Research Data Governance and Sharing

5 & 6 March 2015
Benefits of Data Sharing

- Promote open scientific inquiry
- Promote novel research
- Greater returns from public investment
- Share unique data that cannot be easily replicated
- Encourage synergies from multiple data sources
Key Highlights

Apply to all MOH funded research projects with effect from 1 May 2015

Mandatory for projects with at least S$250,000 of direct research cost

Open access of the peer-reviewed publications regardless of the funding quantum
What is Research Data?

Recorded factual material commonly accepted in the scientific community as necessary to document and support research findings.

- **Publications with data**: Includes conference papers, peer-reviewed journal articles.
- **Processed data & tools**: Includes software or computer code that is required for replication, etc.
- **Metadata**: Includes experimental protocols, statistical methods, etc.
- **Original data; Data generated from past research or research by other researchers**: Includes observations, measurements etc.

*Does not include laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as gels or laboratory specimens.*
Principles for Research Data Sharing

I. Timeliness

II. Human Subjects and Privacy

III. Methods of Sharing

IV. Governance of Data Access

V. Research Data Directory
I. Timeliness of Sharing

Research Data
All data should be made available to user communities at the earliest feasible opportunity. Data to be shared no later than the release of main findings through publication.

Publications
Peer-reviewed publications to be made publicly available no longer than 12 months after official date of publication.

Delays or restrictions on data sharing may be justified to gain intellectual property protection or to further develop technology for public benefit. Such limits should be minimised and indicated in Data Sharing Plan.
II. Human Subjects and Privacy

**Human Subjects**
Rights and privacy of human subjects who participate in publicly funded research must be protected at all times.

**Responsibility**
Responsibility of the investigators, their Institutional Review Board (IRB), and their institution to protect the rights of study subjects and the confidentiality of the data.

**Anonymised Data**
Data shared must be free of identifiers that would lead to linkages to or deductive disclosure of individual human subjects.
II. Human Subjects and Privacy

The informed consent process should include, where appropriate, explicit provisions for

Sharing of data for wider or future research use to maximise the value of the data, while providing adequate safeguards for human subjects.

Obtaining subject’s prior approval to be contacted should the research study show that clinical intervention was needed.

Consent to access subject’s clinical data from national-level databases, such as National Electronic Health Record (NEHR).
III. Methods of Data Sharing

Under Auspices of Investigators

- To publish anonymised data on institutional or personal website, available to public on a long term basis.
- To provide anonymised data to requestor personally.
- Data Sharing Agreement may be used to impose restrictions, e.g. condition of use.

Through Data Repositories and Database Resources

- To deposit anonymised data on Web-based platforms, e.g. Harvard Dataverse Network and Dryad.
- Most data repositories allow control of access to shared data.
IV. Governance of Data Access

Investigator to identify who will make decision on access and facilitating sharing (via Data Sharing Plan to be covered later)

Private companies who collaborate with investigators in publicly funded research can have the anonymised research data required for the collaborated research
IV. Governance of Data Access

- A Data Access Oversight Committee (DAOC) is to be convened to undertake the following responsibilities:
  - Oversee the implementation of the policy
  - Resolve disagreements relating to data access requests, escalated by the investigator or a potential new user’s institution.
  - Handle appeals related to data access requests
V. Research Data Directory

- A web-based research data directory will be made available for listing of all publicly funded research and links to its generated research data through nGager.
V. Research Data Directory

Welcome to nGager - the NMRC Grant Application and Grant Evaluation for Research system. The system is designated for researchers and grant managers who are involved in NMRC grants. Do visit the nGager Information and User Guides webpage here if you require any assistance with nGager.

This system is best viewed using Mozilla Firefox or Internet Explorer. Do also enable pop-ups in your browser.

Grant Opportunities

Clinical Trial Grant Co-Development Scheme (CTGCd2)

The Clinical Trial Grant Co-Development Scheme (CTGCd2) is open for application by clinicians to enable them to carry out clinical trial projects in collaboration with an industry partner. The pre-requisite for application is PI's ability to obtain industry contribution of at least 50% of the Total Project Cost (in-kind and cash contributions from industry partner can be included) and a clear potential of return on investment for Singapore, both to be supported by a Research Collaboration Agreement (RCA). The funding cap is $85 million, inclusive of 20% indirect costs for up to five years.

