

# RDA COVID-19 Guidelines and DTL Recommendations on Data Sharing Part 2: Navigational Tools and Other Outputs

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# Agenda

- >Summary of the RDA COVID-19 Recommendations and Guidelines on Data Sharing (Rs&Gs)
- > Additional "navigational tools"
  - Infographic
  - Outputs Card
  - Zotero Library
  - Data Stewardship Wizard
  - Mindmap
- > Supplementary Outputs/Journal Articles

# https://doi.org/10.15497/rda00052





# English: http://bit.ly/RDC Webinar Sep-16 EN

# French: http://bit.ly/DRC Webinaire Sep-16 FR





# **Simultaneous Interpretation in French**

- > This session features both English and French language audio channels.
- > Cette session propose des canaux audio en anglais et en français.
- > Select the Interpretation option from your menu to select preferred language.
- > Sélectionnez l'option Interprétation dans votre menu pour sélectionner la langue préférée.
- > A recording of this session, along with these slides, will also be made available in French.



# **Questions & Answers**

> Please use the Q&A option to ask questions of the presenters. Questions will be monitored throughout the session and addressed at the end.

> The Q&A option can be found at the bottom of your Zoom screen:



> Please note that this event is being recorded, including questions and answers.



# **The Recommendations & Guidelines**



# **Background and Why**

- > Request from the European Commission to the Research Data Alliance (RDA)
- > Working Group setup within weeks
  - 4 Research Areas, 4 Cross-cutting themes, each with Co-Moderators
- > Structured through a series of teams
  - Co-Chairs, Co-Chairs + Moderators, 8 Themes, Editorial, Visualization, Zotero
- > April 1 30 June continual sprints, webinars, etc.
  - 6 releases over 3 months
- > Exhausting and exhilarating!



#### What are the Challenges Being Faced?



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### What are the Objectives?



**1.0** Clearly define detailed guidelines on data and software sharing for COVID-19 research.



**1.1** Help stakeholders follow best practices to maximise efficiency.



**2** Develop **recommendations** for funders and policymakers to maximise timely, quality data and software sharing and appropriate responses in health emergencies.



Act as a **blueprint** for future emergencies to maximise the efficiency of their work.



**3** Address interests of researchers, policymakers, funders, publishers, and providers of data sharing infrastructures.

#### Global Effort to Raise the Bar for Data Sharing



- 117 cross-sectoral signatories to the <u>Wellcome Trust statement</u> in January 2020.
- Agreement by 30 leading publishers on <u>immediate open access</u> to COVID-19 publications and underlying data.



### What are the Key Recommendations?

The RDA COVID-19 Recommendations and Guidelines are aimed at developing a systematic approach for data sharing in public health emergencies that supports scientific research and policymaking, including an overarching framework, common tools and processes, and principles that can be embedded in research practice.



Coordinate cross-jurisdictional efforts to foster global **Open** Science through policy and investment.



Invest in state-of-the-art IT, data management systems infrastructure, economies of scale, and people.



Require the use of Data Management Plans.



Use common generic as well as domain-specific metadata standards, and persistent identifiers.



Provide **documentation** of context, methodologies used to define, construct, and compile data, data cleaning and quality checks, data imputation, and data provenance.





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Expedite article and data review processes, prioritising and fast-tracking data at all stages.



Balance ethics and privacy, taking into account public interests and benefits while addressing the health crisis.



Access should be as **open as possible** and as **closed as necessary.** 



Seek **technical solutions** that ensure anonymisation, encryption, privacy protection, and de-identification to **increase trust** in data sharing.



Provide legal frameworks that promote sharing of surveillance data across jurisdictions and sectors.





#### **A Collaborative Cross-Disciplinary Effort**



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### **Omics Example: 4.4.2 Guidelines for Host Genomics Data**

Several different types of host genomics data are being collected for COVID-19 research. Some suitable repositories for these are:

- Gene expression data should in general be retrieved from or deposited in the repositories listed below (<u>Blaxter et al., 2016</u>). To achieve load balancing, it is recommended to choose the respective regional repository. It should be noted that <u>INSDC</u> resources (i.e., <u>DDBJ</u>, <u>ENA</u> and <u>NCBI</u>) synchronise most of their datasets daily<sup>2</sup>.
  - 1.1. Transcriptomics of human subjects (requiring authorised access):
    - 1.1.1. Database of Genotypes and Phenotypes (dbGaP) (Mailman et al., 2007)
    - 1.1.2. <u>European Genome-Phenome Archive</u> (EGA) (<u>Lappalainen et al., 2015</u>); the corresponding non-sensitive metadata will be available through EBI <u>ArrayExpress</u> (<u>Athar et al., 2019</u>)
    - 1.1.3. Japanese Genotype-phenotype Archive (JGA) (Kodama et al., 2015)
  - 1.2. Transcriptomics (from cell lines/animals):
    - 1.2.1. ArrayExpress (Athar et al., 2019)
    - 1.2.2. Gene Expression Omnibus (Barrett et al., 2013)
    - 1.2.3. Genomic Expression Archive
  - 1.3. Underlying reads can be retrieved from/will automatically be deposited to the corresponding read archive:
    - 1.3.1. <u>DDBJ Sequence Read Archive</u> (DRA) (Kodama et al., 2012), for submission documentation see here
    - 1.3.2. <u>European Nucleotide Archive</u> for submission documentation see here

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- 1.3.3. NCBI Sequence Read Archive (SRA) for submission documentation see here
- 1.4. Microarray-based gene expression data:
  - 1.4.1. ArrayExpress (Athar et al., 2019)
  - 1 A 2 Gana Evoraccion Omnibus (Barratt at al. 2013)



### Legal/Ethics Example: 10.4.5 Consent Guidelines

#### 10.4.5 Consent

*Consent* is the act by which a participant, patient or data subject indicates that they permit something to happen to them, or to their data, which would otherwise not be able to happen. It covers a number of different specific contexts:

- 1. Clinical: a patient agrees to undergoing a procedure, including taking part in a trial;
- 2. Data Protection: a data subject agrees to personal data being processed for specified purposes;
- 3. Research: a participant agrees to take part in a research study or experiment.

In both cases, the informed consent sheets for clinical or research purposes would explicitly set out how data protection will be handled, as well as samples or biobanking, rights to self- images and others.

Giving consent should be informed (e.g. the individual knows what is going to happen and why), freely given (there is no coercion or similar motivation), given by somebody with capacity, unambiguous and auditable (the consent is recorded somewhere) (See also <u>Parra-Calderón, 2018</u>). Depending on the jurisdiction and the research domain, there may be an additional requirement to seek consent. This may include a representative community board as well as participants themselves.

Ideally, consent should be sought for collecting, processing, sharing and publishing data. However, there are other legal bases for processing personal data. Some specific examples from the European General Data Protection Regulation (<u>GDPR, 2016</u>) are described below. Our recommendation would therefore be as follows:

1. Where possible, use data where the data subject has provided a valid consent that includes or is compatible with intended use of the data and complies with the requirements on consent in the specific country or region.

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Where these are not possible, there are other reasons why data may be used (see Hallinan, 2020, Ó



# **Additional Navigational Tools**



# Infographics

**DESCRIPTION DATA ALLIANCE** 

**Critical Need for** 

**Rapid Data Sharing** 

Rapid massive research response

with diverse outputs challenges

interoperability of data.





Lignes directrices et recommandations de la Research Data Alliance concernant le partage des données durant la pandémie



The Research Data Alliance (RDA) COVID-19 Working Group was created as a response to the challenges posed by data sharing in the midst of the pandemic.

What are the Challenges Being Faced?



Lack of Harmonised Universal

Standards and Context

Lack of pre-approved sharing agreements

threat detection and evidence-based response.

and archaic information systems hinder rapid

June 2020 440 + members from across disciplines and across the globe.



Le groupe de travail sur la COVID-19 de la Research Data Alliance (RDA) a été mis sur pied à la suite des difficultés que posait le partage des données en pleine pandémie



Juin 2020 plus de 440 membres du monde entier dans diverses disciplines.

Les enjeux



Besoin crucial que l'on partage les données sans attendre

Les recherches accélérées et massives ont débouché sur des résultats variés qui mettent en danger l'interopérabilité des données.



Absence de normes universelles uniformes et de contexte





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## **RDA Outputs Card**





#### What is the solution?

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Develop a body of work that comprises how data from multiple disciplines inform response to a pandemic combined with guidelines and recommendations on data sharing under the COVID-19 circumstances. This extends to research software sharing, in recognition of the key role in software in analysing data. The work is divided into four research areas (Clinical, Omics, Epidemiology, Social Sciences) with four cross-cutting themes (Community Participation, Indigenous Data, Legal and Ethical Considerations, Research Software). The guidelines aim to help stakeholders follow best practices to maximise the efficiency of their work and to act as a blueprint for future emergencies. The recommendations aim to help policymakers and funders maximise timely, quality data sharing and appropriate responses in such health emergencies.

