

Honest Broker Service Annual Report 2021/22



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

All queries can be forwarded to:

HonestBrokerService@hscni.net

Further background information can be found [here](#).

Previous year's Annual Reports can be found [here](#).

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Foreword

This year has without doubt been one of the busiest years for the Honest Broker Service (HBS). The COVID-19 pandemic has led to increased demand for data to inform government policy, and for research, to understand the impact the virus has had on our health and communities. It has also disrupted a lot of services, including the access to the Honest Broker Service safe setting for projects that had commenced in 2019/20 and 2020/21.

However, now that the safe setting has reopened, and thanks in no small part to the secure remote access via the HBS tenancy of the Secure electronic Research Platform (SeRP), the team has been able to help researchers make significant progress on HBS projects that had to be paused or could not start during the pandemic.

There were twelve new project approvals in 2021/22. This, combined with the progression of work on projects from previous years, has led to a massive 1,291 files being checked and cleared by the HBS Team during the year (a fourfold increase on the previous year!).

The service has continued to support the National Core Studies Data and Connectivity programme, including key four nation research into COVID-19, as well as a number of new projects relating to the pandemic from research teams based in Northern Ireland. The Northern Ireland Trusted Research Environment has been established to provide a strategic oversight, governance and support to HSCNI to assist with the response to the National Core Studies.

As we look ahead to 2022/23 we expect to see continued growth in the HBS. The team already has a number of enquiries and draft applications awaiting submission for governance approval and the team will continue to support the Data and Connectivity programme which will close this year.

If the HBS is to continue to grow and mature as a service it will require further investment, post Data and Connectivity. [The Goldacre Review](#) has highlighted the importance of Trusted Research Environments in safe use of data for health research and it is important that this vital service is provided for Northern Ireland.

It has been really pleasing for the team to see the progress researchers are making and to see final outputs and submissions for thesis and journal articles, as well as to see the wide variety of new projects being facilitated by the service.

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

Mark Bradley, Interim Director of Customer Care and Performance

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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 [Appendix 2](#). Minutes of Board meetings can be found [here](#).

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 [Appendix 3](#).

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

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. 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

The UK Secure electronic Research Platform (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.

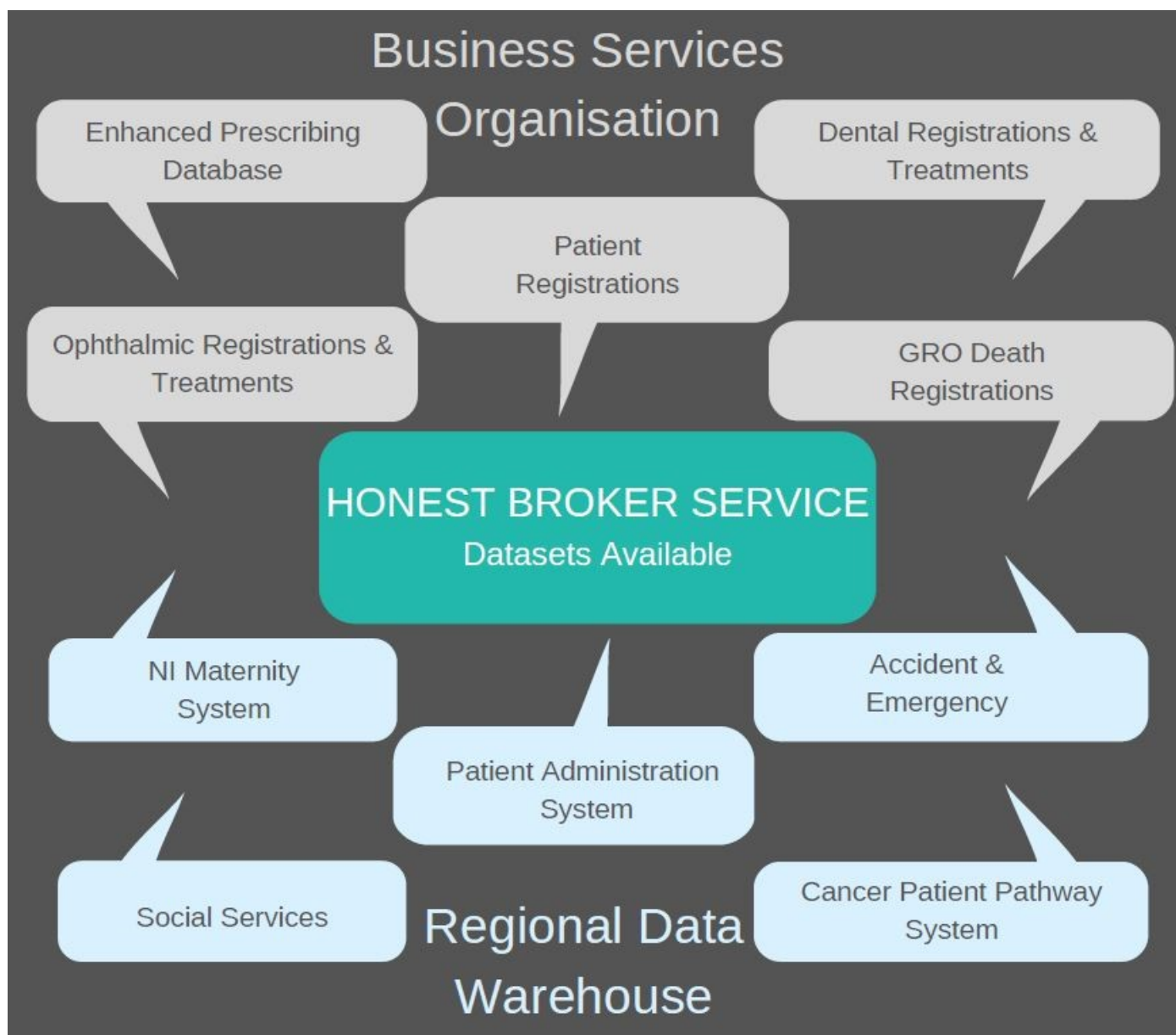
SeRP provides secure remote access to de-identified data for research purposes, via a Virtual Desktop Infrastructure.

