

Honest Broker Service Annual Report 2020/21





This Report has been produced by the Honest Broker Service, part of the HSC Business Services Organisation.

All queries can be forwarded to:

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Further background information can be found <u>here</u>.

Previous year's Annual Reports can be found here.

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Foreword

The Honest Broker Service has been operating since 2014. Since it's inception, it has allowed more than 100 projects (both research & internal / non-research) to access data held securely within the Business Services Organisation's Regional Data Warehouse. These projects have covered a wide range of topics including mental health, maternity services, cancer and dementia. By facilitating the safe sharing of non-identifiable data, we aim to maximise the uses and health service benefits which can be gained from it, including research, planning, commissioning of services and public health monitoring.

There is no doubt that there has been disruption to the service for researchers in the last year due to the impact of the COVID-19 pandemic. However the pandemic has also in many ways brought into focus the importance of data and research.

The Safe Haven facility in the BSO at Franklin Street was closed for much of 2020/21 during times of lockdown. It was re-opened from August to October and again in December when the R rate permitted safely allowing researchers into the supervised safe rooms.

This caused obvious difficulties and delays for research projects, however during this time the HBS staff assisted existing studies by offering a remote querying service where HBS staff ran analysis on behalf of the research teams. The service was also still able to process new applications via video call and 10 new projects were approved in 2020/21.

This year saw the completion of the pilot collaboration project with Swansea University and the launch of the Honest Broker Service tenancy of the UK Secure e-Research Platform (UK SeRP).

This new technology offers a virtual Secure Research Environment and the ability to offer remote access to HSCNI data via the Honest Broker Service while still ensuring the safety of the data. The service launched in March 2021 following engagement with the HSC Data Controllers and is now fully operational meaning approved projects can be carried out remotely. This removes much of the risk of coming into the physical secure research environment during the pandemic and also provides opportunities for collaboration with project teams across the UK.

Data has been key to understanding the pandemic and the BSO Regional Data Warehouse and the Honest Broker Service have been assisting with providing access to a range of COVID-19 related datasets to internal HSC customers and for academic research. This work has been co-ordinated as part of the Data and Connectivity Strands of the National Core Studies into COVID-19 and the HBS team have been working closely with Health Data Research UK (HDR UK) around this programme of work.

The ability to offer remote access has been key to HSCNI participation in these studies and the development of the Health Data Research Innovation Gateway now means that HBS data is discoverable to a wider audience of research teams than ever before.

Thanks are due as always to the Honest Broker Governance Board, who give of their time unselfishly to facilitate the approval mechanisms which allow research to progress in a safe and supported fashion.

Mark Bradley, Interim Director of Customer Care and Performance, and Dr Michael Quinn, Chair of Honest Broker Governance Board

Contents

	Page
Introduction	5
Available Datasets	7
Secure Research Environment	8
The Pandemic—HDR UK Collaboration/National Core Studies	9
Projects Approved in 2020/21	11
Research Activity in 2020/21	12
Non-Research Activity 2020/21	16
HBS User Interview	18
Appendix 1—HBS Routes of Application	19
Appendix 2—Membership of the Honest Broker Governance Board 2020/21	21
Appendix 3—Membership of the Honest Broker Working Group 2020/21	23
Appendix 4—HBS Memorandum of Understanding	24
Appendix 5—Projects Approved 2014/15 to 2019/20	25
Appendix 6—List of Journal Articles Facilitated by HBS, 2020/21	29

Introduction

Background

The Honest Broker Service (HBS) is a function within the Health and Social Care (HSC) Business Services Organisation (BSO) aimed to enable non-identifiable Northern Ireland (NI) HSC data to be safely shared to maximise the uses and health service benefits which can be gained from it, including planning and commissioning of services and public health monitoring.

The HBS provides two key services:

- the provision of anonymised patient level data for the purposes of research, with access only being permitted via a secure research environment, and
- the provision of anonymised, or in some cases pseudonymised, patient level data to Department of Health (DoH) and HSC organisations for the purposes of clinical audit and service evaluation.

Data access is arranged following a formal application process. The Heads of the Regional Data Warehouse and the Information Unit manage the Service and are accountable for its efficient running.

Further details about the Honest Broker Service routes of application are detailed in Appendix 1.

Governance

The Honest Broker Governance Board (HBGB) comprises representatives of the Data Controllers of the data held within the Regional Data Warehouse, as well as representation from the main users of the data from within the HSC family. Current membership of the HBGB is detailed in <u>Appendix 2</u>. Minutes of Board meetings can be found <u>here</u>.

The HBGB provide robust governance reviews of research projects before access to HBS data is given. This is an important method of assurance that the research project feasibility has been assessed, and so before data access is approved, the HBGB must be satisfied that the following criteria are met:

