



**Research  
Centre**  
Part of St Andrew's Healthcare

# Research

## Report 2018/19



*Transforming lives through research*

# Our mission

To improve the lives of people who experience severe mental ill-health, through the design and delivery of collaborative, patient-driven research that advances mental health practices, treatments and environments.

Our goal is to identify and address the obstacles preventing people, detained in secure hospital settings, from moving to the most appropriate, least restrictive setting – and back into society, wherever possible – in a safe and sustainable way.

# Chair's introduction

People with severe mental illness like schizophrenia, psychosis, personality disorders or developmental disorders, such as autism, are more likely to experience some of the most severe health inequalities, and have a life expectancy that is 15-20 years less than the general population. Mental illnesses have a profound effect on people and their families and, whilst current treatments may work for some, for far too many others the current system falls short. We need a new generation of treatments, therapies and environments that will deliver better outcomes for those people with severe mental illness.

There is a clear need for mental health services to focus on using evidence to improve outcomes. It is research that will provide the evidence to make a real difference to people's lives. Here at St Andrew's Healthcare, we are driven by the belief that research will deliver new possibilities for people to regain a meaningful life, despite severe mental illness, and this is encapsulated in our Research Centre Mission Statement.

Good progress is being made, but we move forward with a restless sense of purpose. Time is not on our side and it is important that we make a difference.

**This, we will do.**



**Sir Peter Ellwood**  
Research Committee Chair

# Research at St Andrew's Healthcare

## – the first 12 months

Since the launch of the Research Centre at St Andrew's, in April 2018, we have focussed on establishing solid foundations upon which we will build and integrate research as a core activity across our hospitals.

The first step was to establish the infrastructure and governance that ensure the conduct and delivery of high-quality, robust research. The best research is developed using a multi-disciplinary approach; we have, therefore, recruited a Research Committee, reporting to the St Andrew's Healthcare Board, which draws on a broad range of knowledge, expertise and experience to provide guidance, help and advice. Importantly, and for the first time at St Andrew's, this includes representation from patients and carers. We are extremely grateful to Sir Peter Ellwood and the committee members for agreeing to help in this way. We look forward to working with them, in the months and years ahead, to develop exciting and meaningful research at St Andrew's, which will have real life impact for our patients, their carers and our staff. A list of committee members can be found at the end of this report.



**Johnny Fountain**  
Research Centre Director  
and Director of Development



We have developed a research strategy that sets out clear priorities and direction for the next 3-5 years. The strategy focuses on three key themes:



**1**  
Personalisation: building a patient-centred knowledge base to change individual care and outcomes



**2**  
Mental and Physical Health: developing treatments for the whole person; exploring the interplay between mental and physical conditions



**3**  
Transition: improving the patient journey across and between mental and physical healthcare systems and community settings

With translation into practice the goal for our research, the strategy places patients at the centre of everything we do, in alignment with the wider St Andrew's Healthcare approach, and puts a focus on innovation and utilising technology.

During the first few months, we conducted a review of the research portfolio, resulting in a 67% reduction to the number of projects (down from some 107 to a focussed portfolio of 35), which are now aligned to our strategy. A few examples of current projects that are underway are outlined later in this report. We have also initiated some new and exciting research programs, which, although at an early stage, have the potential to create a step change in the treatment of severe mental illness; two examples of these early stage projects are included towards the end.

Building external partnerships across a range of mental health organisations will be critical to our success, and we now have collaborations with 14 UK universities and a number of mental health charities. We also need to attract external research funding and this will be ever more important for the continued development of the portfolio.

Finally, we need to promote a positive, research active culture across our care teams. Being research active will not only bring benefits to our patients, it will encourage and support the best clinical staff and enhance the reputation of the Charity. This report sets out some of the steps we have taken, in the first year, to achieve these aims.

56

attended  
Research 101  
workshops



18

staff  
undertook  
research as  
part of their  
postgraduate  
studies

# Growing our talent



Research will have its greatest impact where we have clinical expertise and can determine which research questions are most relevant to our patients. Ultimately, we want a culture where research is a core part of everyday clinical practice and a natural part of the care conversation.

To achieve this, we are building an infrastructure and developing opportunities that will support researchers from within the Charity. We will nurture and support all members of the care team to develop their research skills, through the provision of training and by assisting them in the development of research ideas, study design, data collection, statistical analysis and dissemination.

In the autumn of 2018, we delivered an entry-level workshop, Research 101, to engage clinicians and staff who were either new to research or who had not been research active for some time. The workshop gave an overview of key research considerations and support available, within a St Andrew's context, as well as an opportunity to discuss project ideas. The event was open to all staff and delivered across all four St Andrew's sites, with 56 staff members attending. Further workshops are planned to cover other aspects of research, such as research methods, project development, getting published and writing funding applications.