The HBS tenancy of SeRP is now in its second year of full implementation, all projects suitable for remote access have been migrated and the majority of new projects are facilitated via remote access.

Importantly, the HBS retains ownership of all processes, and is responsible for account and access controls as well as output checking.

The HBS currently has 10 concurrent licenses as well as five “large” desktop licenses which provide additional processing power and five Stata licenses for users of this software.

Available Datasets



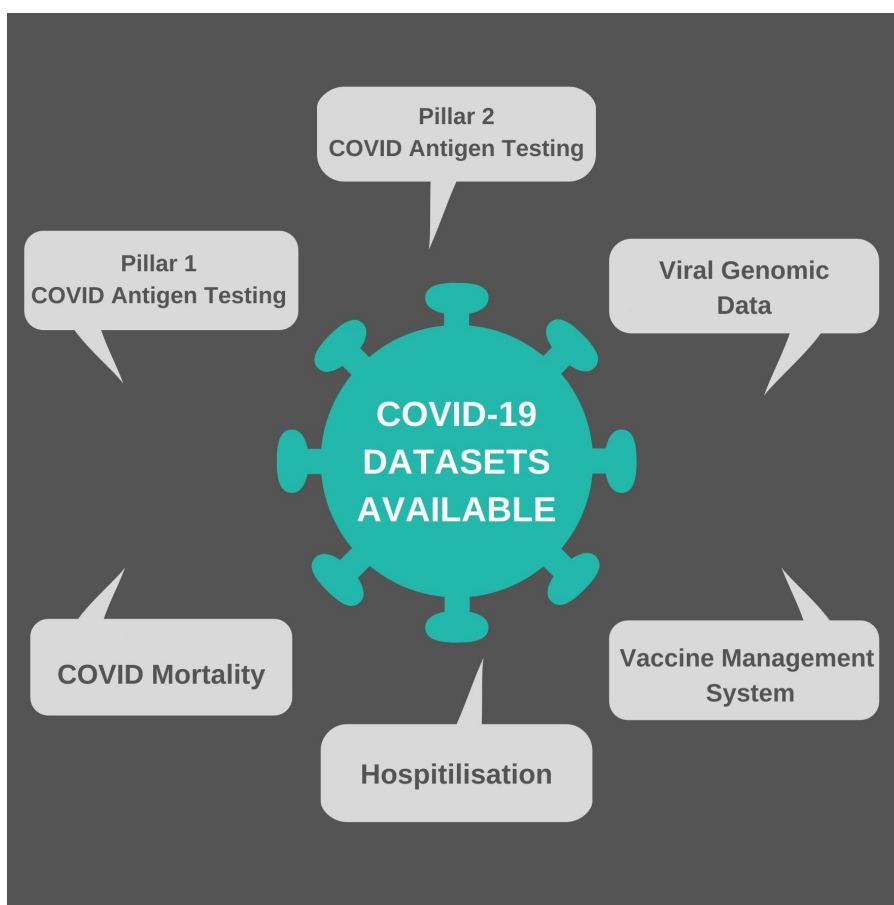
The HBS can facilitate access to both primary and secondary care datasets within the HSC (Shown in grey and blue respectively, above). The HSC Regional Data Warehouse (RDW) is a large, secure data store which receives regular data extracts from a range of key HSC Information Systems. It is managed by 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.

Available Datasets—COVID-19

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.

Please note that Vaccine Management System data requires an additional approval from the HSC Data Controllers responsible for the system.



The Pandemic—HDRUK Collaboration and the National Core Studies

Established in October 2020, the [National Core Studies](#) programme consists of six studies, including the cross-cutting [Data and Connectivity](#) 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 two largest National Studies being supported by the HBS are the [DaC-VaP](#) and [CovPall](#) studies however the HBS are also supporting access to COVID-19 data for a number of local research teams.

The [CO-CONNECT](#) project is another significant COVID-19 related project which is currently under governance consideration by the HBS. This [explanatory video](#) provides a useful insight into the aims of the project.



CovPall Study

Rapid evaluation of the COVID-19 pandemic response in palliative and end of life care: national delivery, workforce and symptom management (CovPall)



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

As part of the Data and Connectivity Study, HDR UK have established the [Health Data Research Innovation Gateway](#) 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.

Metadata for the Honest Broker Service is now discoverable under the [Health and Social Care Northern Ireland "Collection"](#) on the Gateway. The Honest Broker Service have received a number of enquiries and applications via the Gateway including the applications for the National Core Studies.

Data Use Register

HDR UK published a [Green Paper](#) in Autumn 2021 around standards for Data Use Registers and have subsequently launched the [Data Use Register](#) on the HDR UK Innovation Gateway.

Through the recommendations in the Green Paper and the establishment of the Register HDR UK aim to:

- Improve transparency in the use of health data for research and innovation
- Demonstrate the value and benefit of using health data
- Develop a culture of openness amongst data custodians and researchers
- Generate better insight into health data usage
- Build public trust and advocacy for data use.

The Honest Broker Service COVID-19 related projects are currently published on the Data Use Register and in 2022/23 the HBS plan to add the back series of projects that have been supporting since the introduction of the Service in 2014.

Projects Approved in 2021/22

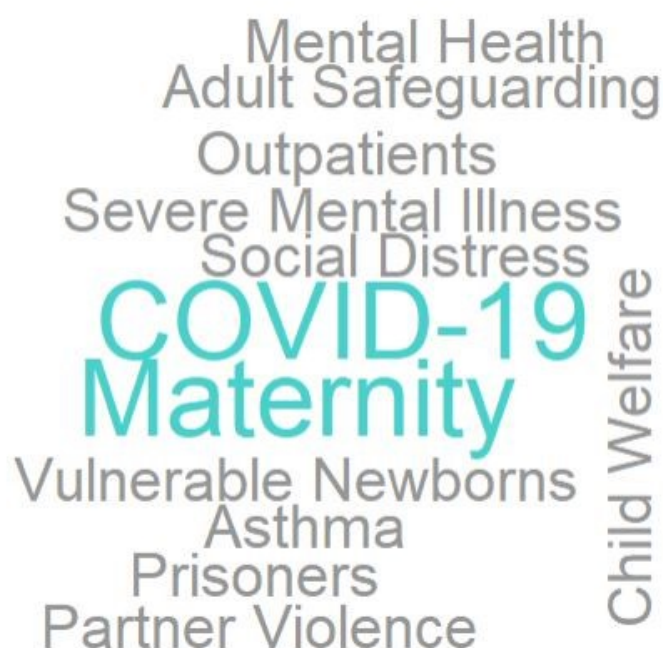
In 2021/22, 12 applications were considered and approved by the Honest Broker Governance Board. One application panel was held in each quarter, in comparison, 10 projects were approved in 2020/21. See [Appendix 5](#) for details of projects approved in previous years.

