

Annual Report on ONS Research Support and Data Access, 2017-18

Executive summary

ONS is committed to providing access to unit-record de-identified survey and administrative data for statistical research that delivers a public benefit for the UK and where access is granted to researchers in a safe and consistent way, in line with legislation and ONS policies. This report describes our activity in 2017/18 to manage access to these data and continue our development of the service to support innovative research. The highlights for the period are:

We are meeting the increasing demand to support research and policy analysis

There has been a considerable increase in the demand for, and use of, unpublished ONS research data during 2017/18, continuing the year on year trend over the last five years.

There were 553 new applications to be an ONS Accredited Researcher in 2017/18, compared with 441 in the previous year (an increase of 25.4%). A record number of 1,737 research outputs were cleared in 2017/18 – an increase of 37.6% on the previous 12 months.

There were over 250 research projects in the ONS Secure Research Service (SRS) which exceeds the UK Statsitics Authority's target for 2017/18. During the last year, there has been a notable shift towards rapid policy analysis projects and we are adapting to this need to provide a more flexible and customer-focused service.

Additional high quality data has been made available in the SRS, including Effects of Tax and Benefits (ETB) and Census data from 1961, 1971 and 1981.

Review of ONS research data

Following the review and updates to the Approved Researcher scheme in 2016/17, we reviewed the remaining legal gateways which permit government researchers (central/local) to access ONS research data for statistical researchers that delivers a public benefit.

We have revised the access arrangements to ensure the access arrangements remain effective and to increase transparency. All applications for access are now considered by the ONS Microdata Release Panel and a public record of organisations accessing ONS data through these gateways, and the purpose for which access has been granted, is published on the ONS website. We continue to update these details as new applications are approved.

Delivering improvements to ONS research data access

Last year's annual report included 15 actions in an 2017/18 Action Plan. We have completed 13 of these actions and made good progress on two. The outstanding actions – development of the SRS capacity and connectivity, and an online system for the submission and tracking of application forms, will be completed in the summer 2018.

Feedback from researchers highlights the progress made to improve research data access - 32% considered their access had improved over the last 12 months, but there is still much to do. The 2018/19 Action plan (Annex A) sets outs the issues we wish to address and we will be running roadshows in the summer to listen to researcher's views to further shape developments to our service.

In 2017/18, we published 10 case studies demonstrating how research findings are providing an evidence base for policy and decision making and service planning. The first Realising the Impact of Research data event was held in collaboration with the UK Data Service and we have inaugurated an ONS Research Excellence Award.

Protecting Data Confidentiality

ONS places the highest priority on protecting data confidentiality and we continue to ensure that robust arrangements are in place through our <u>five-safes model</u>.

Since the enactment of the Statistics and Registration Service Act 2007, which established the framework for the Approved Research scheme, no personal information has been unlawfully shared or disclosed.

In 2017/18, investigation of 12 suspected low-level breaches of research data access confirmed that they were all non-compliance with procedures. A number of researchers were asked to retrain and one researcher was suspended temporarily.

Summary of feedback from the Approved Researcher survey

Survey: 27 February 2018 – 29 March 2018

Sent to 1,649 registered Approved Researchers – 186 responses (11% conversion)

The information received during the 2016-17 AR evaluation survey was invaluable in informing the action plan for the next 12 months. We chose to collect additional information from respondents during the 2017-18 survey and increased the number of questions. This was to allow us to carry out more in depth analysis of our service and has been used to inform the 2018-19 action plan.

The number of researchers who would speak highly of the scheme without being prompted or when asked for their opinion has increased by 4 percentage points (pp) since 2016-17. A number of themes were visible within the positive comments received with the majority commenting; that the scheme is beneficial in aiding research; a friendly and helpful service desk team; and excellent training.

"Great service to public research, and good balance between protecting providers of data and helping researchers to make the best use of such data"

"ONS has been invaluable and had major efforts in trying to enable our research and the support team at Titchfield goes out of its way to be friendly and helpful"