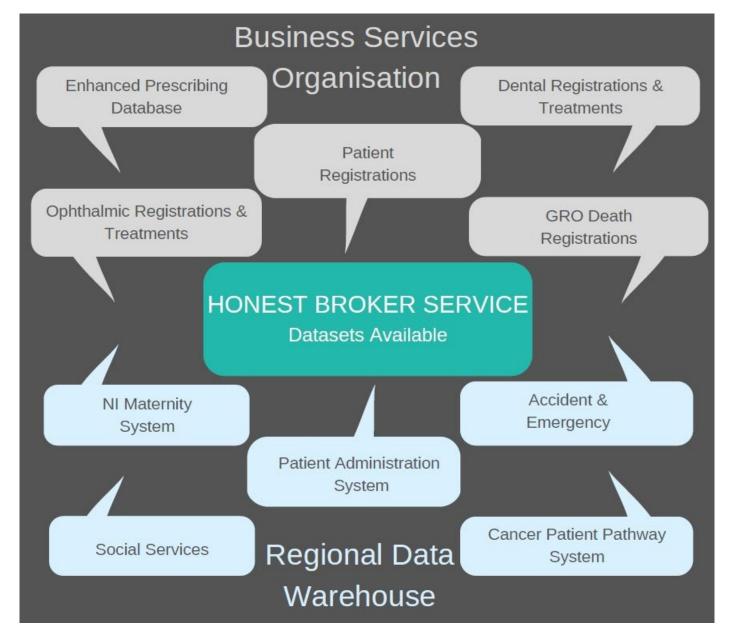
- The project relates to Health and Social Care and will support the development and delivery of public policy.
- The requested data can be provided to the researchers by the HBS in a form which will maintain anonymity of the service user but will also satisfactorily address the research questions.
- The research team has identified the relevant stakeholders and a relevant means of dissemination of the project's results.
- The research summary and objectives are clearly set out in lay terms by the research team. (In the interests of research transparency, the research summary of the project will be published on the HBS Website).
- The project timeframe is feasible.
- The research team has considered potential information disclosure risks and described adequate safeguards by use of totally anonymised data.
- The study has a sound scientific basis and research methodology, and will be managed by a research team with the relevant experience.

The Board checks if a research sponsor has taken overall responsibility for the research project in accordance with the UK Research Governance Framework and whether or not a Health and Social Care Trust is involved in the project.

An Honest Broker Working Group (HBWG) has also been established to support the work of the HBGB. Current membership of the HBGB is detailed in <u>Appendix 3</u>.

A Memorandum of Understanding has been developed to inform the development of the Honest Broker Service—more details can be found in Appendix 4.

Available Datasets



The HBS can facilitate access to both primary and secondary care datasets within the HSC (Shown in grey and blue respectively, above). The HSC Regional Data Warehouse (RDW) is a large, secure data store which receives regular data extracts from a range of key HSC Information Systems. It is managed by BSO and hosted within the HSC Regional datacentres. The HBS can also facilitate access to death registrations data held by the NI General Register Office (GRO) outside of the HSC Information Systems.

As noted later a number of new datasets related to the COVID-19 pandemic are now also available via the Regional Data Warehouse/Honest Broker Service.

Secure Research Environment

Since the establishment of the HBS researchers have been required to attend the HBS Safe Haven to gain access to the requested datasets. All researchers named on an HBS research application, who wish to access data, must become an accredited researcher under the Digital Economy Act 2017. This is facilitated through the Office for National Statistics (ONS) Safe Researcher Training programme. This training (formerly known as SURE) was previously provided by The Research Support Unit (RSU) within the Northern Ireland Statistics and Research Agency (NISRA).

The HBS Safe Haven is located in BSO, Franklin Street, Belfast. Researchers are supervised at all times to ensure compliance with security requirements. Up to seven research teams can be accommodated at one time, across two secure rooms. All research stations are equipped with software packages such as SPSS, STATA and R.

HBS Powered by SeRP! Remote Data Access

Following the national lockdown announced in response to the COVID-19 pandemic on the 23rd of March 2020, the Safe Haven was closed. The Safe Haven re-opened in a limited capacity between August and December 2020 in line with government guidelines, but was closed again in 2021 due to Wave 2 of the pandemic. To help overcome the issues around limited access to data during the pandemic a pilot collaboration project with Swansea University (funded by Health Data Research UK (HDR UK)) became priority for the service throughout 2020/21. The project explored the potential use of the UK Secure eResearch Platform (UK SeRP) technology; a software service that allows researchers remote access to large scale and complex linked datasets. UK SeRP has been developed by Swansea University based on experience gained in the use and development of the SAIL Gateway. It provides a secure environment with standard and bespoke analytical tools which conforms to best practices of data management, security and information governance. Importantly, the HBS retains ownership of all data, and is responsible for account and access controls.

HBS staff tested the UK SeRP system using Open Data in 2020 prior to the next stage of the pilot commencing. The testing phase was successful so the MOU was updated to allow researchers the chance to securely access their data online, 24/7, without the need to come into the Safe Haven from 2021/22. This has allowed opportunities for the HBS to be utilised by UK wide research teams as part of the National Core Studies. The platform is now running successfully with the migration of new and existing projects underway.

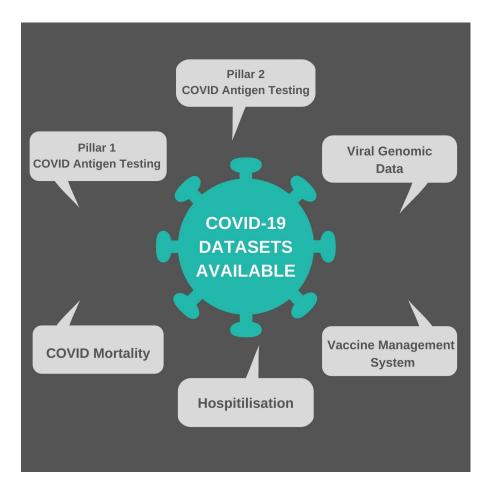
The Pandemic—HDRUK Collaboration and the National Core Studies

Established in October 2020, the <u>National Core Studies</u> programme consists of six studies, including the cross-cutting <u>Data and Connectivity</u> Study, which is led by Health Data Research UK and the Office for National Statistics. Data and Connectivity supports the other National Core Studies to rapidly answer key COVID-19 research questions by enabling streamlined access to priority linked datasets, through Trusted Research Environments.