Project	Title	Organisation	Chief Investigator	Panel Approval
055	The relationship between neighbourhood deprivation levels and indicators of social distress	UU	M Rosato	07/07/21
066	COVID-19 impact in those with Severe Mental Illness (SMI), and neurodevelopmental disorders (NDD) in Northern Ireland: exploring the relationship between COVID-19 and patterns of hospitalisation and medication use; rates of suicide/suicidal behaviour; treatment outcomes (including relationship with GP); and mortality	UU	G Leavey	07/07/21
067	The changing relationship between disadvantage and child welfare interventions	QUB	L Bunting	07/07/21
068	Using data science and systems engineering to plan patient-centred outpatient healthcare services	QUB	D Bradley	21/07/21
069	Estimation of Vulnerable Newborn phenotypes: individual-level analyses of national and sub-national data	QUB	E Lowry	27/07/21
070	Investigating the association between biologic use, medication adherence and comorbidities in severe asthma: an analysis of linked data	QUB	J Busby	21/07/21
071	Adult Safeguarding in Northern Ireland: a study of the relationship between social deprivation and adult protection referrals in Northern Ireland	QUB	L Bunting	08/12/21
072	An examination of the health, mental health and post-release mortality risk of prisoners in Northern Ireland	QUB	M Donnelly	08/12/21
073	Identifying predictors and consequences of homelessness in Northern Ireland using linked homelessness, social services and health administrative data	QUB	D Bradley	08/12/21
074	Improving Health in the Preconception Period: Using existing data to characterise health in the preconception period and during pregnancy in NI.	QUB	L McGowan	31/03/22
075	Did periods of 'lock down' demonstrate higher incidences of reported intimate partner violence, mental disorder, or drug and alcohol use during pregnancy?	QUB	D Hanna	31/03/22
076	COVID-19 and Deprivation in Northern Ireland	ESRI	A Devlin	31/03/22

QUB—Queen's University Belfast; UU—Ulster University; ESRI— Economic and Social Research Institute

Research Activity in 2021-22

Themes



Research projects approved this year cover a wide range of topics (see word cloud, above). The pandemic resulted in an influx of projects relating to COVID-19 during 2020/21. A further three COVID-19 related projects were approved in 2021/22. These projects aim to investigate patterns in hospitalisation of those with severe mental illness during the pandemic, prevalence of partner violence during lock-down and the relationship between deprivation and COVID-19.

Three distinct linkage projects were approved in 2021/22. These require datasets external to the HSC to be linked to datasets within the Regional Data Warehouse.

The other projects approved cover areas such as child welfare, social distress, adult safeguarding, outpatient service planning and the Northern Ireland Maternity System.

A list of journal articles published in 2021/22 relating to Honest Broker Service research projects can be found in [Appendix 6](#).