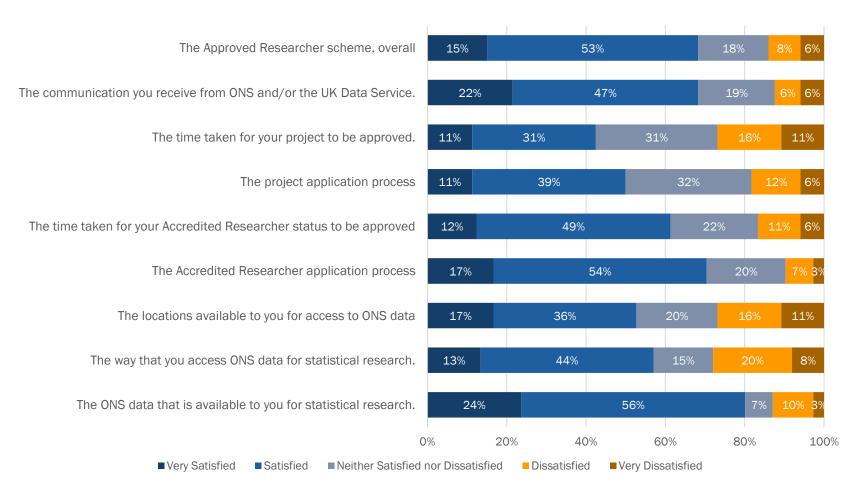
Unfortunately, the number of researchers who would speak critically of the scheme without being prompted has increased by 3pp. After exploring these results in more depth, the main criticisms focus on researcher and/or project applications; processing times; a process that is overly burdensome; and lack of communication around approval delays. In some areas work is already being done to tackle these issues.

"Mainly issues with processing times.... This is a great pity as the consequence for me has certainly been that I have now shifted almost all my academic projects to use data from similar services in France, Belgium and Germany. This also means that these research projects will no longer have any public benefit/policy outputs for the UK (instead this will be for the France, Belgium and Germany)."

"I would warn anyone seeking to access restricted data that the process is extremely cumbersome and takes a long time."

Satisfaction Results

Respondents were asked how satisfied they were with each of the following:



Summary

80% overall satisfaction with ONS data available for research

68% overall satisfaction with Approved Researcher scheme static on last years result of 68%

69% overall satisfaction with communications, a decrease of 7pp since 2016-17

27% overall dissatisfaction with time taken for project approvals

28% dissatisfaction with the way researchers access ONS data for research

Response rate: 186

Satisfaction Results by organisations used

We explored some of the key findings in more depth:

		Services provided by						
Statement	Satisfaction	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All	
The time teles for a second	Positive	51%	45%	38%	37%	33%	29%	
The time taken for your project to be approved.	Neutral	27%	25%	25%	29%	46%	43%	
то ве арргочец.	Negative	22%	30%	38%	35%	21%	29%	

Statement	Satisfaction	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All
	Positive	65%	45%	38%	46%	33%	14%
The project application process	Neutral	25%	35%	38%	30%	46%	43%
	Negative	9%	20%	25%	24%	21%	43%

Statement	Satisfaction	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All
	Positive	49%	35%	63%	59%	54%	29%
The locations available to you for access to ONS data	Neutral	24%	10%	25%	17%	33%	0%
ioi access to ons data	Negative	27%	55%	13%	24%	13%	71%

Statement	Satisfaction	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All
TI ULL ONG	Positive	55%	45%	50%	60%	58%	29%
The way that you access ONS data for statistical research.	Neutral	16%	10%	25%	14%	21%	14%
uata ioi statistical researcii.	Negative	29%	45%	25%	25%	21%	57%