#### What is the impact?

A system for data sharing in public health emergencies that supports scientific research and policymaking, including an overarching framework, common tools and processes, and principles that can be embedded in research practice. Guidelines that address general aspects of data practice, for example the FAIR principles, or the adoption of research-domain community standards.

V V O O O O

Find out More about the RDA COVID-19 Recommendations and Guidelines for Data Sharing

August 2020

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# **Zotero Library**

> Over 1,100 bibliographic entries

- >All citations in the Rs&Gs are in the Zotero library, facilitating access to the resources, as well as formatting for inclusion in other bibliographies
- > Includes separate folders for Sub-Group outputs
- > Some additional resources not cited in the Guidelines are also included
- > Zotero Library will be maintained/updated going forward
- > Citations can be exported/imported to most reference manager tools
- > Main contact is <u>Claire Austin</u>

https://www.rd-alliance.org/group/rda-covid19/outcomes/rda-covid19-wg-zotero-library



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# COVID-19 "Wizard"

- > Select the parts of the complete 150 page document that are applicable to your own situation
- > Quickly select those sections through answering a few questions
- > Download a PDF with exactly that content

# https://covid-19.ds-wizard.org/



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Answer all open questions; new questions may appear when you select an answer.

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1	Rob's test 😔	Create Document More 🕶	
8 8	Current Phase Before Submitting the Proposal	<ul> <li>Indigenous data, in general, comprise data, knowledge, and information that relate to Indigenous</li> <li>Peoples at both the individual and collective level, including data about lends and environment, people, and cultures. In the context of COVID-19, Indigenous data include data about COVID-19</li> <li>testing (individual and community, e.g., wastewater), cases, hospitalisations, health service access, deaths, and comorbidities, as well as related Indigenous Knowledges about COVID-19, and data on the socioeconomic and environmental correlates and impacts of COVID-19.</li> </ul>	When you are done, use
÷	Chapters Objectives and Foundational I. Elements	For more information, see Rainie et al., 2017, and Nickerson, 2017.  Desirable: Before Submitting the Proposal	"Create document" to
6	II. Guidelines for Researchers	<ul> <li>✓</li> <li>O b. Yes :=</li> </ul>	assemble all guidance into a
÷	Recommendations for III. Policymakers IV. Recommendations for Funders	✓ <sup>™</sup> Clear answer	PDF tailored
	V. Recommendations for Publishers VI. Recommendations for Providers of Data Sharing Infrastructures	<ul> <li>Are you looking into different types of community participation, roles +</li> <li>and data challenges?</li> <li>Desirable: Before Submitting the Proposal</li> </ul>	for you.
¢ و	VII. Recommendations for VII. Community Participation	✓ ○ a. No	
) »	More TODOs	D. Yes       D Clear answer	

а



### **DS Wizard Editing Mode - Structure**



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### **DS** Wizard Editing Mode – Questions & Text

DS Wizard	TAGS @ PREVIEW			
省 Knowledge Model Editor	) RDA Covid-19 Data Sharing Rec ) Objectives and Foundational El ) V	Yould you need guidance on th ) Yes		
	¥ Expand ell & Collepse all			
👬 Knowledge Models		Answer Se28c01 St Move Delete		
- Antonio anto	Objectives and Foundational Elements			
Questionnaires	• O Would you need guidance on the main challenges?	Label		
Documents	🖸 No			
	🕑 Yes	Yes		
Create a project	<ul> <li>D Do you need guidance on the coordinated, cross-jurisdictional</li> </ul>			
	D Do you need guidance on infrastructure investment & econom. Advise			
	D Do you need guidance on the FAIR and timely requirements?	Advice		
	D Do you need guidance on data management planning?			
	D Do you need guidance on metadate?	Editor Preview		
	Do you need guidance on documentation of research cutputs?			
	<ul> <li>O Do you need guidance on the use of trustworthy data reposito</li> </ul>	The availability of research data is a key component of pandemic preparedness and response. The		
	O Do you need guidance on data publications?	timeliness of accessing data and the harmonisation across information systems are currently major roadblocks.		
	Guidelines for Researchers	TOBODOCKS.		
	C Recommendations for Policymakers	Critical Need for Data Sharing		
	Recommendations for Funders	The unprecedented spread of the virus has prompted a rapid and massive research response. To make the		
	C Recommendations for Publishers	most of global research efforts, findings and data need to be shared equally rapidly, in a way that is useful		
	Recommendations for Providers of Data Sharing Infrastructures	and comprehensible. Raw data, algorithms, workflows, models, software and so on are required inputs to		
	Recommendations for Community Participation	research studies and are essential to the scientific discovery process itself. New findings and		
	Planning Research	understandings need to be disseminated and built upon at a pace that is faster than usual; due to		
	Collecting Data	decisions being taken by healthcare practitioners and governments on a daily basis, it is crucial that they		
	Processing and Analysis	are well-informed.		
	Publishing and Sharing	The rapid pace of the disease and the immense and rapid mobilisation of resources could create an		
	Preserving Data	environment for inaccurate or low-quality data, which could have considerable implications. Shortcuts with		
	Reusing Data			
	Section Clinical	You can use Markdown and see the result in the Preview tab.		
a Heln	Omics			
Help >	Epidemiology			
) Mark Leggott >	Social Sciences	Follow-up Questions		
Source Start	Community Participation			
Collapse sidebar	Legal and Ethical	+ Add follow-up question		