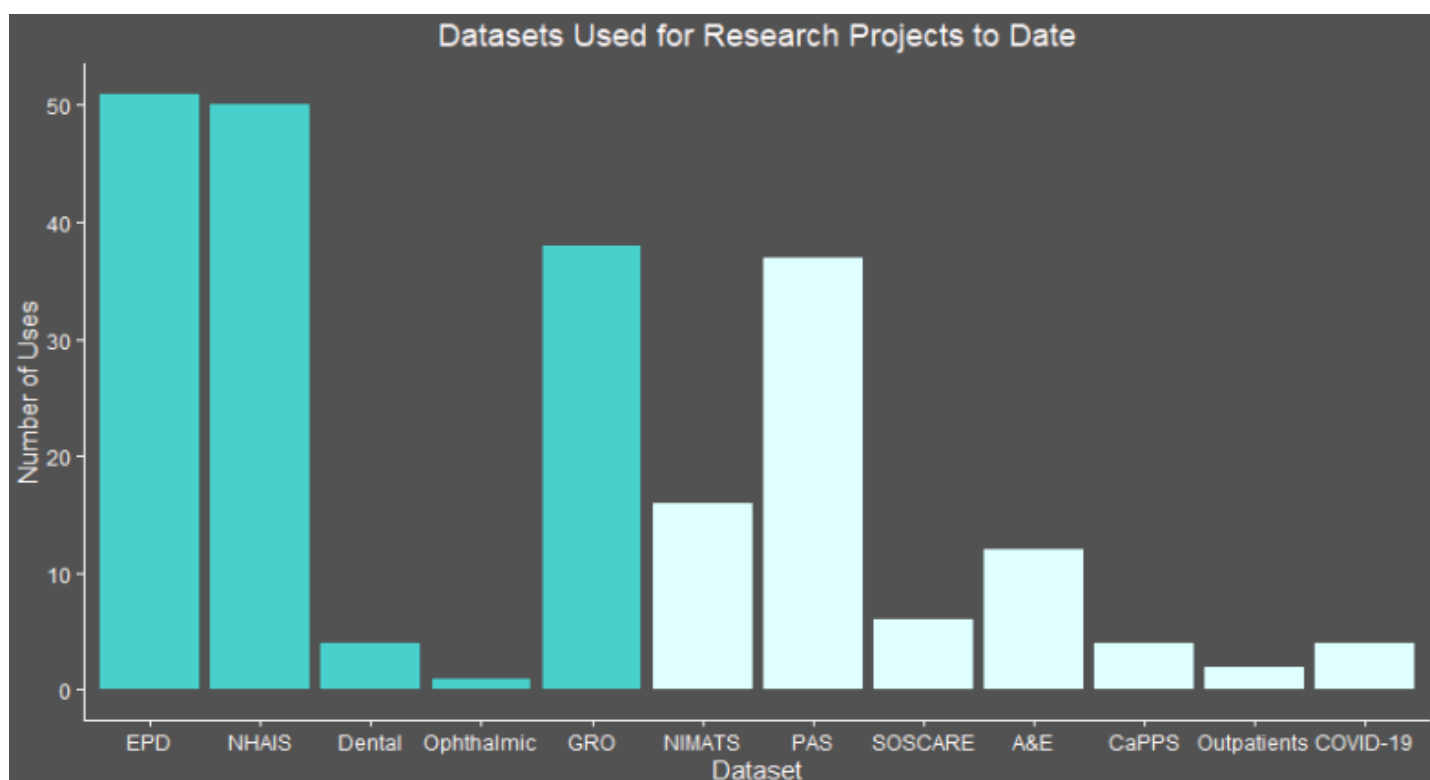
Research Activity in 2021-22

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 51 and 50 projects since the inception of HBS respectively. In 2021/22, 9 of the 12 approved projects requested access to NHAIS data and 5 requested EPD data.

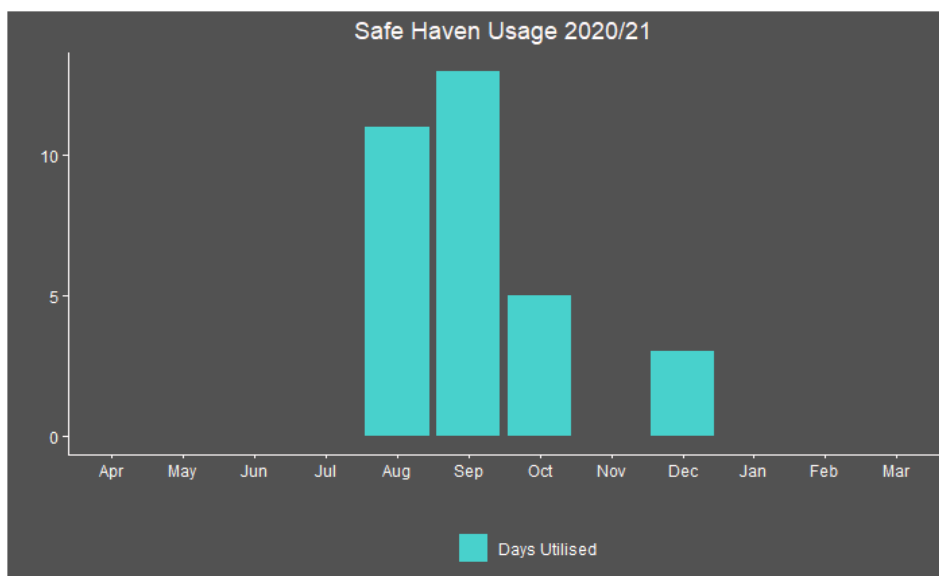
The Regional Data Warehouse hold the Secondary Care Datasets (shown in grey). The Patient Administration System (PAS) is the most commonly requested of these datasets, and has been used by 37 projects to date (4 projects requested this dataset in 2021/22). The Northern Ireland Maternity Service (NIMATS) dataset is the second most commonly requested dataset, being utilised by 16 projects (4 projects requested this dataset in 2021/22). Demand for Accident and Emergency data has increased with 3 projects in 2021/22 requesting this data (12 projects to date). SOS CARE (Social Services Client Administration & Retrieval Environment), CaPPS (Cancer Patient Pathway System), and Outpatient datasets are less commonly requested. COVID-19 related datasets introduced in 2020/21, including Pillar 1 and Pillar 2 COVID-19 testing and Vaccine Management System data continue to be requested with 2 applications requesting access in 2021/22.