Negative

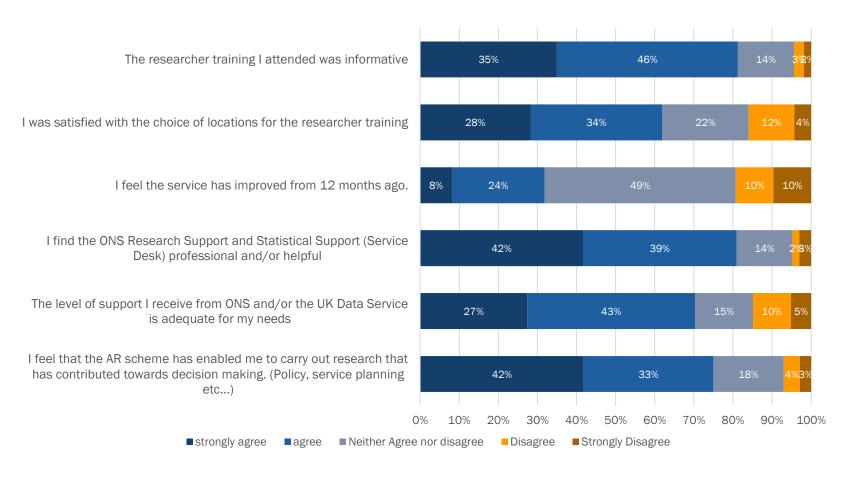
Positive

Summary

- Highest level of satisfaction for project approval time is for respondents who use solely ONS at 51%
- Highest rates of dissatisfaction for project approval times is generally with respondents who use 2 or more organisations;
 - ONS & UKDS 30% dissatisfied
 - ONS & NHS 38% dissatisfied
- Highest satisfaction with project application process is with respondents using ONS only, at 65%
- Greatest overall dissatisfaction can be seen with respondents who use all organisations at 43%
- Greatest satisfaction for locations available for access is with respondents who use both ONS and NHS Digital with 63% being satisfied
- Greatest dissatisfaction can again be seen with those researchers who use all organisations at 71%
- Satisfaction rates for how respondents feel about the way that they access data remain fairly steady across all organisations, with UKDS only reaching the top mark at 60% overall satisfaction
- High levels of dissatisfaction can be seen with ONS & UKDS at 45% and those that use all organisations rating overall dissatisfaction at 57%

Statement results

Respondents were asked to mark how much they would agree with the following statements:



Summary

81% of all respondents felt that the researcher training was informative

81% of all respondents found the service desk professional and/or helpful

20% of all respondents feel that the service had not improved over the last 12 months, with nearly half feeling that the performance of the service has remained the same

Statement results by organisations used

We explored some of the key findings in more depth:

			Services provided by							
Statement	Response	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	AII			
I feel the coming has incomed	Positive	44%	33%	38%	29%	11%	20%			
I feel the service has improved from 12 months ago	Neutral	42%	47%	38%	53%	67%	20%			
ITOTT 12 ITIOTITIS ago	Negative	14%	20%	25%	18%	22%	60%			

N/A responses removed

- The highest rate of respondents who felt that the service had improved were those that solely use ONS at 45%
- 38% of respondents who use both ONS & NHS agreed that the service had improved
- The highest level of disagreement comes from respondents using all organisations, at 60%
- A total of 178 respondents answered this question with 46 marking their response as 'N/A', e.g. they had used the service for less than 12 months

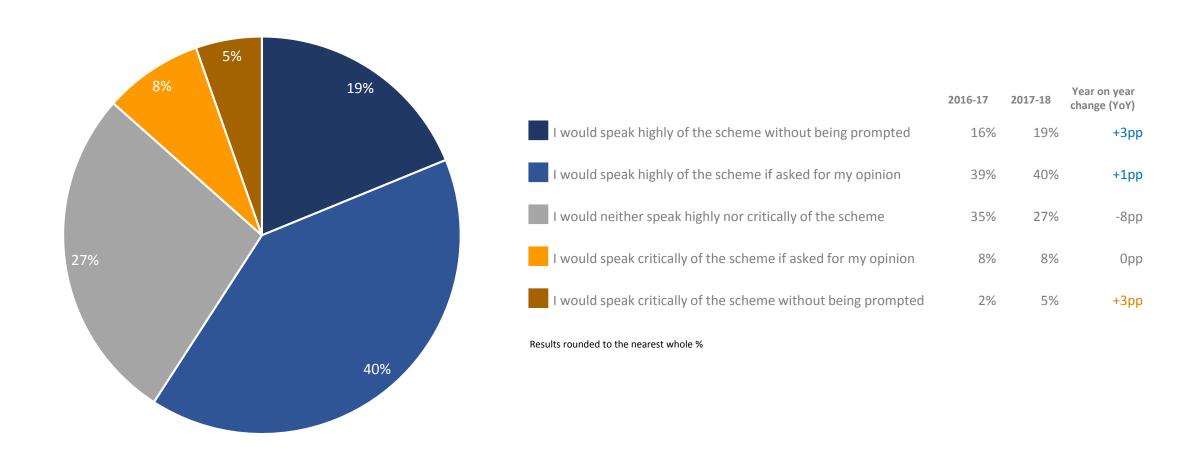
			Services provided by							
Statement	Response	ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All			
I was satisfied with the choice of	Positive	70%	58%	67%	70%	26%	33%			
locations for the researcher	Neutral	16%	32%	17%	14%	58%	0%			
training	Negative	14%	11%	17%	16%	16%	67%			

N/A responses removed

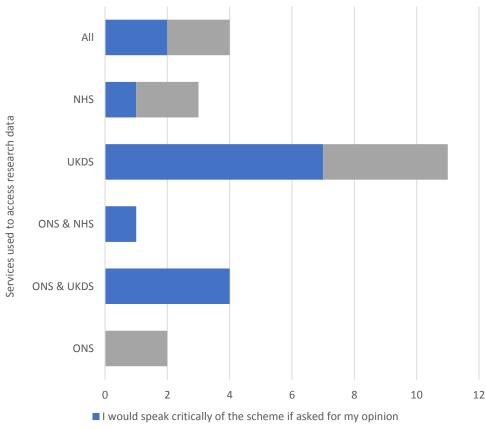
Negative Positive

- A high proportion of respondents were satisfied with the locations for researcher training with the highest ratings coming from respondents using ONS only and UKDS only, both receiving 70% agreeable responses
- The largest ratings for respondents who disagree can be seen with those that use a combination of all organisations with a huge 67% being unhappy with the locations for researcher training
- A total of 178 respondents answered this question with
 20 marking their response as 'N/A'

How highly would you speak of the Approved Researcher scheme?