Health and Social Care Northern Ireland are a delivery partner in the National Core Studies and the Honest Broker Service and BSO Regional Data Warehouse have been heavily involved in this work with support of the Northern Ireland Trusted Research Environment (NITRE) working group and strategic programme board.

NITRE has been established to provide a strategic oversight, governance and support to HSCNI to assist with the response to the National Core Studies.

A number of new data collections have been established in the BSO Regional Data Warehouse as a result of the pandemic including COVID-19 testing data. These are now available for research purposes via the Honest Broker Service.



The Pandemic—HDRUK Collaboration and the National Core Studies (Continued)

As part of the Data and Connectivity Study HDR UK have established the <u>Health Data Research Innovation Gateway</u> which is the UK's portal for data discovery and tools for health research and innovation. The Gateway allows researchers to discover research datasets and metadata and to request access to data via the Trusted Research Environments. It also allows data custodians to have an end to end Data Access Request system with technology for integrating into their governance processes and provides resources for patients and the public to find out more about how data is being used.

The Honest Broker Governance Board have been involved in consultation around the Data Access Request system and have adapted this new application process for access to HSCNI data. There is now an HSCNI collection of metadata available for browsing via the Gateway.

In January 2021 UK Research and Innovation (UKRI) funded a series of Rapid Funding projects related to COVID-19 with the aim of utilising the resources developed during Data and Connectivity.

The Honest Broker Service processed two applications including an important piece of work relating to the safety and efficacy of the COVID-19 vaccine and an application from Kings College London around palliative care. This second application is the first time a team from outside of Northern Ireland have been able to access HSCNI data via the Honest Broker Service using the UK Secure e-Research Platform.

Projects Approved in 2020/21

In 2020/21, 10 applications were considered and approved by the Honest Broker Governance Board. This is a smaller volume of project proposals than seen normally due to the effects of the pandemic, in comparison, 16 projects were approved in 2019/20. See <u>Appendix 5</u> for details of projects approved in previous years.

Project	Title	Organisation	Chief Investigator	Panel Approval
53	Elective surgery rates in people with dementia	QUB	B. McGuinness	23/07/20
56	An examination of the role of socio-economic factors and maternal health on child oral health.	QUB	C. O'Neill	24/08/20
58	Challenges and Possible Solutions for Long Waiting Times for Elective Surgeries in Northern Ireland	QUB	D. Rathnayake	23/07/20
59	SARS-CoV-2 related deaths: an in-depth examination	QUB	A. Maguire	12/08/20
60	Impact of COVID-19 on mental health in Northern Ireland	QUB	A. Maguire	12/08/20
61	Northern Ireland Multi-morbidity Cohort (NIMC): Measures of multi-morbidity and its impact on mortality.	QUB	D. O'Reilly	19/01/21
62	Multimorbidity and pregnancy: epidemiology, clusters, prescriptions and preterm birth	QUB	K. Eastwood	19/01/21
63	Prescribing trends for Depression, Anxiety and Alzheimer's Disease in the Northern Ireland Type 2 Diabetes Population- are GLP-1 agonists protective	UU	P. McClean	19/01/21
64	National Core Study – Data and Connectivity: COVID-19 Vaccines Pharmacovigilance (DaC-VaP)	QUB	D. Bradley	18/03/21
65	National Core Study—CovPall-Connect. Evaluation of the COVID-19 pandemic response in palliative and end of life care: Connecting to boost impact and data assets.	KCL	I. Higginson	26/03/21

QUB—Queen's University Belfast

UU—Ulster University

KCL—Kings College London

Research Activity in 2020-21

Themes



Research projects approved this year cover a wide range of topics (see word cloud, above). The pandemic has resulted in an influx of projects relating to COVID-19 and its impact on our society. COVID-19 projects are currently studying mortality related to COVID-19, the mental health impact of the pandemic, the efficacy of the vaccination programme and the effect of the pandemic on palliative care.

Other projects cover areas such as hospital waiting times, elective surgeries and the Northern Ireland Maternity System. Dementia Analytics Research user Group (DARUG) funding has continued to influence the number of dementia related projects conducted within the secure research environment.

A list of journal articles published in 2020/21 relating to Honest Broker Service research projects can be found in <u>Appendix 6</u>.

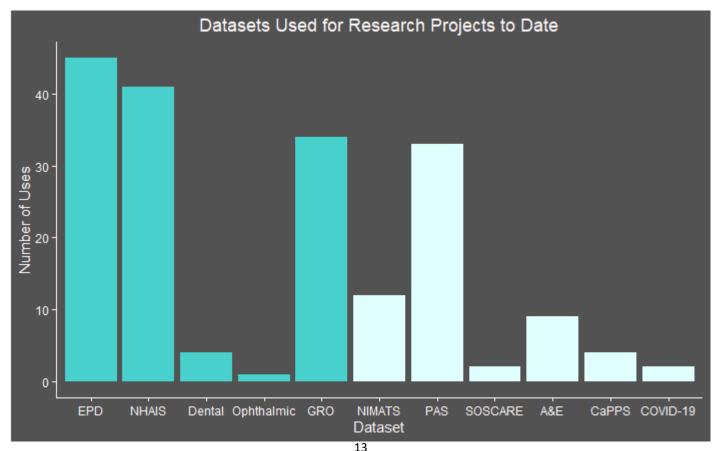
Research Activity in 2020-21:

Datasets used

The vast majority of projects analyse a range of linked datasets held by BSO and the Regional Data Warehouse.