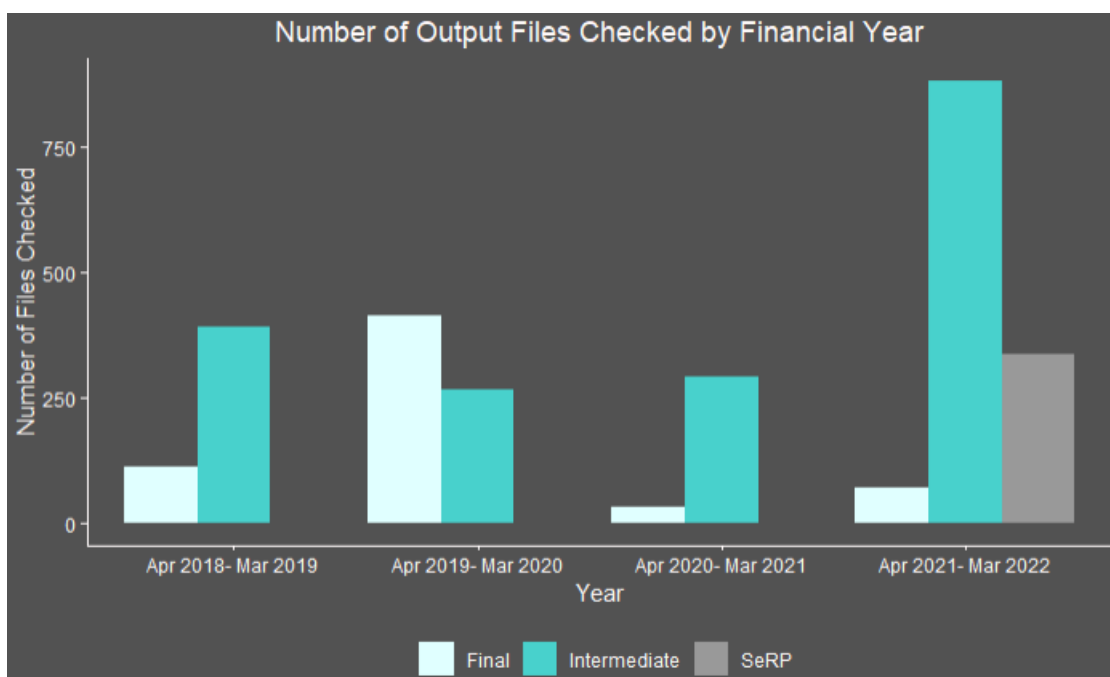
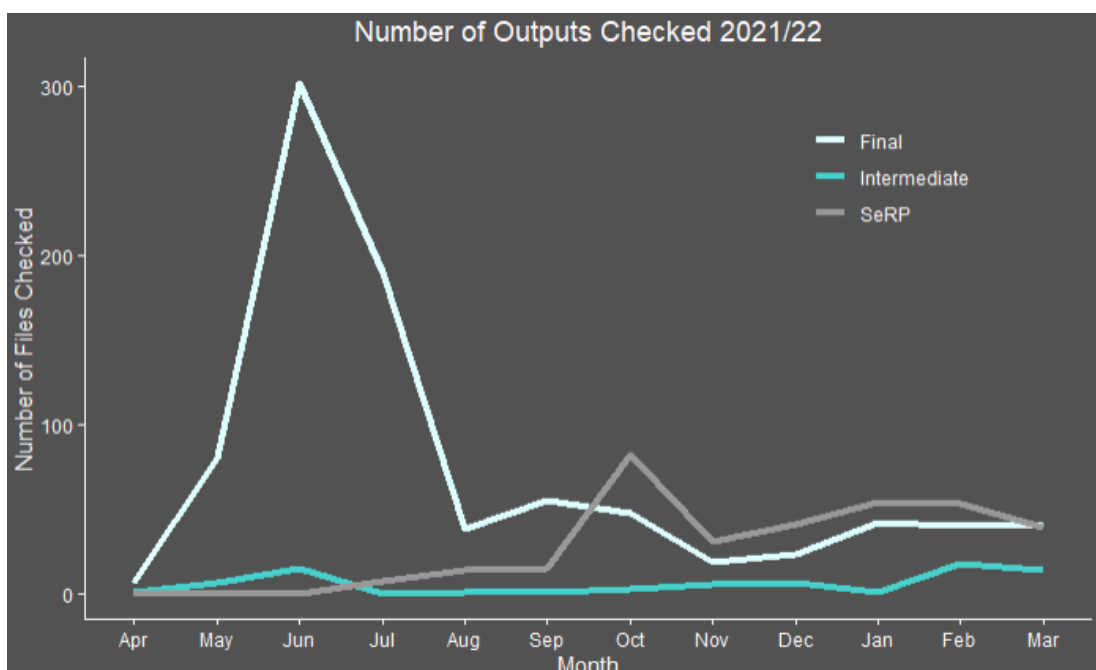
Research Activity in 2021-22

Safe Haven Usage (Safe Room Belfast)

Safe Haven usage has increased significantly in 2021/22 compared to limited opening in 2020/21 in line with government guidelines in relation to COVID-19. The Safe Haven was open for morning and afternoon sessions for 135 days in 2021/22, this is compared to 32 days in 2020/21. In line with government guidance, 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 did not avail of all available days in 2021/22, indicating that availability outweighed demand with the majority of researchers having access to their data via SeRP.



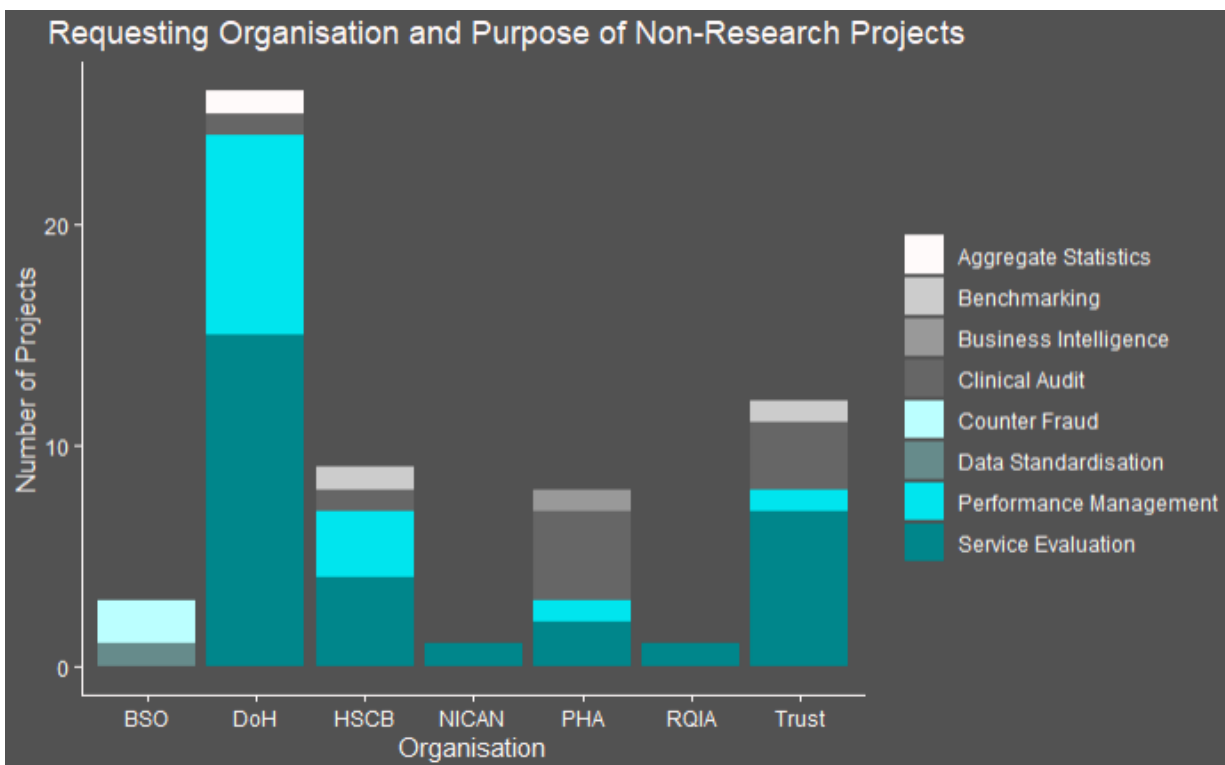
As a result of the increase in Safe Haven availability and the use of the SeRP in 2021/22, 1,291 files were checked by the HBS staff; 883 intermediate files, 72 final files and 336 SeRP files. This is a four-fold increase on the number of files checked in 2020/21. Over half (704) of the files checked related to COVID-19 projects. These files contained a total of 4,222 tables/charts. 60% of the files were checked and returned to the researchers the same day they were submitted. 31% of the files were returned within one day of submission and the remainder 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.