Critically speaking



■ I would speak critically of the scheme without being prompted

From the 186 responses received, 178 respondents provided details of the services used to access research data. Of these respondents, 25 would speak critically about the scheme.

It is noted that many of the respondents who would speak critically of the scheme, are those who use a combination of 2 or more organisations to access data.

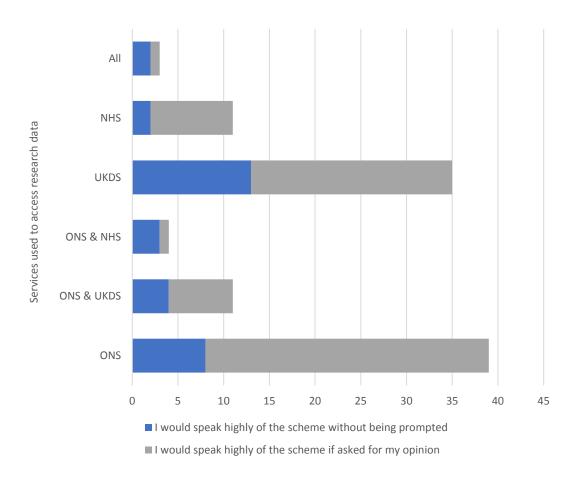
The most common themes to cause criticism are those listed below, with processing times appearing in 40% of the 25 critical comments received.

Theme	Comment count	% of critical respondents
Application processing times	10	40%
Burdensome process	9	36%
Communication	6	24%
Access to data	4	16%
Training locations	3	12%
Software available in secure setting	3	12%
Researcher training	3	12%
Statistical disclosure control	2	8%
Data availability	2	8%

Number and proportion of respondents using each service (of the 178 to provide details):

ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All	Total
55	20	8	64	24	7	178
31%	11%	4%	36%	13%	4%	100%

Highly speaking



From the respondents that provided the details of services used, 104 would speak positively about the scheme.

Of the 104 who would speak positively, 27 provided us with detailed comments. The common themes from these are explored below.

Theme	Commer	nt count	% of postive comments
Data useful for research		10	37%
Service desk team		6	22%
Training		6	22%
Statistical disclosure control		5	19%
Data availabile		4	15%
Efficiency		3	11%

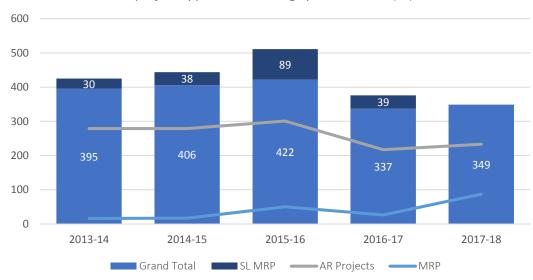
Accompanying these positive comments, researchers highlighted some areas for improvement. Suggestions included; Data being made available to ALL not just a few, additional locations for access to data, tackling application processing delays, training, and delays outside of ONS.

Number and proportion of respondents using each service (of the 178 to provide details):

ONS	ONS & UKDS	ONS & NHS	UKDS	NHS	All	Total
55	20	8	64	24	7	178
31%	11%	4%	36%	13%	4%	100%

Approval of projects



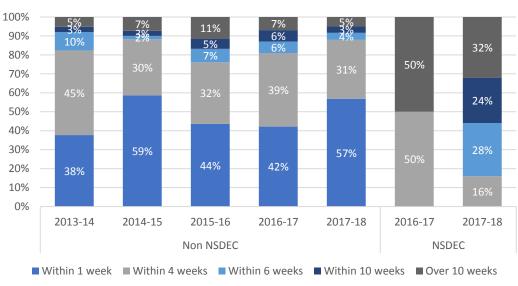


Total project approvals 2017-18 sees a 7% decrease on 2016-17 (+4% excluding Special Licence projects.)