The Primary care datasets held by the BSO Information Unit are shown in green. The Enhanced Prescribing Database (EPD) and Patient Registrations (NHAIS) are the most commonly used datasets, being used by 45 and 41 projects since the inception of HBS respectively. In 2020/21, eight of the 10 approved projects requested access to NHAIS data and nine requested EPD data.

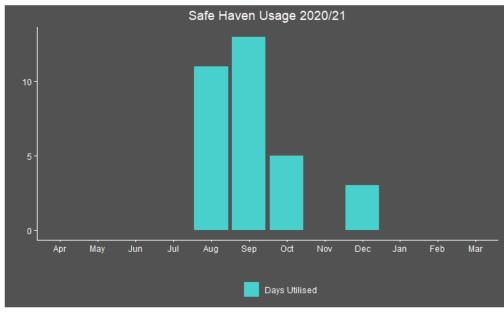
The Regional Data Warehouse hold the Secondary Care Datasets (shown in grey). The Patient Administration System (PAS) is the most commonly requested of these datasets, and has been used by 33 projects to date (seven projects requested this dataset in 2020/21). The Northern Ireland Maternity Service (NIMATS) dataset is the second most commonly requested dataset, being utilised by 12 projects. SOSCARE (Social Services Client Administration & Retrieval Environment), CaPPS (Cancer Patient Pathway System), and Accident & Emergency department datasets are less commonly requested. 2020/21 saw the introduction of COVID-19 related datasets in the data warehouse, they include Pillar 1 and Pillar 2 COVID-19 testing and Vaccine Management System data.

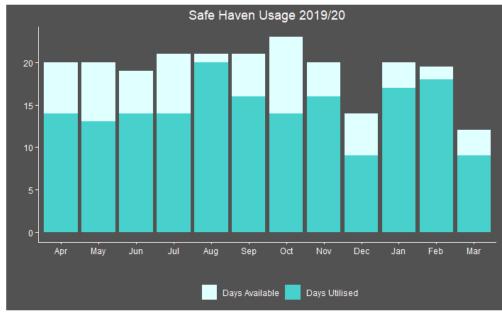


Research Activity in 2020-21:

Safe Haven Usage

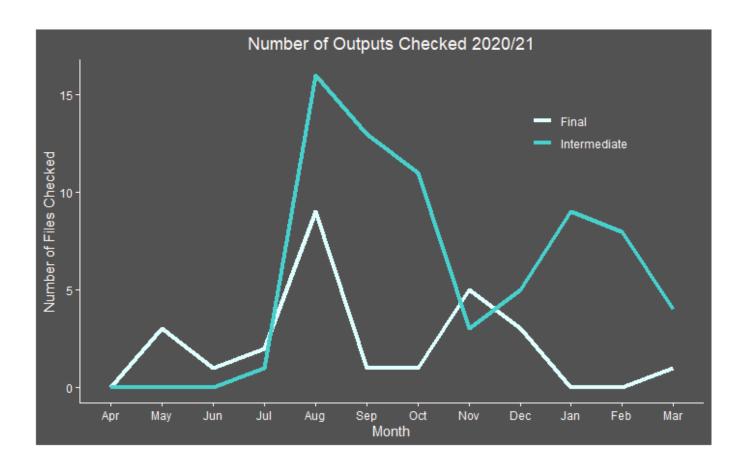
Safe Haven usage was reduced significantly in 2020/21 compared to 2019/20 due to closures in line with government guidelines in relation to COVID-19. The Safe Haven was open for morning and afternoon sessions for 32 days in 2020/21 this is compared to 231 days in 2019/21. Only two researchers could access data in each session (due to social distancing) allowing a maximum of four researchers in the safe setting per day. To allow additional cleaning to take place and rotation of work stations, the Safe Haven could also only be made available for a reduced number of days each week. Researchers availed of all 32 days.





Despite the Safe Haven being closed for most months in 2020/21, 321 files were checked by the HBS staff; 291 intermediate files and 30 final files. 67% of the files were checked and returned to the researchers the same day they were submitted. 30% of the files were returned within one day of submission and just 3% took two or more days. Current guidelines state that intermediate outputs should be cleared within five working days, and final outputs within 20 days. This target was met in all cases.

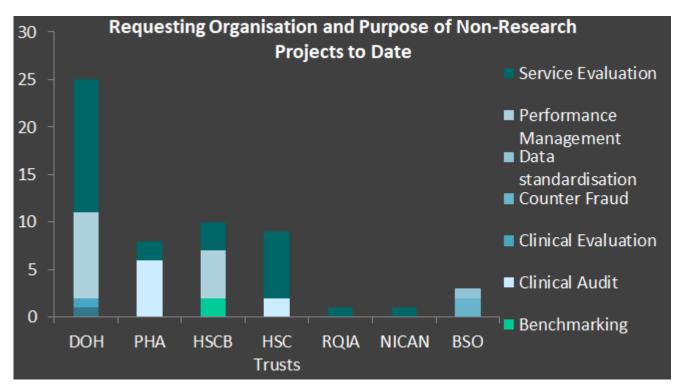
During the pandemic, a remote data analysis request service was put into place for existing HBS projects. This permitted research teams to submit pre-written code to the HBS team, who would run the code and clear any associated outputs to allow research teams to continue to work on papers throughout lockdown. Of the 98 outputs cleared throughout the year, 30 were part of remote data analysis requests.