Non-Research Projects in 2021-22

Requesting Organisations, Purpose & Themes

There was one new non-research project approved in 2020/21, (compared to five in 2020/21). This project supported the Department of Health and was a service evaluation. The project focused on prescribing data for statins, anxiety and hypertension medications. A further two clinical audits submitted in 2020/21 were completed in 2021/22.



This brings the total number of non-research projects completed through the HBS to 60. 26 of these projects supported the DoH, 12 were for Health Trusts, and nine for the Health and Social Care Board. Half of projects (30) 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.

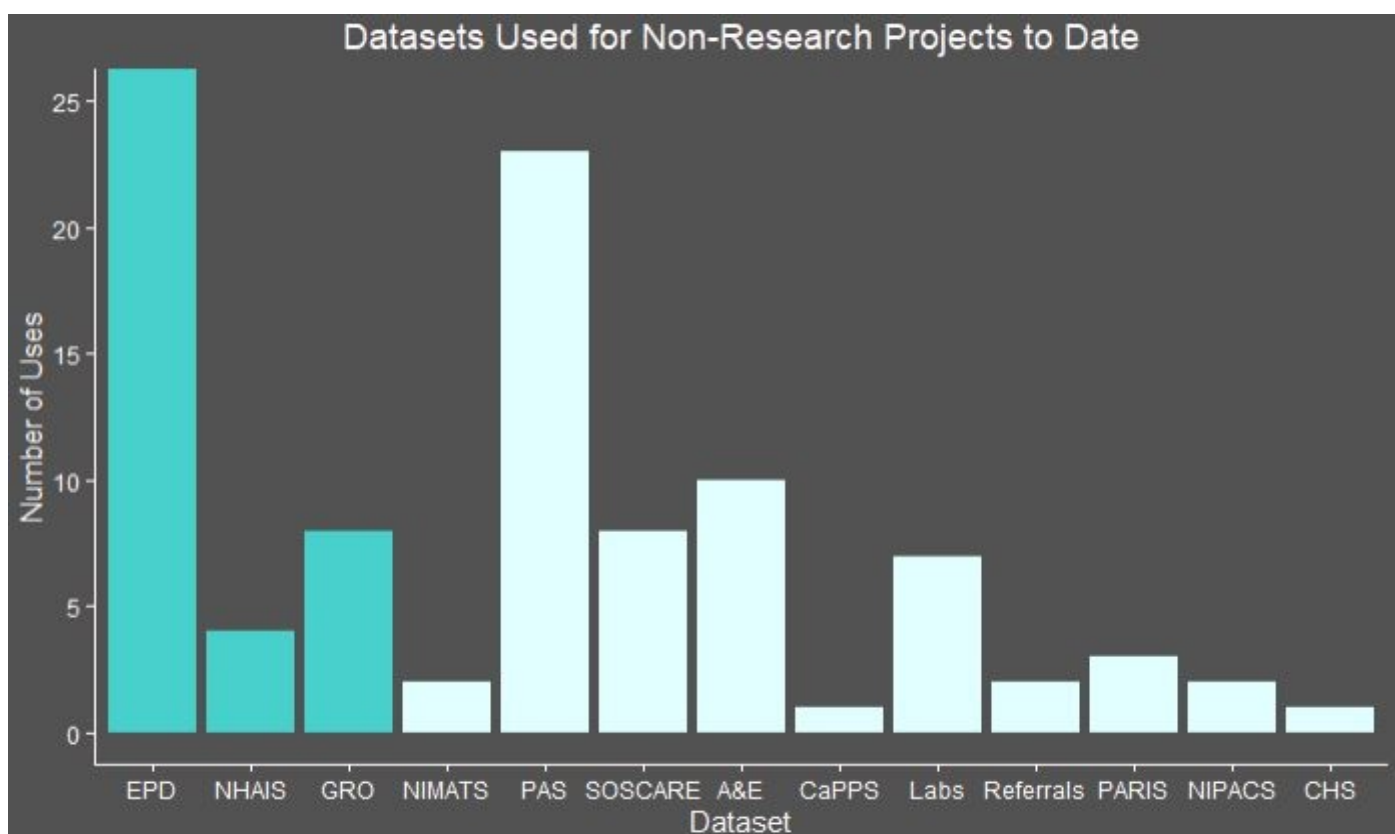


Non-Research Projects in 2021-22

Datasets used

The dataset most commonly used by non-research projects in 2021/22 was the Enhanced Prescribing Database (EPD) - this was also the most commonly requested in 2020/21). 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).

Non-Research Projects in 2021-22

Case Study: Supporting Cardiology Audits

Since the publication in 2001 of the enquiry findings following the discovery of excess mortality in children undergoing Paediatric Heart Surgery in Bristol, there has been a requirement for organisations carrying out medical procedures to report relevant statistics (such as mortality) so that hospital and individual operator outcomes can be benchmarked for QI purposes.

For a number of years Northern Ireland participation in a series of National Audits for the National Institute for Cardiovascular Outcomes Research (NICOR) had been limited due to the need for identifiable data to be shared for outcome linkages to occur and the fact that NICOR did not have access to mortality data for Northern Ireland. NICOR do this matching for all procedures done in NHS England and Wales via ONS tracking data and publish 30 day mortality statistics which is the primary benchmark for PCI procedures.

Working with the Privacy Advisory Committee Northern Ireland, HSC Consultants, the Cardiology Network for Northern Ireland and the Honest Broker Service a pilot was approved in 2020/21 which proposed using the Honest Broker Service for linkage.

This work was subsequently carried out in 2021/22 for Belfast and Western Health and Social Care Trusts.

Data on cardiology treatments for the previous three years was linked to mortality data (with permission from the General Register Office for Northern Ireland (GRO)) within the HBS and pseudonymised data was provided back to the HSC Trusts before onward sharing to NICOR to facilitate 30 day mortality risk analysis.