Yearly project approvals 2016-18 saw an average of 363 approvals. This is a decrease vs 2013-16 average of 460 (-21%). With the Approved Researcher approvals demonstrating a YoY increase of 25%, the decrease in project approvals would suggest that more projects are being undertaken collaboratively.

2017-18 shows a spike in the ever increasing demand on projects requiring full MRP approval; +234% vs 2016-17. Of the 87 projects considered by the full MRP panel (as opposed to being approved by a precedent decision), 25 were referred to the National Statisticians Data Ethics Advisory Committee (NSDEC) in 2017-18 and 2 were referred to NSDEC in 2016-17 for further ethical consideration.

Average weekly project approval time



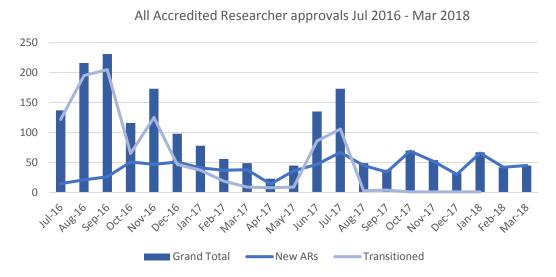
Average project approval times have been steadily improving; during 2017-18, 88% of all projects (excluding NSDEC) were approved within 4 weeks of being registered with ONS. This is a 3 year high.

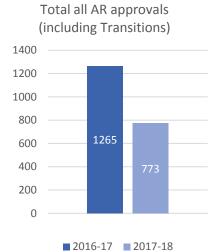
During 2017-18, 44% of all NSDEC projects were approved within 6 weeks, however 32% of NSDEC considered projects took over 10 weeks to gain approval.

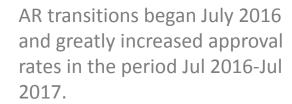
The additional time taken to approve all NSDEC projects reflects the additional time taken to gain approval via both MRP and NSDEC.

A new process has been implemented to refine the handling of NSDEC applications in 2018-19.

Approval of researchers

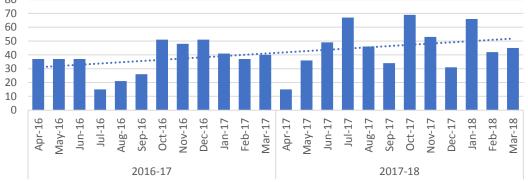






This is reflected in the YoY comparison of ALL AR approvals; 2017-18 total of 773 is a decrease of 38.9%. Although there were 824 transition AR approvals in 2016-17 compared with 220 in 2017-18.





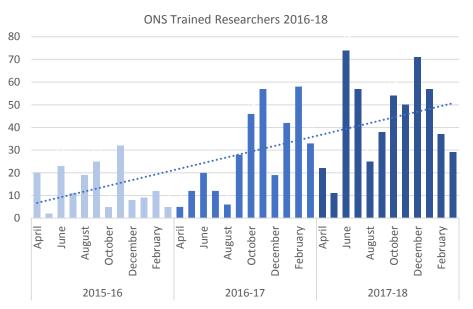
Accredited Researcher approvals (excluding transitions)

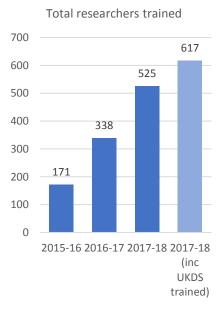


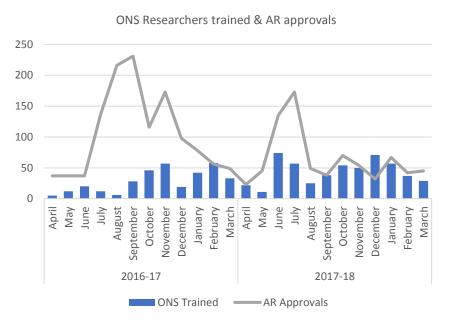
Approvals of new applicants reached a total of 553 in 2017-18. This is an increase of 25.4% on the 2016-17 total of 441.

Data pre July 2016 estimated based on pre-transition estimates

Training Demand







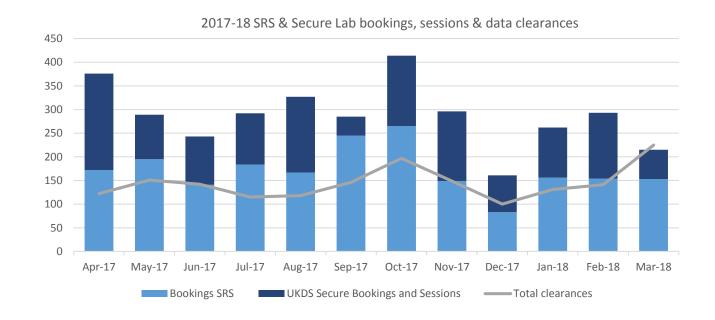
A steady demand for training can be seen 2015-18, with a total of 525 researchers being trained by ONS in 2017-18, +55% vs 2016-17 and +207% vs 2015-16. This is also reflective of the increase in AR approvals seen in 2017-18.