Research was a key theme at the October 2018 St Andrew's Healthcare leadership event, which was attended by senior managers from across the Charity. The session was opened by Professor Martin Orrell, Director of the Nottingham Institute of Mental Health, who outlined the importance of clinical research. This was followed by smaller interactive group sessions to explore new research ideas.

Five research themed sessions took place as part of the Continuing Professional Development (CPD) programme for staff; further events are planned for 2019.



'Moving forward the  
St Andrew's research agenda'  
(May 2018)



'The role of exposure to violence, burnout  
and self-efficacy on the life satisfaction  
of clinical mental health staff'  
(May 2018)



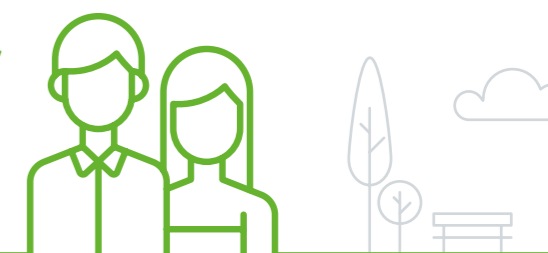
'A qualitative study on ethnic minority  
detained male adolescent suicidal  
behaviour – staff lived experiences'  
(Nov 2018)



'Use of virtual reality in dementia'  
(Dec 2018)



'Managing relationships and sexuality  
among men and women in secure  
care: creating a new agenda?'  
(Jan 2019)

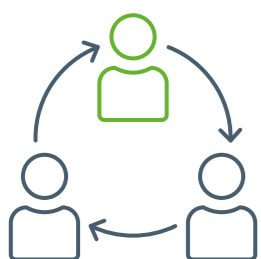


# Building capacity



Collaborations with universities and the NHS bring an additional dimension to our research activities, and provide an opportunity to involve our patients in larger multi-site projects.

These partnerships provide access to additional knowledge and expertise that complement our clinical and research capability; we will seek to further develop these opportunities in the future. Working with our clinical teams, we offer a selection of pilot and early stage projects that can be matched to MSc students, and we are working with academic partners to identify and appoint PhD students, to take larger projects forward.



31

projects conducted  
in collaboration  
with partners



"I was lucky enough to be able to secure a placement at St Andrew's, Northampton, as part of my MSc with the University of Buckingham. Over a period of 5 months, I had the opportunity to shadow Peter Ford (the Clinical Lead in ASD), during his clinical duties, as well as work collaboratively with him to shape and develop my dissertation. Alongside this, I assisted with a large observational research project within the Research Centre, where I could analyse data, at the same time as developing my research skills. This has been a highly valuable experience both for my professional and personal development as a future psychologist."

**Sabina Hussain**  
MSc University of Buckingham



Over the last financial year we have facilitated

**6 MSc** and **13 PhD**  
students to conduct research at St Andrew's

# Patient and Public Involvement (PPI)

It is essential that researchers take patient and carer perspectives into account when planning their studies, from the co-creation of ideas to the development of protocols.

We actively engage with patients and carers during study development, so that we benefit from their insight and lived-experience to understand what outcomes matter most to them. We are similarly invested in patient and carer involvement at a strategic level and have recruited both patient and carer representatives to our Research Committee.



OVER  
**100**

patients participated in research studies during the year

**807**

members of staff participated in research studies during the year

## International Conference

Last year, Leatitia Williams, a Senior Staff Nurse at St Andrew's, completed her Master of Clinical Research at the University of Northampton. She presented her project: 'A Qualitative Exploration: Healthcare personnel perspectives on detained suicidal male ethnic minority adolescents' at the International Association of Psychiatric Nurses of Nigeria Conference, held in Dubai in May 2018.

During her presentation Leatitia shared her research findings, which highlighted issues regarding staff mental health well-being, staff accessing hospital support systems, stigma and organisational culture and how

patient culture and beliefs can affect nursing care for this patient group. Attendees at the conference included nurses from across the globe.



"It was a great honour to be asked to present at such a prestigious event, which was themed: Making the world better with mental health: no mental health; no health."

**Leatitia Williams**  
Senior Staff Nurse

## Communication and dissemination

We actively disseminate knowledge freely and widely through the publication of research findings and through public engagement, to help change clinical practice for the benefit of patients and society.



This year 17 papers were published and 13 conferences were delivered. We generated 10 monthly research news stories, which are accessed regularly by staff.



