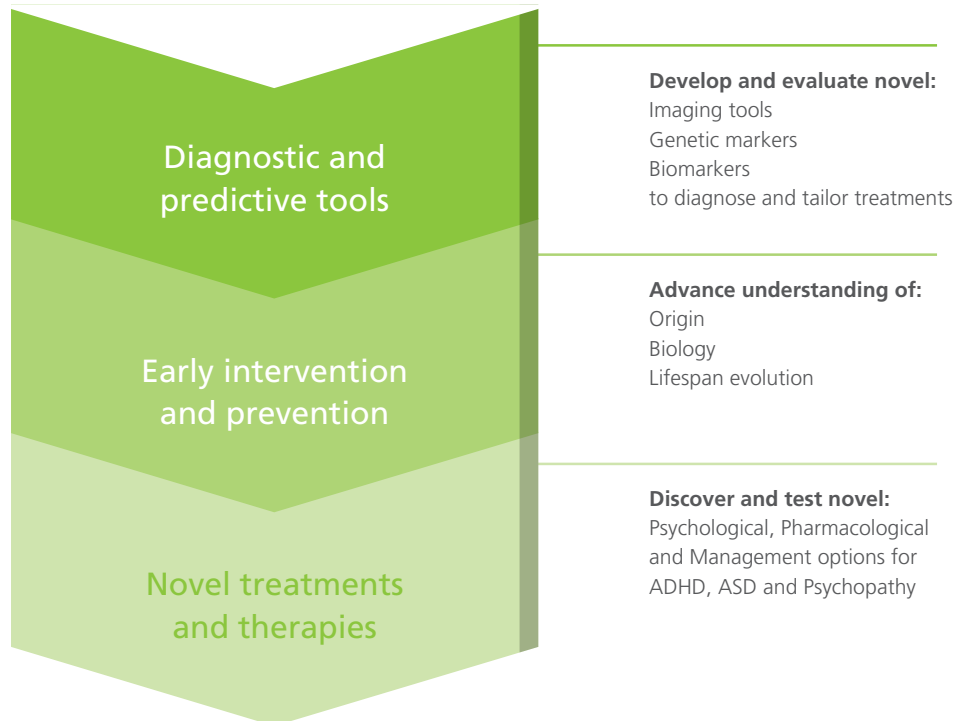
residing in an Approved Premise in south London. We demonstrated significant improvements in a number of staff measures following intensive personality disorder (PD) training, and these were maintained 6 and 12 months post-training.

Figure 45 | PD: KASQ = Personality Disorder-Knowledge, Skills, Attitude Questionnaire; MBI = Masiach Burnout Inventory



Academic research and innovations

Research aims of BDP CAG



We are the European leaders in research and providers of services for adults with neurodevelopmental disorders of social cognition (autism spectrum, ADHD, psychopathy) in conventional clinical settings, secure services and prisons. Research activity involves the Institute of Psychiatry and a close collaboration with the NIHR Biomedical Research Centre for Mental Health.

Examples of research aiding our understanding and treatment for clinical disorders

Autism Spectrum Disorder (ASD)

Translational research has been facilitated by our CAG's integrated and collaborative approach. Discovering novel treatments for Autism Spectrum Disorder (ASD) is a challenge. Its causal mechanisms are poorly understood, the spectrum has wide clinical diversity, with no practical biomarker available to supplement diagnosis or predict treatment outcome.

MRI-aided diagnosis in autism

Since the CAG was established, the integration of research opportunities and clinical service has resulted in a number of recent significant advances in the search for biomarkers and new treatment targets for ASD. Our work on MRI-aided diagnosis in autism spectrum disorder has led to a grant funded clinical trial in our national diagnostic and specialist inpatient services and winning the HEAL NHS Innovation of the Year award in 2010, and the 'Top 10 Science findings' in 2011.