Including researchers that were trained by the UK Data Service for AR status, a total of 617 people were trained in the last 12 months.

When comparing the monthly number of AR approvals to the monthly number of researchers trained there is a huge disparity between the numbers, most notably seen in August 2016, November 2016 and July 2017.

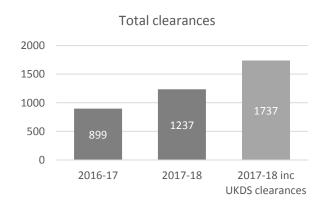
This coincides with AR transition reminders and the spike of transitions which resulted (transitioned researchers were not required to attend formal training again).

SRS & Secure Lab Bookings and Clearances









A similar trend can be seen over the last 12 months for both secure setting bookings and clearances (clearance figures are made up of all outputs and coding clearances).

Data clearances buck the trend slightly in March 2018 where they exceed number of bookings for the first time during 2017-18. This is likely due to the number of clearance requests from government organisations with remote access to the SRS.

Total SRS bookings in 2017-18 reached 2,064; an 8.2% increase vs 2016-17 and a 52.8% increase vs 2015-16.

Including Secure lab bookings and remote access sessions, total secure uses in 2017-18 reached 3,453.

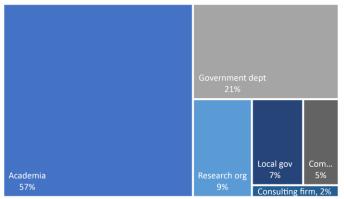
Total ONS clearances in 2017-18 were 1,237. This is a huge increase of 37.6% vs 2016-17.

Including the UK Data Service clearances, total data clearances reached 1,737 in 2017-18.

How is ONS data being used?

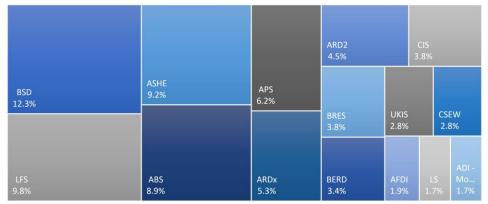
AR scheme – users and datasets 2017-18

Number of projects via AR scheme



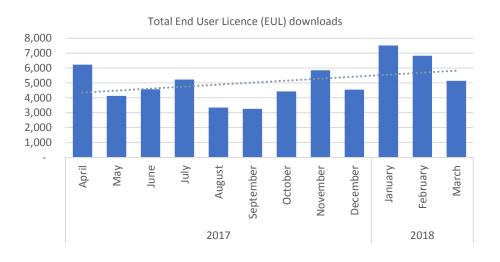
Based on projects via AR gateway only where 'Com...' is Commercial Organisations

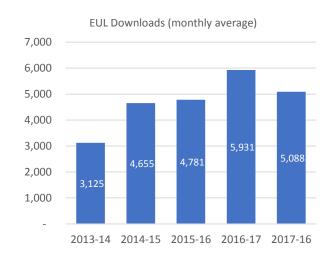
Most Frequently used data sets – proportion of uses (top 15)



Based on projects via AR gateway only

End User Licence (EUL) Downloads





The primary users of ONS data are from academia, with 108 AR projects during 2017-18

The most frequently used data are the Business Structure Database (BSD), closely followed by the Annual Survey of Hours and Earnings (ASHE) and the Labour Force Survey (LFS)

The most downloaded EUL data are LFS and the Annual Population Survey (APS). Access to these data are managed by the UK Data Service

EUL downloads averaged 5,088 a month during 2017-18 which is 843 fewer than the 2016-17 total (-14%) but 307 greater than 2015-16 (+6%). This year is the first to see a YoY decrease since 2013-14

Review of ONS Research Data Access

- Following the review and update to the Approved Researcher scheme in 2016/17, we reviewed the remaining legal gateways which permit researchers to access ONS data for statistical research that delivers a public benefit for the UK.
- These gateways permit government organisations (central and/or local) to apply for access to ONS survey and/or administrative data. This includes access to ONS business data by government departments under the terms of a Ministerial Direction and by local planning authorities for the purpose of producing local development plans.
- We have revised the access arrangements to ensure they remain effective and to increase transparency. All applications for access to ONS data for research are considered by the Microdata Release Panel and a public record of organisations with approved access to ONS research data is published on the ONS website.
- Following our review of ONS Special Licence data, we confirmed that these data would no longer be available for download as they were personal information. As such, they required legal protection and access should only be in a secure environment such as the ONS Secure Research Service (SRS) or UK Data Service (UKDS) Secure Lab. This has now been implemented.