# Research projects



## Patient Data Registry: Digital health

The digital health revolution brings significant potential for data-driven research and presents an opportunity to deliver on this, as yet, untapped opportunity to revolutionise care, drive efficiencies and reduce costs.

A key tool in maximising these opportunities is the development of a Patient Data Registry, through which anonymised clinical data, including electronic prescribing records, can be aligned and interrogated. The detailed analysis of existing data can be used to develop more accurate personalised care plans and provide more targeted therapies.

Our first data project is a collaboration with Bradley Love, Professor of Cognitive and Decision Sciences at University College, London. It uses anonymised patient data to assess the predictive value of the HoNOS clinical rating scale, which is used to measure the health and social functioning of people with severe mental illness. This analysis aims to identify clusters (subgroups who share similar characteristics) of patients and explore whether these clusters can be used to predict and plan the recovery path of a patient, leading to earlier discharge and reduced length of hospital stay.



“The use of clinical data is vital to improve our understanding of mental illness in order to identify the most appropriate therapies to help patients’ recoveries. However, we are mindful that there are ethical considerations regarding the use of such data and we work closely with our data protection team to ensure that the appropriate guidelines are in place.”

**Dr Kieran Breen**  
Head of Research and Development

# The mATCH Study:

## People with autism detained within hospitals: defining the population, understanding aetiology and improving care pathways

Some people with autism spectrum disorder (ASD) are detained in hospitals under the Mental Health Act (2007) because of their behavioural problems and their potential risk, both to themselves and others.

While these patients have a primary diagnosis of ASD, the complex nature of the condition means that their clinical presentations, risk behaviours, treatment needs and responses to treatment may vary significantly. If we can identify a sub-typology (groups of patients within the spectrum, who share similar clinical symptoms) we will be able to tailor their individual care more effectively, leading to a faster recovery path and, hopefully, a shorter hospital stay.

The study involved collecting patient data, including demographics, clinical information, risk and violence information, therapies and intellectual functioning. This data collection was then repeated one year later.

This important NIHR-funded multi-site project was a collaboration with the University of Kent and St Andrew's provided the largest data set, with one-third of the participants coming from the Charity. The data obtained in the study is being analysed and we look forward to obtaining the results, in the near future. It is anticipated that these findings will form the basis of a follow-up study to assess the longer-term impact, in which St Andrew's will also participate.



"As one of 29 NHS trusts and independent providers taking part, it's a fantastic achievement for St Andrew's to have provided over a third of the trial data for such an important study, which adds to the knowledge required to reduce the length of stay in hospital for patients with autism."

**Peter Ford**  
Clinical Lead, ASD IPU

# Exercise is Medicine:

## The benefits of physical exercise for adolescents with severe mental illness

Despite the proven physical and psychological benefits of exercise, individuals with severe mental illness remain amongst the most inactive populations in society. This is largely due to reduced motivation and interest, perceived incompetence and associated co-morbidities.

The effect of physical inactivity is magnified within secure mental healthcare settings, where negative symptoms are at their severest and structural barriers deter people from taking physical activity. Identifying effective strategies that deliver lasting behaviour change and lead to improved mental and physical health is a crucial next step for sustainable recovery.

It is well known that mental and physical health are fundamentally linked; poor physical health is a major barrier to mental health recovery. Individuals, particularly adolescents, with severe mental illness have much to gain from engaging in a more active lifestyle that can be continued into adulthood. Physical activity may work to

decrease the negative symptoms associated with severe mental illness, as well as reduce susceptibility to a wide range of physical co-morbidities: for example, obesity and diabetes, which can be exacerbated by many of the drugs used in treatment. The evidence shows that structured physical exercise, in the treatment of mental illness, improves social functioning, reduces psychotic symptoms, and increases functional capacity and general brain health across a range of diagnoses, including schizophrenia and depression. In addition, mental health services have been searching for an alternative treatment to antipsychotic medication, and exercise could act as an adjunctive activity.

The project will be carried out by a PhD student, jointly funded and supervised by St Andrew's Healthcare and Loughborough University. The project will test and evaluate a psychologically informed physical activity intervention, delivered to patients on the adolescent wards, at St Andrew's Healthcare, with the aim of accelerating recovery. This study follows on from a similar project, which is developing a physical health programme among adult patients at St Andrew's.



"Working with St Andrew's brings the opportunity to access a sizable population of patients who have previously been hard to reach for this type of research. We are looking forward to combining our expertise with those of our colleagues at St Andrew's to drive forward a multi-disciplinary body of work that will benefit the patients at the hospital."