EU-AIMS study

Our Behavioural Genetics Clinic is now leading and recruiting to EU-AIMS, the largest autism research network in the world awarded €30 million, and led by Professor Declan Murphy, involving 13 European partners. It has also pioneered a new genetic diagnostic test for autism which has been patented by KCL for commercial development. Our autism work was presented at No 10 Downing Street in 2013, and is seen as world leading to such an extent Autistica are trying to find a way to fund studentships in our clinics. We are also part of a recent winning bid for funding an international research effort in genetics and neurodevelopment that was awarded US\$12million by NIH.

EU-AIMS

- Development and validation of translational approaches for the advancement of novel therapies to treat ASD
- Setting new standards in research and clinical development to aid the drug discovery process
- Identification and development of expert clinical sites across Europe to run clinical studies and trials, and the creation of an interactive platform for ASD professionals and patients

Winning the bid to lead the pan Europe Autism Network, our 13 partners – largest autism grant in the world:

Professor Declan Murphy IoP/KHP

EU-AIMS consortium Academic Lead

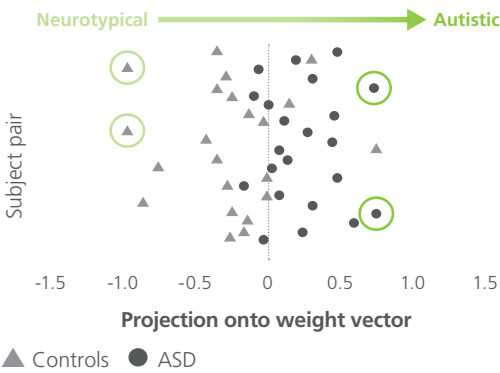
Partners:

1. University of Basel
2. Institute Pasteur, Paris
3. Max Plank Institute, Gottingen
4. Neurosearch, Denmark
5. Psynova Neurotech, Cambridge
6. deCode Genetics, Iceland
7. Central Institute of Mental Health, Mennheim
8. Karolinska Institute, Sweden
9. Autism Research Centre, Cambridge
10. Donders Institute of Brain Cognition and Behaviour, Netherlands
11. University Medical Centre, Utrecht
12. European Molecular Biology Laboratory, Cambridge
13. GABO:Milliarium MBH and Co, Munich

Support Vector Mechanism computer programme

Using the Support Vector Mechanism (SVM) computer programme we showed the computer programme can classify a brain scan and differentiate between someone with ASD from someone with typical development, with an accuracy of 81%, sensitivity of 77% and specificity of 86%. This series of studies led to us winning the Innovation of the Year Award, as part of the NHS Healthcare, Excellence and Leadership (HEAL) Awards 2010.

Figures 46 | MRI brain classifier ‘driven’ by autistic symptoms



Correlation coefficients between diagnostic criteria and weight vector for gray and white matter

Diagnostic text	Gray matter		White matter	
	r	p	r	p
AQ	0.510**	<0.01	0.218	<0.20
ADOS total	0.430*	<0.05	0.432*	<0.05
ADI-R social	0.141	<0.60	0.163	<0.50
ADI-R communication	-0.057	<0.90	-0.259	<0.30
ADI-R repetitive behaviour	0.365	<0.20	0.014	<0.96

* Significant correlation on $p < 0.05$ ** Significant correlation on $p < 0.01$ (two-tailed)