Protecting Data Confidentiality

- ONS places the highest priority on protecting data confidentiality and we continue to ensure that robust arrangements are in place using our five-safes model. In June 2017, the ONS model won the 'Cyber Resilience Innovation of the Year' award, at the 'Digital Leaders 100' Awards.
- Since the enactment of the Statistics and Registration Service Act 2007, which established the framework for the Approved Research scheme, no personal information has been unlawfully shared or disclosed.
- In 2017/18, the investigation of 12 suspected low-level breaches of research data access confirmed that they were all non-compliance with procedures. The most common procedural breach was researchers accessing the SRS from home rather than at a work location.
- ONS or the UK Data Service, took action against all the researchers concerned in accordance with our Research Data
 Access Non-compliance and Breaches policies. Action included a requirement on researchers to re-train and the
 temporary suspension of one researcher for sharing cleared intermediate outputs with researchers not involved with the
 project.

Impact of Research

During 2017-18 we have worked with the UK Data Service to increase the publicity of research carried out in the SRS.

This year, we have published 10 case studies via the <u>UK Data Service website</u>. We hope to increase this figure in 2018-19 and collaborate with the **112 respondents** who have highlighted their **interest in producing a case study** of their work.

In February we joined the UK Data Service in hosting their annual #DataImpact event, #DataImpact2018: Realising the Potential of Research Data.

The event showcased 3 high impact pieces of research conducted by Conor D'Arcy from the Resolution Foundation, Anna Leach from CBI and George Windsor from Tech City. The event also included a lively panel debate chaired by Robert Cuffe, Head of Statistics at the BBC.

"ONS research data are essential in allowing us to understand what's happening to living standards, and to use that insight to inform the policy debate. The event in February was an excellent showcase of the opportunities the data offer"

Conor D'Arcy, Resolution Foundation

"The Tech Nation reports could not have had the impact they have without the use of ONS data. The public benefit of access to data for research from the ONS is clear to most of us, but as a research community, we have a responsibility to continue raising awareness about the role of data driven evidence in informing policy and decision making."

George Windsor, Tech City

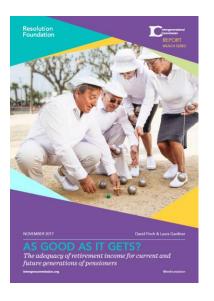
"It was great to participate in an event that brought together the producers and users of data. The CBI's success in influencing regional policy development was made possible through our access to the ONS's microdata. We all have a stake in shaping the UK's future and high quality, accessible data helps us understand the problems and design the solutions."

Anna Leach, CBI

ONS will organise a further Realising the Potential of Research Data event in late 2018 and inaugurate a <u>Research Excellence Award</u> to recognise and celebrate innovative research carried out.









Developments over the last 12 months

Rebranding:

In November 2018, we rebranded what was formerly known as the Virtual Microdata Laboratory (VML) to the Secure Research Service (SRS). This change better reflects the service based provision we offer and highlights our ability to enable access to secure microdata whilst providing a range of services to support research projects.

Digital Leaders 100 - The Five Safes:

The Office for National Statistics was awarded the 'Cyber Resilience Innovation of the Year' award, at the 'Digital Leaders 100' Awards on 22nd June 2017. The award recognises the steps ONS takes to enable external researchers to access detailed and unpublished data for research purposes – delivering public benefit while protecting the confidentiality of personal information. This approach is called the "Five Safes": Safe people; Safe projects; Safe settings; Safe outputs; and Safe data.

Output/code checking changes:

Alongside the rebranding of the service, we also made several changes to clearance procedures, with the aim of reducing the risk of disclosure breaches when using secure data. These changes will strike a balance between giving the research community more freedom whilst still protecting confidentiality. The changes made impacted pre-publication, publication and code clearances; changes to Longitudinal Study; and principles based clearance checking.