**Dr Florence Kinnafick**  
Lecturer in Psychology, Loughborough University School of Sport, Exercise and Health Sciences

# Bringing the Outside In:

## The feasibility of virtual reality with individuals living with dementia

Virtual reality (VR) has the potential to transform mental health treatment and in the last few years. VR has emerged as a major tool for the investigation, assessment and management of psychiatric disorders.

This ground-breaking project, a collaboration between St Andrew's Healthcare and the University of Kent, explored the feasibility of using VR with individuals living with mild to moderate dementia within a secure hospital.

The study assessed the feasibility of these patients using VR headsets and recorded their responses to virtual environments, such as a forest or beach. The benefit for the patients was measured, using detailed clinical rating scales, and interviews were used to obtain qualitative patient feedback.



"During an art session, one of the patients involved in the project mentioned their experience with virtual reality, commenting on it being 'brilliant'. After talking with him for a while about what he saw, asking about the colours, sounds and objects he could remember, I encouraged him to draw a scene. He drew a sea-side scene with sand, water, waves and birds. He appeared to be inspired to engage in the activity, finding enjoyment in reminiscing and displaying confidence in visualising his experience during the session. It was clear that his involvement with virtual reality had a positive effect on his mood, as well as his motivation to engage within his art sessions."

**Alison Williams**  
Visual Arts Specialist, Arts@StAndrew's

The project demonstrated the viability of VR headset use by people with dementia, and clearly showed a clinical benefit, with an increase in pleasure and alertness after using VR. Verbal participant feedback was also positive, with people reporting how much they enjoyed the experience and that individuals felt it offered them a positive change in environment. As a result, VR is now being rolled out, within dementia care at St Andrew's, as an adjunct to other therapies, and further feasibility studies are planned for different patient groups, such as for patients with ASD. VR use across the wider regional dementia community, including in care homes, is being explored. Initial indications are that patients with dementia and brain injury have much to gain from VR, and we have been developing further research ideas and a joint PhD, with the University of Kent, to explore personalised simulations for this group.



"The whole multidisciplinary team – including psychologists, occupational therapists and nursing staff – were involved with this project, which enabled us to combine our research with clinical knowledge and expertise; an approach that is integral to the research strategy being developed at St Andrew's."

**Vienna Rose**  
Assistant Psychologist and Researcher  
funded by the Research Centre



## Autism Spectrum Disorder (ASD) and HCR-20<sup>V3</sup> Risk Assessment

Violence, particularly in an inpatient setting, has a hugely detrimental effect on individual patients, wards and staff and can set back clinical progress.

Understanding the risk factors related to violence in ASD is a relatively new area of research, and yet, being able predict, appropriately respond and thus reduce violence in an inpatient setting is highly desirable. Risk assessment tools currently in use, such as the HCR-20<sup>V3</sup>, do not include ASD-specific factors and as a result may not be able to accurately predict violence in people with ASD. This project explored the validity of using HCR-20<sup>V3</sup> to assess the risk of future inpatient violence in patients with ASD, with the aim of developing guidelines to improve the reliability

of existing assessment tools. This project has led to discussions around a potential collaboration with Yale University, who are carrying out complementary research in this area. Data collection was completed last year; early findings indicate that the HCR-20<sup>V3</sup> is sensitive to the occurrence of overall and physical violence but not verbal aggression in individuals with ASD.



"The project is the result of a collaboration between our clinicians and the Research Centre at St Andrew's Healthcare. It was great to work side by side from the very early idea generation to publication in a major international journal!"

**Dr Alessandra Girardi**  
Research Associate



# Early stage projects



"I look forward to the collaboration with St Andrew's Healthcare, to investigate sleep and its contribution to the health and well-being of patients. The project is a good opportunity to transfer research knowledge into clinical practice, for patient benefit and institutional resilience."

**Iuliana Hartescu**

Lecturer in Psychology, Clinical Sleep Research Unit,  
Loughborough University



## Sleep: Behavioural sleep medicine and practical sleep management

Sleep disturbances and insomnia have been identified as significant issues for patients in long-term secure psychiatric units.

The problems of poor sleep have far-reaching implications for a patient's quality of life, their rate of recovery and, through the lack of 'normal' day-night sleep routines, their ability to integrate back into society. By incorporating the key principles of behavioural sleep medicine into existing care plans and patient management systems, the proposed research specifically aims to improve patients' subjective sleep quality, reduce incidents, decrease the use of sedative hypnotic drugs and establish the use of practical sleep management approaches. An initial scoping exercise using existing patient data is planned; to provide a better understanding of the extent of sleep problems in specific patient groups. The results will inform a jointly funded PhD studentship with Loughborough University, anticipated to start in autumn 2019.