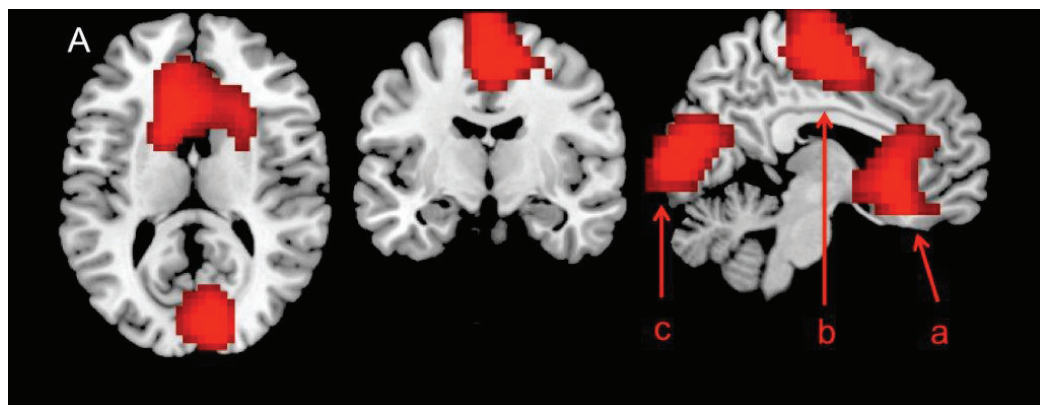
Over the past 2 years we have worked to prove infant brain development and function can be measured. We can now demonstrate those infants at high risk for ASD have very significant difference in brain function from low risk infants. We have several NHS adopted studies in this area, focussing upon the effects of very preterm birth on risk, and infants born to depressed mothers.

- **Objective:** To investigate patterns of brain development that may be of relevance to ASD e.g. white matter development, and infant brain processing of human voice sounds (+ emotions)
- **Techniques:** MRI and NRIS
- **Participants:** 40 infants between 3 and 7 months at high vs low risk for ASD

- **Results:** High risk infants have significantly less activation to human (and emotional) sounds

Imaging methods

Using imaging methods – functional MRI – we showed for the first time in the world depleting brain serotonin restores the pattern of brain activity in ASD towards a ‘typical’ control profile (Daly et al, Arch Gen Psychiatry 2012). This landmark discovery implies, rather than increase serotonin availability with the ubiquitous use of selective serotonin reuptake inhibitors (SSRIs), enhancing serotonin reuptake (using selective serotonin reuptake enhancers, SSREs) may be a novel treatment approach in ASD. This is now forming the basis of our new clinical trial (awaiting ethics approval).



The picture opposite shows brain activity during the processing of emotion, and how these are affected by serotonin depletion in ASD and typical individuals.

Using imaging methods – magnetic resonance spectroscopy (MRS) and positron emission tomography (PET) – we have demonstrated the balance between two neurochemicals (excitatory glutamate and inhibitory GABA), that are critical for brain development and function, may be abnormal in ASD (Mendez et al, Neuropharmacology 2012; Horder et al, IMFAR 2012). In 2013 we replicated our original finding that glutamate is significantly reduced in ASD and are now investigating glutamate influences on severity of ASD symptoms following collaboration with Roche in various rodent model studies. This

has now led to an experimental medicine study examining possible glutamate based therapy for ASD and application for a multicentre clinical trial is under consideration.

Figure 47 the scatter plot shows reduced glutamate in ASD compared to controls, and that those with the most severe ASD symptoms (as measured on the ADOS) have the least glutamate.

In 2013 we demonstrated a high prevalence of unrecognised ASD/adult ADHD across the adult healthcare and prison system. This provides evidence for the need to increase awareness and training, commission diagnostic and intervention services to prevent very significant social disability, comorbid mental illness and the human and financial costs to the community.

Figure 47 | Brain glutamate in ASD vs controls: relationship to behaviour and functional connectivity