New data into SRS:

In addition to regular updates of the existing data sets available in the SRS, we have also added a number of new data sets. Some of the highlights are; Effects of Tax and Benefits (ETB) which can sit alongside and supplement the Living Costs and Food Survey (LFCS); the Low Carbon and Renewable Energy Economy Survey (LCREE) from 2014-2016; secure samples of historical Censuses from 1961, 1971 and 1981; and full Deaths registration data dating back to 1993. During 2018-19, we hope to increase the breadth of data set availability even more and will begin with adding data from the National Travel Survey by Department for Transport (DfT) and data from Understanding Society.

New SRS platform and online application process:

As part of our programme of continuous improvement, we have engaged with key stakeholders from the research community and listened to their needs. The key message highlighted was, that in order to unlock public benefit from research within the SRS environment, we must address the lack of connectivity outside of central government. As a result, we have launched a technology refresh programme. Part of this work will use fully scalable and secure cloud technology to provide connectivity to the SRS platform from any approved organisation.

In addition to the platform development work, we are providing a set of improvements aiming at enhancing the user experience. These improvements will enable researchers to submit and track their applications (researcher and project) online as well as online bookings for a range of services such as training, output clearances, project amendments, etc. Public Beta versions of both new systems are due early Summer 2018.



2018-19 Action plan

Action	Planned outcomes	Deadline
Increase connectivity, capacity and availability of SRS	A new SRS Infrastructure will allow greater connectivity, increased remote access and increased processing abilities enabling more simultaneous sessions.	Summer 2018
Online portal for submitting and tracking applications and making requests (e.g. output clearances, training etc)	An online portal will be created allowing users to submit both AR and project application forms which will also include tracking functionality. The online portal will allow users to book training and raise request directly to the service desk team.	Summer 2018
Review and streamline processes where there are multi- organisation engagement/contact for researchers	Work directly with partner organisations to establish clear communication channels, enabling us to handle enquiries efficiently and address issues effectively.	March 2019
Review plans for SRS remote access	Currently collaborating with overseas organisations offering secure access to data (including Centre d'accès sécurisé aux données (CASD) in France, Centraal Bureau voor de Statistiek (CBS) in Holland, Institut für Arbeitsmarkt (IAB) in Germany and the Integrated Data Infrastructure (IDI) in New Zealand) to agree terms to specialised connections allowing researchers to access international data via a UK safe setting and vice versa.	End 2018
Increase data availability in SRS	Continue to engage with data owners both internally and externally to increase availability and range of data in the SRS, e.g. National Pupil Database (NPD)	End 2018
Increase information about data available in the SRS	Development of comprehensive catalogue of data available for research	March 2019

2018-19 Action plan Continued

Action	Planned outcomes	Deadline
Create new data ingest procedure to improve data quality	Engaging with ONS Business areas to understand current resource dedicated to dataset and metadata preparation for the SRS. Offer RSDA resource to help deliver improved metadata for our researchers. Researchers will be better able to answer queries they have about the data.	Autumn 2018
Improve communications with customers	We will deliver a programme of events to inform researchers about latest developments and listen and respond to their feedback. Customers to be kept up to date with all aspects of their application. Online application roll out will aid in providing clarity but a more direct approach to be considered if delays occur.	End 2018
Review current training locations and possibilities of adding additional locations in line with remote connectivity rollout	We are running a training course in Bristol and one in Cardiff, but will look to offer Safe Researcher Training (SRT) courses in a wider variety of locations, particularly in the North once a quarter.	End 2018
Raise awareness of Research Data use	Raise awareness and promote the use of Secure Research Data by inviting external speakers to talk to ONS staff about how they've used Secure Research Data to aid decision and deliver benefit to the UK. Continue to produce research case studies and host user events	March 2019
Ensure consistent accreditation approach between data centres/processors in line with the DEA	We will collaborate with the administrative research centres and other schemes that accredit researchers, to ensure there is a consistent framework in place. Researchers accredited on one scheme will be able to transfer to the other schemes without the need to reaccredit.	End 2018

Glossary of terms

Term	Meaning
ABS	Annual Business Survey
ADI - Mortality	Death Registrations, England and Wales
AFDI	Annual Inquiry into Foreign Direct Investment
APS	Annual Population Survey
ARD2	Annual Respondents Database 1973-2009
ARDx	Annual Respondents Database 1998-2014
ASHE	Annual Survey of Hours and Earnings
BERD	Business Enterprise Research and Development
BRES	Business Register Employment Survey
BSD	Business Structure Database
CIS/UKIS	Community Innovation Survey or UKIS: UK Innovation Survey
CSEW	Crime Survey for England and Wales
LCFS	Living Costs and Food Survey (Expenditure and Food Survey)
LFS	Labour Force Survey
LS	Longitudinal Study of England and Wales