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RDC

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# About the DS Wizard

> DS Wizard was originally created to help making data management choices
> Started from a 600 question mind map
> An "Expert system" to help researchers find the right information
> Not primarily "Data Management Plan" for the funder!

- > Suitable to update data management during a whole project
- > Supporting (RDA standards for) machine actionable Data Management Plans

> Very suitable to make local derivatives pointing to local resources

> Also available to host your own expert systems; open source

DSW was created in cooperation of

**UOCHB** #



# Mindmap

- > A single view of the Rs&Gs using a mindmap approach
- Includes the full text of the Rs&Gs as notes attached to nodes that correspond to Questions from the DS Wizard version
- > Intended to provide a high-level view, and the ability to drill down
- > Can filter nodes by tags that include
  - stakeholder group
  - section ans topic
  - fulltext search of all nodes and notes
  - web-accessible view

# https://bit.ly/RDA-COVID19-Guidelines









# **Ongoing Work and Future Steps – Outputs and Articles**

### > Supplementary Outputs

- A number of the COVID-19 Sub-Groups have published more detailed documents that build on the primary Rs&Gs document
  - <u>Data Sharing in Epidemiology</u>
- Other Sub-Group documents are available in Google folders
- > Journal Articles and Endorsements
  - A number of articles in preparation by COVID-19 WG Members
    - Summary of the findings of the Rs&Gs
    - Description of the process used to create the Rs&Gs
    - Community Participation article
  - Summaries of the Rs&Gs in various journals (e.g. <u>Cell Patterns</u>, <u>HealthCare IT News</u>, etc.)



### **Ongoing Work and Future Steps – Endorsements/Statements**

### > Stakeholder support happening in various ways

- Adoption and implementation of the recommendations and guidelines
- Promotion by policymakers, funders and publishers
- Use and promotion by researchers
- > Statements
  - STM Publishers
  - Global Indigenous Data Alliance (GIDA)
  - Duty to Document Statement



# **Ongoing Work and Future Steps – Events/Survey**

### > Webinars

- RDM organizations
  - Research Data Alliance and National Nodes (e.g. Ireland)
  - <u>Research Data Canada</u>
- Other Organizations
  - <u>FAPESP</u> (Brazil)
  - European Open Science Forum
  - Scottish Council on Archives
- >Impact Survey
  - Survey to measure use and impact of the Rs&Gs is under development
  - Will be distributed broadly when completed



# **Ongoing Work and Future Steps – RDA Plenary Sessions**

> VP16 (Virtual Plenary P16) was going to be in Costa Rica, will now be virtual

> Various sessions will discuss elements of COVID-19 and/r infectious disease

- Broader efforts under RDA WGs
- Infectious Disease BOF (goal to create a WG/CoP)
- Community Participation BoF / Citizen Science
- COVID-19 Epidemiology WG / Epidemiology WG



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# Value of RDA for COVID-19

RDA 🗎	O&A Members 63	MEMBERSH	HP Members 10966	RDA Groups	WG & IGH 96
ESEARCH DATA ALLIANCE	Active Organisational & Affiliate members		ther of RDA is simple and wilculs and organizations	Discover what RDA Worki Groups and all other Grou find out how to join them.	gis are up to avd

#### The Value of RDA for COVID-19

Home + Get involved + The Value of RDA far... + The Value of RDA for COVID-19

13 july 2020 3862 reads Stacebook Twitter

Under public health emergencies, and particularly the COVID19 pandemic, it is fundamental that data is shared in both a timely and an accurate manner. This coupled with the harmonisation of the many diverse data infrastructures is, now more than ever, imperative to share preliminary data and results early and often. It is clear that open research data is a key component to pandemic preparedness and response.