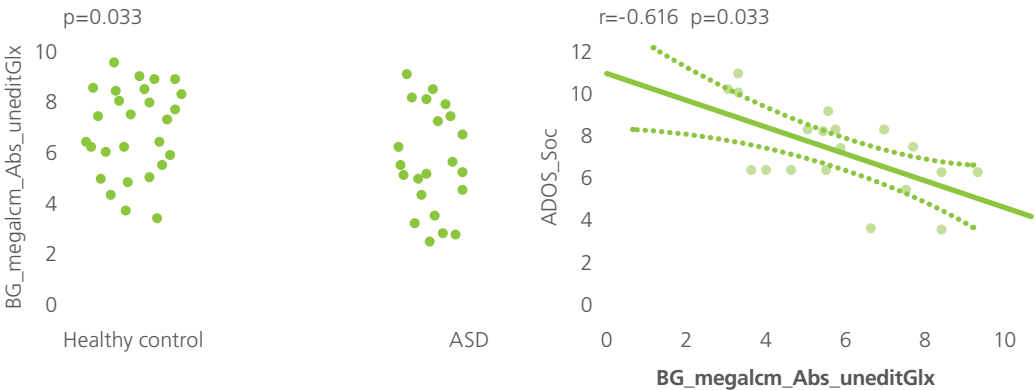
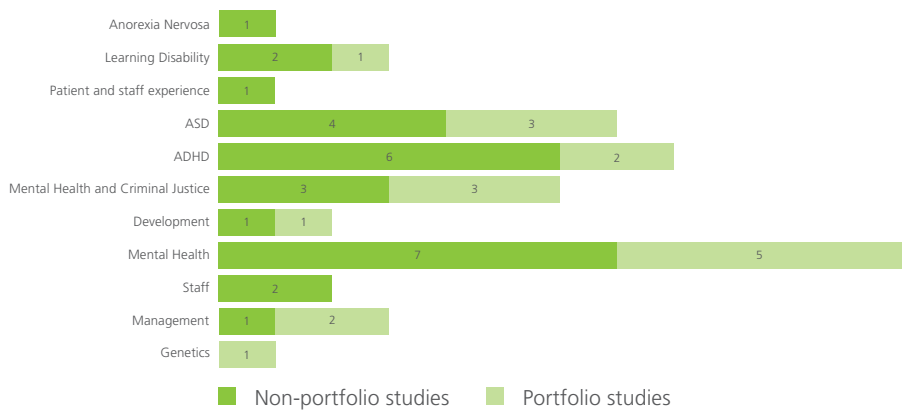


Figure 48 | Current BDP Research and Development approved studies as of end of 2013



Other areas of research and value-based healthcare initiatives in the CAG include:

- Examining predictors of absconding behaviour from medium secure forensic units with a view to developing a risk screen tool for absconding
- Examining predictors of community recall of patients detained under S37/41 of the Mental Health Act
- We tested and demonstrated how a 12-week triage forensic model delivers good assessment, treatment and the financial benefit to local commissioners
- Developing a pilot enhanced community service to meet the needs of adults with intellectual disability, with the aim of preventing placement breakdown in the local community, hospital admission and out-of-area placement
- Examining the concept of ‘recovery’ for adults with intellectual disabilities and significant mental health difficulties
- Evaluation of a ‘flexible integrated reading support tool’ for adults with autism spectrum disorders and their carers
- Introduction of research, outcomes and service evaluation (ROSE) forums across our service areas to increase research awareness in our wards and community teams, to encourage earlier translation of evidence into clinical practice

Translational research

Research is key to improving our services and delivering treatment innovations. Figure 49 shows the number of awards as of 2013 and in excess of £43 million.

Figure 49 | Collaborative awards in pounds and dollars



Publications

Publications and books 2009–2013

We publish research in the very highest impact factor journals (>8). In the last year the CAG has had papers in Science, Nature Neuroscience, Nature Medicine, Nature Reviews Neuroscience, Lancet, Archives of General Psychiatry, and Molecular Psychiatry. Our average journal impact factor for 2013 was 6.2.

List of published books		
Author	Title	Publisher
Bouras N and Holt G (eds)	Mental Health Services for Adults with Intellectual Disability: strategies and solutions (2010)	Psychology Press, The Maudsley series
O'Hara J, McCarthy J and Bouras N (eds)	Intellectual Disability and Ill-Health: a review of the evidence (2010)	Cambridge University Press
Chaplin E, Underwood L and Hardy S (eds)	Autism Spectrum Conditions: a guide (2013)	Pavilion Publishers
Tsakanikos E and McCarthy J (eds)	Handbook of Psychopathology in Intellectual Disability: research, practice and policy (2014)	Springer