# CALMED RCT:

## A placebo controlled, double-blind randomised control trial of clozapine

Borderline personality disorder (BPD) is a common mental disorder and in secure hospitals a significant proportion of psychiatric patients with the condition are at high risk of self-harm and suicide.

Treatment options for BPD are limited; there is no licensed medication and NICE guidelines recommend that long-term medication should not be used. Clozapine is effective in reducing aggression and impulsive behaviour in people with schizophrenia and, in the USA, it is used on-label for reducing suicidal risk among people with psychosis.

Clozapine is now also being widely used off-label, in the UK, to reduce self-harm and violent behaviour in people with BPD who are not responding to conventional therapies. However, the true risks and benefits of its use for treating BPD are unknown and, while it is possible such usage is effective, it also has serious side effects. It is therefore necessary to carry out a clinical trial to assess its effectiveness against the risks associated with its administration.

This research idea was conceived by a St Andrew's clinician, who initially carried out a retrospective study (published in 2014). The lack of solid information about the use of the drug in this patient population served as the seed corn for this project. Led by Imperial College London and funded by the NIHR, this St Andrew's-born idea has culminated in a multi-centre clinical trial that aims to assess both the clinical and cost effectiveness of clozapine for patients with BPD. Due to start recruiting in autumn 2019, findings will have the potential to change clinical practice and inform national guidance.



"I'm delighted that this much needed clinical trial will include St Andrew's; it's been a long time in the planning from our original research study back in 2012 and we have a way to go yet, but findings will significantly add to our evidence base for treatment decisions in borderline personality disorder and have the potential to improve outcomes for this patient group."

**Dr Katina Anagnostakis**  
Consultant Forensic Psychiatrist and  
Clinical Director, St Andrew's Healthcare

# Funding

Given the enormous potential benefits to patients and society, which would come from investment in mental health research, it is a travesty that spend is so low, with just £9 spent on research per year for each person affected by mental illness. In comparison, investment in cancer research is more than 25 times higher, at £228 per person.

The imbalance is due to a lack of charitable funding, which is virtually non-existent. This poses a major barrier to the development of mental health research in the UK and further underscores the stigma and disparity that exists between mental and physical health.

To illustrate this another way, for every £1 that the government spends on mental health research, the UK general public invests just 0.3p; this compares with £2.75 for cancer research and £1.35 for research into heart and circulatory problems. If we, as a society, are to achieve advances similar to those seen in physical health, such as cancer and heart disease, we need to invest in dedicated research programmes. Increased funding from the general public and the charitable sector is essential to shift these current inequalities.

The launch of the Research Centre at St Andrew's could not have come at a better time; now is the time to focus on transforming the future of mental illness through research. Recent developments, including those in genomic medicine, will enable us to develop more effective and targeted treatments for a range of illnesses: from anxiety disorder to schizophrenia. In addition, improvements in digital technology and data analytics provide unprecedented opportunities to inform new research in mental health, with the potential to greatly improve the lives of patients, worldwide.

Growing a long-term research programme, and a sustainable funding stream to support it, will not happen overnight. It will take time and energy to develop partnerships and to establish a pool of committed benefactors and donors; but now is the time to build on the increasing groundswell of public support for mental health. The Research Centre will actively pursue a fundraising strategy to support the research portfolio.



# Research Committee

<b>Sir Peter Ellwood (Chair)</b>	Governor, St Andrew's Healthcare
<b>Johnny Wake</b>	Governor, St Andrew's Healthcare
<b>Dr Mike Harris</b>	Non-Executive Director, St Andrew's Healthcare
<b>Prof. Kevin Browne</b>	Director of Centre for Forensic and Family Psychology, University of Nottingham
<b>Dr Giri Rajaratnam</b>	Deputy Regional Director for Public Health England in Midlands & East
<b>Marion Williams</b>	Patient Representative
<b>Bryan Green</b>	Carer Representative
<b>Dr Sanjith Kamath</b>	Executive Medical Director, St Andrew's Healthcare
<b>Johnny Fountain</b>	Research Centre Director and Director of Development, St Andrew's Healthcare
<b>Dr Kieran Breen</b>	Head of Research & Development, St Andrew's Healthcare

# Research Team

<b>Johnny Fountain</b>	Research Centre Director and Director of Development
<b>Dr Kieran Breen</b>	Head of Research & Development
<b>Louise Millard</b>	Senior R&D Project Manager
<b>Dr Alessandra Girardi</b>	Research Associate
<b>Ella Hancock-Johnson</b>	Research Assistant
<b>Lucy Lee</b>	Research Administrator



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