In late March, RDA received a direct request from one of its funders, the European Commission, to create global guidelines and recommendations for data sharing under COVID-19 circumstances. Over 600 data professionals and domain experts signed up and began work in early April 2020. They have produced a rich set of detailed guidelines to help researchers and data strewards follow best practices to maximise the efficiency of their work, and to act as a buleprint for future emergencies; coupled with recommendations to help policymakers and. funders to maximise timely, quality data sharing and appropriate responses in such health emergencies.

On 30 June 2020, RDA published the final version of the RDA COVID-19 Recommendations and Guidelines on data sharing covering four research areas – clinical data, omics practices, epidemiology and social sciences - complemented by overarching areas focusing on legal and ethical considerations, research software, community participation and indigenous data.

#### The Outputs

The COVID-19 WG, from April 1st through june 30th, 2020, oreated more than five releases of the recommendations and guidelines, leading to the final endorsed version, "RDA COVID-19 Recommendations and Guidelines for Data Sharing," with orgoing efforts to add and review materials.

#### e Value of RDA for... CCVID-19 Funders Individuals Infrastructure Providers Libraries Organisations performing Research Regions Student/Early Career Programms The European Open Science Cloud (EOSC) Request for Comments

Call for Papers: Research Data Alliance Results Special Collection

#### The Outputs

The COVID-19 WG, from April 1st through june 30th, 2020, created more than five releases of the recommendations and guidelines, leading to the final endorsed version, "RDA COVID-19 Recommendations and Guidelines for Data Sharing," with origoing efforts to add and review materials.

- RDA COVID-19 Recommendations and Guidelines for Data Sharing, final release, published 30 June 2020
- RDA COVID-19 Recommendations and Guidelines for Data Sharing Infographic
- RDA COVID-19 Guidelines and Recommendations the prior 5 releases
- RDA-COVID19 WG Zotero Library

Citation: RDA COVID-19 Working Group. Recommendations and Guidelines on data sharing. Research Data Alliance, 2020. DOI: https://doi.org/10.15497/rda00052

#### Resources

- · Final executive summary
- RDA COVID19 Press Release 30 June 2020 final June 2020

#### Joint Statements

- RDA COVID-19 Recommendations and Guidelines for Data Sharing: How STM Publishers can Contribute (July 2020)
- GIDARDA COVID-19 Guidelines for Data Sharing Respecting Indigenous Data Sovereignty (July 2020)
- The Duty to Document does not Cease in a Crisis, it becomes more Essential (May 2020).
- Data Together COVID-19 Appeal And Actions (March 2020)

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#### **RDA FOR COVID-19 Events**

A series of weekly "RDA COVID-19 Update Webinar" occurred almost every Tuesday between April and June 2020 and provided updates on the overarching COVID-19, Legal and Ethical, Research Software, Community Participation Working Groups, Indigenous Data contribution, and the four research themes (clinical, omics, epidemiology, social sciences), along with an opportunity for members to ask questions. Recordings and presentations from these sessions are posted on the Events meeting links.

Upcoming events include:

 RDA Ireland Meet The Experts Webinar - Data Sharing for COVID-19 Research: Recommendations and Guidelines from the RDA COVID-19 Working Group - 29 July 2020

RDC 🚣

### https://www.rd-alliance.org/value-rda-covid-19-0



# **RDA** as a **Community Platform**

- > The COVID-19 Rs&Gs demonstrate the core RDA value
  - Ability to gather a knowledgeable grassroots group
- > Easy to get engaged!
  - Membership is free
  - Engagement opportunities are rich and diverse
- > 100+ Interest Groups and Working Groups
- > New Communities of Practice group type
- > Virtual Plenary 16 a good chance to engage

#### **RDA's guiding principles:**

- ✓ Openness
- Consensus
- ✓ Balance
- ✓ Harmonization
- Community-driven
- ✓ Non-profit and technology-neutral



# ...by the community for the community.

### <u>RDA</u>

- Email enquiries@rd-alliance.org
- Web www.rd-alliance.org
- **Twitter @resdatall**
- LinkedIn www.linkedin.com/in/ResearchDataAlliance
- Slideshare http://www.slideshare.net/ResearchDataAlliance

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# Thank you! Questions?