Non-Research Projects in 2020-21:

Requesting Organisations, Purpose & Themes

There were five non-research projects approved in 2020/21, (compared to nine in 2019/20). They supported the Department of Health (two projects), Public Health Agency (one project), and HSC Trusts (two projects). Three projects approved this year were clinical audits. Areas covered included antimicrobial use and resistance, analysis of long-term conditions and cardiology mortality analysis.



This brings the total number of non-research projects approved through the HBS to 57. 25 of these projects supported the DoH, nine were for Health Trusts, and 10 for the Health and Social Care Board. Almost half of projects (28) were for service evaluation, and 14 for performance management. Topics covered (shown in this word cloud, right, have focussed mostly on areas including prescribing patterns, hospital admissions and mortality rates.

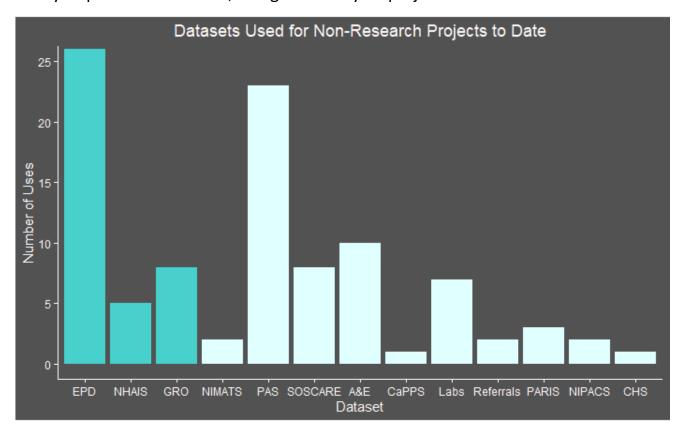


Non-Research Projects in 2020-21:

Datasets used

The dataset most commonly used by non-research projects in 2020/21 was the Enhanced Prescribing Database (EPD) - this was also the most commonly requested in 2019/20). Considering the Honest Broker Service receive a high proportion of research projects looking at prescribing trends, this is to be expected.

Since the Honest Broker Service began in 2014, EPD has been used for 26 non-research projects and the Patient Administration System (PAS) has been used for 23 non-research projects. The A&E datasets (NIRAES / eEMS from the South & South Eastern Trusts, and Symphony from the Belfast, Northern & Western Trusts) would be the third most commonly requested after these, being utilised by 10 projects in total.



Primary Care Datasets (shown in green):

EPD (Enhanced Prescribing Database), NHAIS (GP Registrations), GRO (General Register Office).

Secondary Care Datasets (shown in grey):

NIMATS (Northern Ireland Maternity Service), PAS (Patient Administration System), SOSCARE (Social Services Client Administration & Retrieval Environment), A&E (Accident & Emergency Datasets), CaPPS (Cancer Patient Pathway System) Labs (Laboratory Systems), Patient Referrals, PARIS (Mental Health Dataset), NIPACS (NI Picture Archiving and Communications System) and CHS (Child Health System).

Honest Broker Service User Interviews

What is your Project?

We are currently engaged in three ongoing projects – all themed around the relationship between diagnosed mental health problems and health service outcomes: for example Serious Mental Illness (SMI) and dental and ophthalmic service usage; health service use and health outcomes in later life, with special emphasis on dementia; and physical healthcare outcomes for those diagnosed with SMI.

How will your research benefit the health service?

Research suggests that persons diagnosed with mental health problems may be less likely to access health services than the general population – these projects aim to test this effect in the NI context, and determine what sociodemographic factors are involved. This should inform services about those deemed hard-to-reach because of mental ill-health.

How was your experience using the Honest Broker Service?

All the Ulster University researchers engaged with the projects report very positive experiences with HBS: we find the staff really helpful, very knowledgeable about the databases they hold; and able to provide high quality advice about the projected research, especially at the application phase.

If you could improve one thing about the HBS, what would it be?

While physical access to the data has been a problem (especially during the recent lockdown), this seems to have largely been resolved because we can now access the data remotely. This will help us to catch up on the inevitable work backlog.

Michael Rosato Bamford Centre for Mental Health and Wellbeing, Ulster University

What is your experience of the Remote Data Analysis Service?

The Honest Broker Service is essential for enabling policy relevant research. Staff are supportive, professional and go the extra mile in a spirit of collaboration with researchers. This was exemplified by their efforts to keep my time-limited project progressing during recent Safe Haven closures by running analysis on my behalf.