List of high impact publications in order of publication date	Journal
Ecker, C., et al. (2013) Intrinsic grey-matter connectivity of the brain in adults with autism spectrum disorder 110, 32, p. 13222–7	Proceedings of the National Academy of Sciences of the United States of America
Ecker, C., Spooren, W. & Murphy, D. G. M. (17 Jul 2012), Translational approaches to the biology of Autism: false dawn or a new era? In: 18, 435–442.	Molecular Psychiatry
Christakou, A., et al. (2012) Disorder-specific functional abnormalities during sustained attention in youth with Attention Deficit Hyperactivity Disorder (ADHD) and with Autism In: 18, 2, p. 236–244	Molecular Psychiatry
Murphy, D. & Spooren, W. (Nov 2012) EU-AIMS: a boost to autism research:. 11, p. 815–816	Nature reviews drug discovery
Daly, E. M., et al. (2012) Serotonin and the neural processing of facial emotions in adults with autism: An fMRI study using acute Tryptophan depletion 69, 10, p. 1003–1013	Archives of General Psychiatry
Ecker, C., et al. (2012) Brain anatomy and its relationship to behaviour in adults with autism spectrum disorder: A multicentre magnetic resonance imaging study 69, 2, p. 195–209	Archives of General Psychiatry
Sundram, F., et al. (2012) White matter microstructural abnormalities in the frontal lobe of adults with antisocial personality disorder 48, 2, p. 216–229	Cortex
Catani, M., et al.(2011) Altered integrity of Perisylvian Language Pathways in schizophrenia: Relationship to auditory hallucinations 70, 12, p. 1143–1150	Biological Psychiatry
Blasi, A., et al. (2011) Early specialization for voice and emotion processing in the infant brain 21, 14,p. 1220–1224	Current Biology
Chan, R. C. K., et al. (2011) Brain anatomical abnormalities in high-risk individuals, first-episode and chronic Schizophrenia: An activation likelihood estimation meta-analysis of illness progression 37, 1, p. 177–188	Schizophrenia Bulletin
Leung, M., et al. (2011) Grey matter in First-Episode Schizophrenia before and after antipsychotic drug treatment. Anatomical likelihood estimation meta-analyses with sample size weighting 37,1, p. 199–211	Schizophrenia Bulletin
Thiebaut De Schotten, M., et al. (2011) A lateralized brain network for visuospatial attentionIn 14, 10, p. 1245–1246	Nature Neuroscience
Lombardo, M. V., et al. (2010) Atypical neural self-representation in autism 133, 2, p. 611–624	Brain.
Dean, K., et al. (2010) Full spectrum of psychiatric outcomes among offspring with parental history of mental disorder 67, 8, p. 822–829	Archives of General Psychiatry
Craig, M. C., et al. (2009) Altered connections on the road to psychopathy 14, 10, p. 946–953	Molecular Psychiatry
Craig, M. C., et al. (2009) Virtual dissection of the major association pathways connecting to the amygdala and orbitofrontal cortex 14, 10, 907	Molecular Psychiatry