This was an excellent case study for collaboration across HSC and use of the internal Honest Broker Service to provide support for Clinical Audit and Service Improvement whilst protecting patient confidentiality.

Further work is required around the resourcing in the HSC Trusts and NICOR to support this work on an ongoing basis however it is hoped that the work from this pilot will form the basis of a model for future participation in these important audits.

Honest Broker Service

User Feedback

Two surveys were developed to ask researchers about their experience of the Honest Broker Service. The post application survey is issued when the research application has been approved and the active user survey is issued on an annual basis to all active users of the Honest Broker Service. In 2021/22 two responses were received to the post application survey, one respondent was very satisfied with the customer service provided during the application process and the other was satisfied.

Nine responses to the active user survey were received. All nine customers were either satisfied or very satisfied with the customer service provided during the financial year.

Active User Survey Overall Satisfaction with HBS Services 2021/22



Response: ■ Very satisfied ■ Satisfied

Feedback from HBS users

“Staff were very helpful and quick to deal with queries, project modifications, and additional variable requests, which was excellent.”

“Excellent service and very friendly and helpful team.”

“The HBS team are professional, accessible and helpful. The service enables policy relevant research to happen”

“The staff were very helpful and supportive. They are happy to work through problems and ideas to facilitate research and address gaps in knowledge of the system and how it works.”

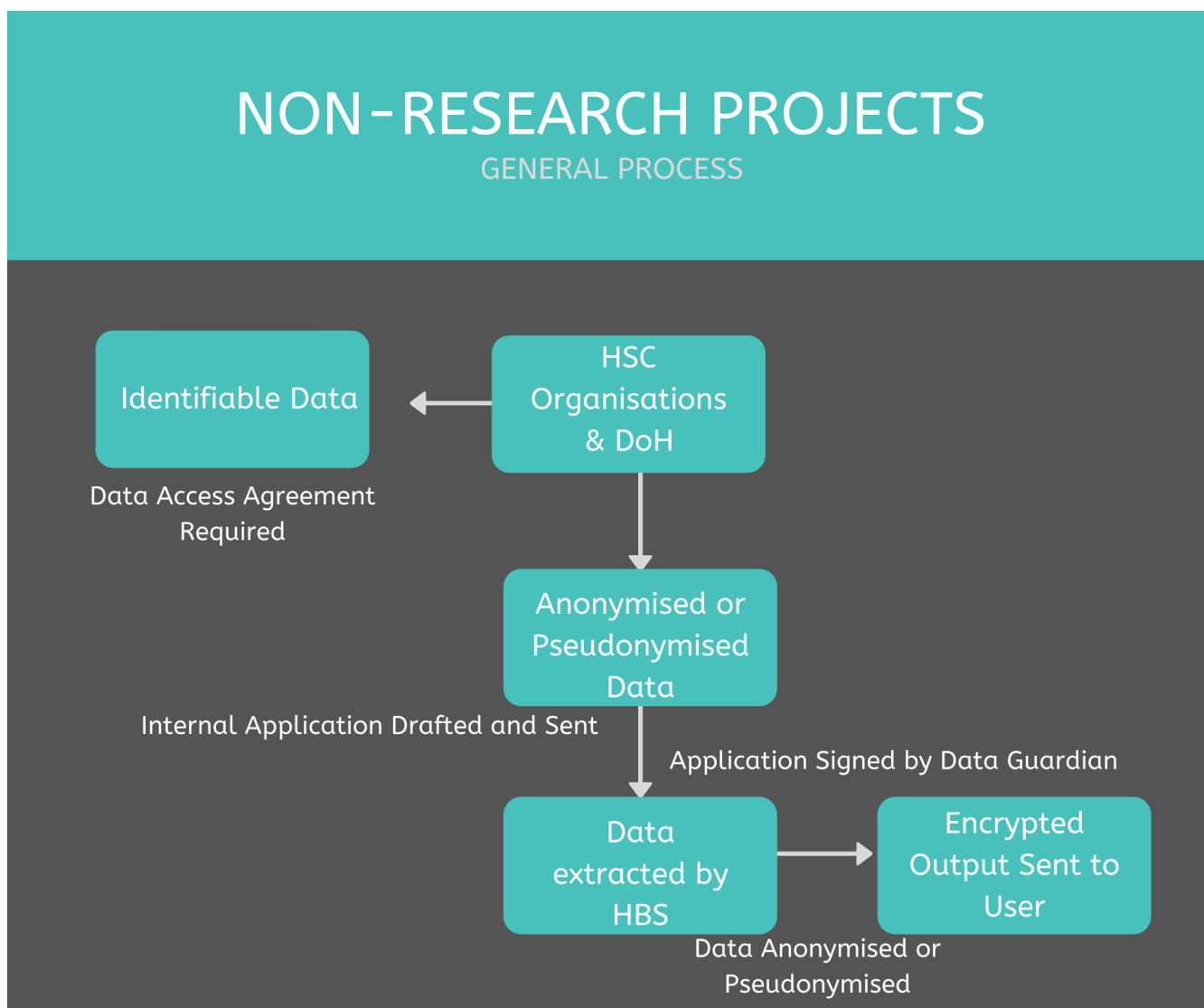
“I have been beyond satisfied with the service provided by HBS, the entire team are very helpful, informative and ensure there is always good communication.”