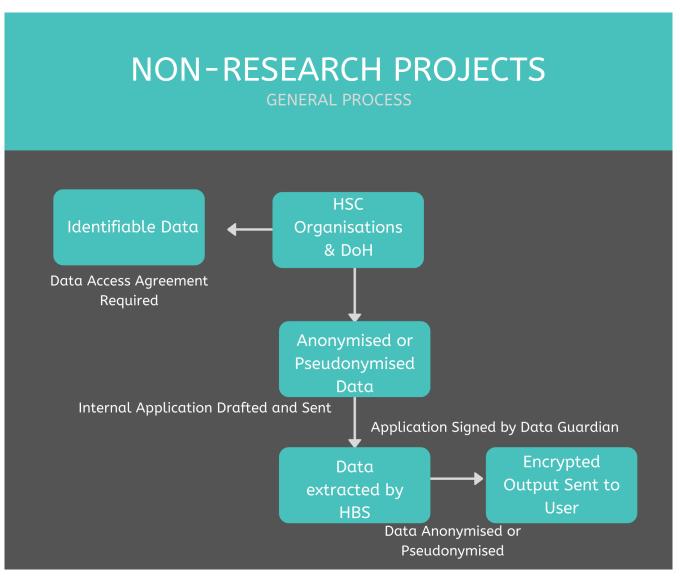
Sarah McKenna, PhD Candidate, Centre for Public Health, QUB.

Appendix 1: HBS Routes of Application

The HBS enables secure access to linked de-identified warehouse data for HSC purposes, including Business Intelligence and management reporting facilities, and for approved HSC related research.

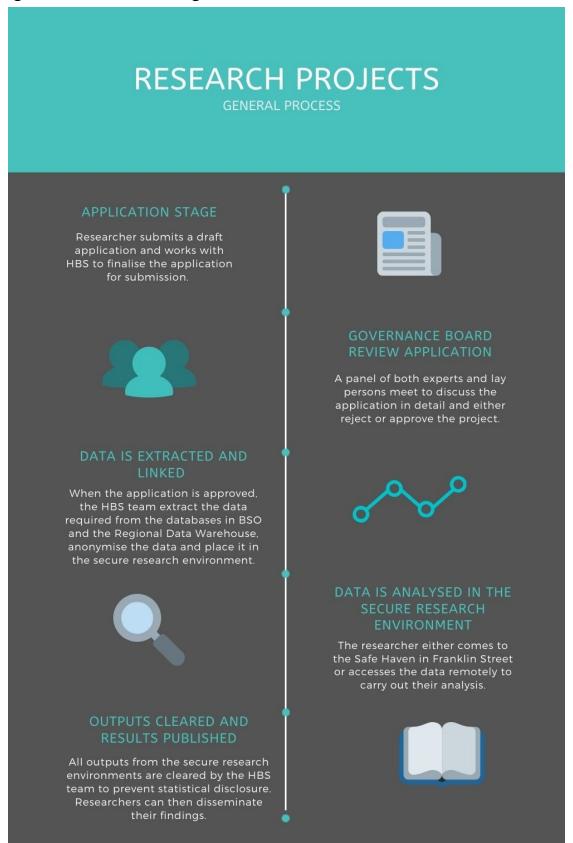
The HBS is now the preferred method of granting organisations access to data. It provides a more streamlined, secure process for data sharing for the HSC and also for the wider research community. This creates efficiencies and ensures the full benefits of data sharing for public health and well-being, while ensuring Data Protection and Confidentiality requirements are met.

Non-Research projects, carried out within HSC organisations, are routed via a streamlined application process and the analysis is conducted outside of the HBS Safe Haven environment. The diagram below shows the general process followed by non-research projects applying to use the service.



Research projects, on the other hand, must be approved by an independent panel of the Honest Broker Governance Board, analysis undertaken within one of the secure research environments and all outputs are subjected to disclosure control.

The diagram below shows a summary of the process completed by Research Projects applying to use HSC data through the Honest Broker Service.



Appendix 2:

Membership of the Honest Broker Governance Board 2020/21

Voting Members			
Belfast Trust	Alison Murphy R&D Manager for Belfast HSC Trust		
Southern Trust	Dr Peter Sharpe (Associate Medical Director for Research, and Clinician)		
	Nominee: Miss Irene Knox (R and D Manager Southern HSC Trust)		
SE Trust	Laura Moore (Interim) (R&D Manger , South East HSC Trust		
Western Trust	Dr Aaron Peace, (Vice Chair HBGB) (Consultant Cardiologist/Chief Executive of the Clinical Translational Research and Innovation Centre C-TRIC, and Clinician) Nominee: Mary McGonigle (Acting R and D Manager, Western HSC Trust)		
Northern HSC Trust	Dr Seamus O'Reilly, Acting Medical Director and Clinician		
	Nominee: Mr Neil Martin (Acting Director of Planning and Performance Management)		
BSO	Karen Bailey - 2020 (Director Customer Care and Performance)		
	Mark Bradley – from Oct 2020 (Interim Director Customer Care and Performance)		

Voting Members		
HSCB	Lisa Whyte Senior Programme Manager HSCB	
PHA	Dr Nicola Armstrong (Programme Manager, PHA R &D Division)	
PCC	Colm Burns 2020 –Until FEB 2021 (Research Manager Patient and Client Council) Kate Laverty from March 2021 (Patient and Client Council)	
DOH	Siobhan Morgan (Principal Statistician. Head of Hospital Information Branch)	
Non-HSC Lay member	Dr Hilary Russell Retired medical geneticist and Health and Social Care Research Ethics Committee Chair	
Chair	Michael Quinn - Chair HBGB (Belfast Trust –Encompass)	