Other publications	Journal
MacManus, D., Dean, K., Jones, M., Rona, R. J., Greenberg, N., Hull, L., Fahy, T., Wessely, S. & Fear, N. T. (16 Mar 2013) Violent offending by UK military personnel deployed to Iraq and Afghanistan: a data linkage cohort study 381, 9870, p. 907–917 11 p.	The Lancet
Sarkar, S., Craig, M. C., Catani, M., Dell' Acqua, F., Fahy, T., Deeley, Q. & Murphy, D. G. M. (Feb 2013) Front temporal white-matter microstructural abnormalities in adolescents with conduct disorder: a diffusion tensor imaging study. 43, 2, p. 401–411 11	Psychological Medicine
Bruce, M., Crowley, S., Jeffcote, K and Coulston B. (2013) Community DSPD pilot services in South London: rates of reconviction and impact of supported housing on reducing recidivism. 10.1002/cbm.1892	Criminal Behaviour and Mental Health
Jarrett, M., Craig, T., Parrott, J., Forrester, A., Winton-Brown, T., Maguire, H., Maguire, P and Valmaggia, L. (2012) Identifying men at ultra-high risk of psychosis in a prison population. 136, 1–6	Schizophrenia Research,
Jarrett, M., Thornicroft, G., Forrester, A., Harty, M., Senior, J., King, C., Huckle, S., Parrott, J., Dunn, G and Shaw, J. (2012). Continuity of care for recently released prisoners with mental illness: a pilot randomised controlled trial testing the feasibility of a Critical Time Intervention. 21: 187–193	Epidemiology and Psychiatric Services
Chaplin, E., McCarthy, J & Underwood, L. (2013) Autism Spectrum Conditions and Offending: special edition. In: Journal of, 4:1/2, 5–8. DOI 10.1108/JIDOB-05-2013-0012	Intellectual Disabilities and Offending Behaviour
McCarthy, J, Underwood, L, Chaplin, E, Hayward, H, Sabet, J Young, S, Asherson, P, Mills, R and Murphy, D. (2013) Intellectual disability among a prison population: Recognition and comorbid mental health problems. 10 (2), 147–147	Policy and Practice in Intellectual Disabilities
Sabet, J, Hayward, H, Underwood, L, Chaplin, E, McCarthy, J, Young, S, Mills, R, Asherson, P, and Murphy, D. (2013) Pathways of prisoners with neurodevelopmental disorders 10 (2), 166–166	Policy and Practice in Intellectual Disabilities
Underwood, L., Forrester, A., Chaplin, E. & McCarthy, J. (2013) Prisoners with Neurodevelopmental Disorders, 4:1/2, 17–23. DOI10.1108/JIDOB-05-2013-0011	Intellectual Disabilities and Offending Behaviour
Hemmings, C.P., O'Hara J., McCarthy J., Holt G., Coster, F., Costello, H., Hammond R., Xenitidis, K and Bouras N. (2009) Comparison of adults with intellectual disabilities and mental health problems admitted to specialist and generic inpatient units., 37 (2) 123–128	British Journal of Learning Disabilities
Chaplin, E., Chester, R., Tsakanikos, E., McCarthy, J., Craig, T. & Bouras, N. (2013) Reliability and Validity of the SAINT: A Guided Self-Help Tool for People with Intellectual Disabilities. 6(3), 245–253.	Mental Health Research in Intellectual Disabilities
R., Chaplin, E. Tsakanikos, E., McCarthy, J., Bouras, N & Craig, T. (2013) Gender differences in self-reported symptoms of depression and anxiety in adults with intellectual disabilities. Chester, , Vol. 7 Iss: 4	Advances in Mental Health and Intellectual Disabilities

Other publications	Journal
Emery, H, Jones, B and Chaplin, E. (2013) A Comparison of carers needs for service users cared for both in and out of area. 7: 3, 143–151	Advances in Mental health and Intellectual Disabilities
Hemmings, C., Deb, S., Chaplin, E., Hardy, S. & Mukherjee, R. (2013) Review of research for people with ID and mental health problems: A view from the United Kingdom., 6(2), 127–158.	Journal of Mental Health Research in Intellectual Disabilities
Hemmings, C Shaymaa Obousy, S & Craig, T. (2013) Mental health crisis information for people with intellectual disabilities. Vol. 7 Iss: 3, pp.135–142	Advances in Mental Health and Intellectual Disabilities
Chaplin, E., Paschos, D., O’Hara, J et al. (2009) Mental ill health and care pathways in adults with intellectual disability across different residential types. doi:10.1016/j.ridd.2009.10.015	Research in Developmental Disabilities
Chaplin E., Kelesidi K., Emery H., O’Hara J., Lockett J and McCarthy J. (2010) People with learning disabilities placed out of area: the South London Experience. Vol 1, 3: 5–14	Journal of Learning Disabilities and Offending Behaviour
Radhakishnan, V., Smith, K and O’Hara, J. (2012) The Mental Health Clustering tool for people with severe intellectual disability. 36, 454–458	The Psychiatrist

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