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 2021/22

Voting Members	
Chair	Dr Michael Quinn (until February 2022) <i>Belfast Trust – Encompass</i>
Vice-Chair (Western Trust)	Dr Aaron Peace <i>Consultant Cardiologist/Chief Executive of the Clinical Translational Research and Innovation Centre (C-TRIC) and Clinician</i> Nominee: Mary McGonigle <i>Acting R&D Manager, Western HSC Trust</i>
Belfast Trust	Alison Murphy <i>R&D Manager, Belfast HSC Trust</i>
Southern Trust	Dr Peter Sharpe <i>Associate Medical Director for Research, and Clinician</i> Nominee: Miss Irene Knox <i>R&D Manager, Southern HSC Trust</i>
South Eastern Trust	Laura Moore <i>Interim R&D Manager, South Eastern HSC Trust</i>
Northern Trust	Dr Seamus O'Reilly <i>Acting Medical Director and Clinician</i> Nominee: Mr Neil Martin <i>Acting Director of Planning and Performance Management</i>
BSO	Mark Bradley <i>Interim Director Customer Care and Performance</i>

Voting Members

HSCB	Lisa Whyte <i>Senior Programme Manager HSCB</i>
PHA	Dr Nicola Armstrong <i>Programme Manager, PHA R&D Division</i>
PCC	Colm Burns (until February 2022) <i>Research Manager Patient and Client Council</i> Kate Laverty (from March 2022) <i>Patient and Client Council</i>
DoH	Siobhan Morgan <i>Principal Statistician. Head of Hospital Information Branch</i>
Non-HSC Lay member	Dr Hilary Russell <i>Retired medical geneticist and Health and Social Care Research Ethics Committee Chair</i>

Non-Voting Members

BSO	Alan Harbinson
BSO	Martin Mayock
BSO	Susan Campbell (until May 2021)
BSO	Naomi Mill
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 2021/22

Mark Bradley (<i>Chair</i>)	BSO
Alison Afrifa	BSO
Dr Nicola Armstrong	PHA
Karen Beattie	BSO
Alan Harbinson	BSO
Charlene McQuillan	DoH
Martin Mayock	BSO
Naomi Mill	BSO
Cormac O'Brien	BSO
Eddie Ritson	PHA

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)	WHSCCT / 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.	PHA	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, WHSCCT—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
028	Early and late onset of dementia in NI	QUB	2018/19
029	Assessing the rate of anticholinergic drug prescriptions for dementia patients in Northern Ireland	QUB	2018/19
030	Childhood interactions with social services and risk of poor health and social outcomes in adulthood: A population wide data linkage study	QUB	2018/19
031	Myotonic dystrophy in NI	QUB / BHSCT	2018/19
032	Investigation of the link between maternal body mass index in early pregnancy and incidence of cerebral palsy in NI.	QUB	2018/19
033	Evaluation of outcomes for patients with elevated tTG antibodies and Gluten-free food prescription utilisation in NI	QUB / BHSCT	2018/19
035	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
036	Hospitalisation rates in dementia	QUB	2018/19
038	Health and social selection bias on consent to participation in the NI Cohort for the Longitudinal Study of Ageing	QUB	2018/19
039	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
034	Mental health, firearm ownership, and risk of death by suicide: a population-wide data linkage study	QUB	A. Maguire	14/01/20
037	Acute myocardial infarction rates and management in dementia	QUB	B. McGuinness	09/04/19
040	Co-medication burden with polypharmacy and hyper polypharmacy in people with dementia	QUB	B. McGuinness	13/06/19
041	Investigating the relationship between dementia and cancer in NI	QUB	B. McGuinness	13/06/19
042	Living alone with dementia: related use of drugs	QUB	B. McGuinness	07/05/19
043	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
044	Assessing the rates and reasons behind falls and fractures of people with dementia in NI	QUB	B. McGuinness	03/07/19
045	Mothers first unlocking potential of NIMATS	UU	J. Murphy	17/07/19
046	Understanding real world healthcare costs for living donor kidney transplantation	BHSCT	M. Quinn	04/10/19
047	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
048	Physical Healthcare Outcomes in those with Severe Mental Illness (SMI's) in NI	UU	G. Leavey	27/08/19
049	Health service use and outcomes in later life: an examination of urban and rural health inequalities in NI	UU	M. Rosato	27/08/19
050	Linking Psychological Therapies Service outcomes data with hospital admissions and prescriptions data	NHSCT	K. Dyer	04/10/19
051	Antipsychotic and antidepressant use among people with dementia in NI: A retrospective analysis	QUB	B. McGuinness	04/10/19
052	Maternal Exposure to Air Pollution during Pregnancy and Infant Health	QUB	N. Rowland	04/10/19
054	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

Projects Approved in 2020/21

Project	Title	Organisation	Chief Investigator	Panel Approval
053	Elective surgery rates in people with dementia	QUB	B. McGuinness	23/07/20
056	An examination of the role of socio-economic factors and maternal health on child oral health.	QUB	C. O'Neill	24/08/20
058	Challenges and Possible Solutions for Long Waiting Times for Elective Surgeries in Northern Ireland	QUB	D. Rathnayake	23/07/20
059	SARS-CoV-2 related deaths: an in-depth examination	QUB	A. Maguire	12/08/20
060	Impact of COVID-19 on mental health in Northern Ireland	QUB	A. Maguire	12/08/20
061	Northern Ireland Multi-morbidity Cohort (NIMC): Measures of multi-morbidity and its impact on mortality.	QUB	D. O'Reilly	19/01/21
062	Multimorbidity and pregnancy: epidemiology, clusters, prescriptions and preterm birth	QUB	K. Eastwood	19/01/21
063	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
064	National Core Study – Data and Connectivity: COVID-19 Vaccines Pharmacovigilance (DaC-VaP)	QUB	D. Bradley	18/03/21
065	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 of Belfast

UU—Ulster University

KCL—Kings College London

Appendix 6—List of Journal Articles

Facilitated by HBS, 2021/22

Kent, L., Cardwell, C., Young, I., Eastwood, K. (2021) **A closer look at maternal obesity in Northern Ireland (2011–2017)**. *Category – Obesity. BJOG: Int J Obstet Gy*, 128: 180-184. <https://doi.org/10.1111/1471-0528.1416715>

Saad, H, Bunting, B & Mc Cullough, J 2021, 'How can Big Data be used to answer public health research questions?', *Evidence Based Midwifery*, vol. 19, no. 1, pp. 19-31.

Kent L, O'Reilly D, Maguire A. **Impact of the COVID-19 pandemic on psychotropic medication uptake in Northern Ireland: a population-wide trend analysis**. *The Lancet Meeting Abstracts*. 2021 Nov 398. Doi: [https://doi.org/10.1016/S0140-6736\(21\)02545-9](https://doi.org/10.1016/S0140-6736(21)02545-9)

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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