Non-Voting Members		
BSO	Alan Harbinson	
BSO	Martin Mayock	
BSO	Susan Campbell (until May 2021)	
BSO	Rita McAuley (until March 2021)	
BSO	Naomi Mills	
BSO	Dr Siobhan McGrath (until July 2021)	
BSO	Fiona McNally	
BSO	David Bryce	
BSO	Cormac O'Brien (From July 2021)	
DOH	Charlene McQuillan	
NITRE	Frances Burns (Guest)	

Appendix 3:

Membership of the Honest Broker Working Group 2020/21

Karen Bailey (Chair prior to Jan 2021)	BSO
Mark Bradley (Chair Jan-March 2021)	BSO
Dr Nicola Armstrong	РНА
Alan Harbinson	BSO
Susan Campbell	BSO
Rita McAuley	BSO
Siobhan McGrath	BSO
Charlene McQuillan	DoH
Martin Mayock	BSO
Naomi Mill	BSO
Eddie Ritson	BSO

Appendix 4:

HBS Memorandum of Understanding

The Memorandum of Understanding (MOU) is established for the purposes of informing the development of an HBS for Health and Social Care. It has been agreed by:

- Health and Social Care Board (HSCB)
- Business Services Organisation (BSO)
- Belfast Health and Social Care Trust (BHSCT)
- Northern Health and Social Care Trust (NHSCT)
- Southern Health and Social Care Trust (SHSCT)
- South Eastern Health and Social Care Trust (SEHSCT)
- Western Health and Social Care Trust (WHSCT)
- The Department of Health (DoH)
- Public Health Agency (PHA)
- Northern Ireland Ambulance Service Health and Social Care Trust (NIAS)
- Northern Ireland Blood Transfusion Service (NIBTS)
- NI Guardian Ad Litem Agency (NIGALA)
- NI Medical & Dental Training Agency (NIMDTA)
- Northern Ireland Practice & Education Council for Nursing and Midwifery (NIPEC)
- NI Fire & Rescue Service (NIFRS)
- Health & Social Care Regulation and Quality Improvement Authority (RQIA)
- NI Social Care Council (NISCC)
- Patient and Client Council (PCC)

A copy of the Memorandum is available here.

Appendix 5:

Projects Approved 2014/15—2015/16

Project	Title	Organisation	Panel Approval
001	Early life factors and mental health	QUB	2014/15
002	The impact of antibiotic prescription in surrounding community on the incidence rates of nosocomial extended-spectrum β -lactamase (ESBL)-producing strains in hospitalised patients	QUB	2014/15
003	A pilot study to assess the influence of early life events on future risk of development of inflammatory bowel disease	SHSCT	2014/15
004	Evaluation of Past and Present Implementation of Telemonitoring NI	QUB	2015/16
005	A study to explore care provision to older people with mental health needs who access pre-hospital and in-hospital emergency care service (EMS).	UU	2015/16
006	To determine the profile of women in Northern Ireland from 2013-2015 who have accessed maternity services and who have complex healthcare needs and/or disabilities	UU	2015/16
007	Investigating morbidity and mortality outcomes in patients with Tetralogy of Fallot (TOF)	WHSCT / UU	2015/16
008	Investigating maternal and foetal outcomes for women with Gestational Diabetes Mellitus (GDM).	UU	2015/16
009	The relationship between people with borderline personality disorder and general practitioners: Analysis of Northern Ireland patient Health and Social Care data	UU	2015/16
010	Exploring the problem of pain in the CP population: Piloting a big data approach.	QUB	2015/16
011	Identifying and understanding inequalities in child welfare intervention rates: Comparative studies in four UK countries	QUB	2015/16
012	Commonly prescribed drugs and association with cancer progression	QUB	2015/16
013	Antibiotic prescribing in older people and trends on movement into institutional care: A record linkage study.	РНА	2015/16
014	Analysis of antidepressant prescribing patterns in Northern Ireland	UU	2015/16
015	Evaluating the implementation of Minimum Unit Pricing of Alcohol: Harmonising alcohol-related outcomes data across the UK & Ireland	UG	2015/16

QUB—Queen's University of Belfast, UU—Ulster University, SHSCT—Southern Health & Social Care Trust UG—University of Glasgow, PHA—Public Health Authority, WHSCT—Western Health & Social Care Trust

Projects Approved 2016/17—2017/18

Project	Title	Organisation	Panel Approval
016	The relationship between waiting times and treatment outcomes for cancer patients	NI Assembly	2016/17
017	Beta-adrenergic receptor expression and beta-blocker drug use: Association with breast cancer survival	QUB	2016/17
018	Suicide deaths in Northern Ireland: Medication and Health Service use	UU	2016/17
019	Are newer disease-modifying anti-rheumatic drugs associated with a lower risk of Alzheimer's disease?	QUB	2016/17
020	Prevalence and Risk Factors of Congenital Heart Disease in Northern Ireland	UU	2016/17
021	Evaluation of maternal diseases and medications recorded in the Northern Ireland Maternity System (NIMATS) database compared to the NI Enhanced Prescribing Database (EPD): a data linkage validation study	UU	2017/18
022	Self-reported mental disorders in pregnancy: analysis of data from the Northern Ireland Maternity System (NIMATS)	QUB	2016/17
023	Type 1 diabetes diagnosed in Northern Ireland children: Risk factors, complications and mortality	QUB	2017/18
024	Pathways to a Cancer Diagnosis: Monitoring variation in the patient journey across Northern Ireland	QUB	2017/18
025	Use of prescribed contraception in Northern Ireland 2010-2016	UU	2017/18
026	Transition from home to care home for people with dementia in Northern Ireland	QUB	2017/18
027	Mortality rates of dementia and associated factors in Northern Ireland	QUB	2017/18

QUB—Queen's University of Belfast, UU—Ulster University

Projects Approved in 2018/19

Project	Title	Organisation	Panel Approval
28	Early and late onset of dementia in NI	QUB	2018/19
29	Assessing the rate of anticholinergic drug prescriptions for dementia patients in Northern Ireland	QUB	2018/19
30	Childhood interactions with social services and risk of poor health and social outcomes in adulthood: A population wide data linkage study	QUB	2018/19
31	Myotonic dystrophy in NI	QUB / BHSCT	2018/19
32	Investigation of the link between maternal body mass index in early pregnancy and incidence of cerebral palsy in NI.	QUB	2018/19
33	Evaluation of outcomes for patients with elevated tTG antibodies and Gluten-free food prescription utilisation in NI	QUB / BHSCT	2018/19
35	Short, medium and long term outcomes of root-filled molar teeth treated within Northern Ireland General Dental Practices and factors that may affect this outcome	QUB	2018/19
36	Hospitalisation rates in dementia	QUB	2018/19
38	Health and social selection bias on consent to participation in the NI Cohort for the Longitudinal Study of Ageing	QUB	2018/19
39	Sleep medication use in Cerebral Palsy: a comparison between those with Cerebral Palsy and the typically developing population in Northern Ireland.	QUB	2018/19

QUB—Queen's University of Belfast, BHSCT—Belfast Health and Social Care Trust

Projects Approved in 2019/20

Project	Title	Organisation	Chief Investigator	Panel Approval
34	Mental health, firearm ownership, and risk of death by suicide: a population-wide data linkage study	QUB	A. Maguire	14/01/20
37	Acute myocardial infarction rates and management in dementia	QUB	B. McGuinness	09/04/19
40	Co-medication burden with polypharmacy and hyper polypharmacy in people with dementia	QUB	B. McGuinness	13/06/19
41	Investigating the relationship between dementia and cancer in NI	QUB	B. McGuinness	13/06/19
42	Living alone with dementia: related use of drugs	QUB	B. McGuinness	07/05/19
43	Using NICOLA linked to administrative data to understand how older adults in NI transition from MCI to dementia, and to examine equity in dementia-related health care access	QUB	S. Cruise	07/05/19
44	Assessing the rates and reasons behind falls and fractures of people with dementia in NI	QUB	B. McGuinness	03/07/19
45	Mothers first unlocking potential of NIMATS	UU	J. Murphy	17/07/19
46	Understanding real world healthcare costs for living donor kidney transplantation	BHSCT	M. Quinn	04/10/19
47	Dental and Ophthalmic Health in NI: an examination of disparities in rates between those with severe mental Illness (SMI) and the general hospital population	UU	M. Rosato	27/08/19
48	Physical Healthcare Outcomes in those with Severe Mental Illness (SMI's) in NI	UU	G. Leavey	27/08/19
49	Health service use and outcomes in later life: an examination of urban and rural health inequalities in NI	UU	M. Rosato	27/08/19
50	Linking Psychological Therapies Service outcomes data with hospital admissions and prescriptions data	NHSCT	K. Dyer	04/10/19
51	Antipsychotic and antidepressant use among people with dementia in NI: A retrospective analysis	QUB	B. McGuinness	04/10/19
52	Maternal Exposure to Air Pollution during Pregnancy and Infant Health	QUB	N. Rowland	04/10/19
54	Using linked healthcare records to identify the prevalence, characteristics and clinical outcomes of patients with Severe Eosinophilic Asthma in NI	QUB	Dr. J. Stewart	20/12/19

QUB—Queen's University of Belfast, UU—Ulster University,

BHSCT – Belfast Health and Social Care Trust, NHSCT – Northern Health and Social Care Trust

Appendix 6—List of Journal Articles Facilitated by HBS, 2020/21

McMichael AJ, Zafeiridi E, Ryan M, Cunningham EL, Passmore AP, McGuinness B. **Anticholinergic drug use and risk of mortality for people with dementia in Northern Ireland.** *Aging Ment Health*. 2020 Oct 19:1-8. doi: 10.1080/13607863.2020.1830028. Epub ahead of print. PMID: 33073601. https://www.tandfonline.com/doi/full/10.1080/13607863.2020.1830028

Zafeiridi E, McMichael AJ, Passmore AP, McGuinness B. Living alone for people on dementia medication: related use of drugs. Aging (Albany NY). 2020. https://doi.org/10.18632/aging.104125

Zafeiridi E, McMichael AJ, Passmore AP, McGuinness B. **Factors influencing transition to care homes for people with dementia in Northern Ireland.** Alzheimer's Dement. 2021; 7:e12120. https://doi.org/10.1002/trc2.12120

Please note that the articles listed above were those that the Honest Broker Service were notified of prior to or subsequent to, their publication. The HBS staff regularly search the known journals for publications coming from research teams that have used HBS data, but there may be other publications that the HBS staff were not notified about and have been unable to find.

A full list of all Published Research Papers facilitated by HBS since 2014 is available here.



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