CTGCd2 (15-12-2014) Apply Here

The Clinical Trial Grant Co-Development Scheme (CTGCd2) is open throughout the year, i.e. there will be no formal grant calls. The grant details, eligibility criteria, requirements, submission mode and more information can be found on our website (http://www.nmg.org.sg). It is mandatory for all applications to be submitted through nGager. Please ensure that all submissions are endorsed by the corresponding host institution's Research Director (HRD). We will not entertain any submissions from individual applicants without HRD endorsement.

nGager is best viewed using Internet Explorer 8.0 or above and Mozilla Firefox. Safari is not supported. Please enable pop-ups as well. We apologise for any inconvenience caused.
Implementation

Implement through integration into MOH NMRC’s grant processes

Applications requesting **at least** S$250,000 of direct research cost must include a Data Sharing Plan

Data Sharing Plan to show how investigators will meet data sharing responsibilities
Data Sharing Plan Template

Type of Study & Data
• Type of study
• Type of data

Data Sharing and Access
• Suitability for sharing
• Timeframe for sharing
• Format of data
• Method of sharing
• Access of data and governance
• Human subject and privacy
• Budget considerations
Data Sharing Plan Template

- Include budget breakdown for data sharing in Data Sharing Plan.
- Reflect as one-line item under nGager “OOE - Others - Data Sharing”.
- Data sharing cost is in addition to the project funding quantum and is eligible for IRC.
- PI is allowed to vire funds into Data Sharing budget, but not allow to vire funds out of Data Sharing budget.
Review of Data Sharing Plan

- Review by Local Review Panel or equivalent body
- Assess independently from the proposed research
- Mandatory requirement for award of the grant
Review of Data Sharing Plan

- If Data Sharing Plan is unsatisfactory, comments from the panel discussion will be sent to the applicant.
- Applicant will be required to revise Data Sharing Plan during the budget revision stage.
- Revised Data Sharing Plan will be re-assessed by the Local Reviewers.
Compliance of Data Sharing

Data Sharing Plan

Review

Compliance

Monitor progress and compliance via progress/final reports
Examples of Data Repositories
Harvard Dataverse

- Repository for sharing, citing and preserving research data
- Open to all scientific data from all disciplines worldwide
- Free for anyone within or outside of Harvard (up to 1TB storage; 2GB per file)

Getting started with the Harvard Dataverse Network
Getting Started with the: Harvard Dataverse Network

Step 1: Go to: thedata.harvard.edu

Step 2: Create Account
open to Harvard & non-Harvard users

Step 3: Create your own Dataverse
for your own research, project, journal, and more

Step 4: Create a Study
describe the study to receive a formal data citation (w/ persistent URL) for others to discover and cite your work (required fields are author, title, and date, plus optional fields)

Step 5: Upload Data Sets + Code + Documentation
any format or # of files, with a max of 2GB/file, with more features for certain formats (SPSS, Stata, R, FITS, GraphML)

Step 6: Release Study + Dataverse
for others to find, cite, share, and reproduce analyses of your study

Learn more at: thedata.org
Harvard Dataverse

From Harvard Dataverse FAQ
• Allows researchers to publish all of their data in a citable, searchable and sharable manner

• Offers unlimited storage space for data that is made publicly available (250MB per file)

• 1GB of free storage space for a secure and private storage area

Figshare FAQ
http://figshare.com/faqs
• Repository that makes the data underlying scientific publications discoverable, freely reusable, and citable

• Provides long-term access to its contents at no cost

• USD90 for 10GB, USD10 for each additional 10GB or part thereof payable by submitter

Dryad FAQ
http://datadryad.org/pages/faq
Thank you
Agenda

1. nGager Progress/Final Report Submission workflow
2. Progress Report on nGager
3. Final Report on nGager
4. nGager Screenshots
## Terminology

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI</td>
<td>Principal Investigator</td>
</tr>
<tr>
<td>HI</td>
<td>Host Institution</td>
</tr>
<tr>
<td>RDO</td>
<td>Research Development Officer</td>
</tr>
<tr>
<td>RD</td>
<td>Research Director</td>
</tr>
<tr>
<td>NMRC GM</td>
<td>NMRC Grant Manager</td>
</tr>
</tbody>
</table>
nGager Progress/Final Report Submission

PI creates/revises Progress/Final Report and submits

RDO / RD views report

RD endorses report

Progress/Final report submitted to NMRC

NMRC GM returns/approves report

If RDO/RD has made comments and requires PI to make changes, report is sent back to the PI.

If GM requires clarification on PI's report, report will be sent back to PI for clarification.
Progress Report on nGager

1. NMRC will send email to HI’s RDOs with a consolidated list of projects pending progress report submission during the FY’s reporting period (as per current practice)

2. Email will contain information on when the progress report is due. HI RDOs to disseminate information to projects’ PIs for their action.

3. PI to create Progress Report on nGager once HI’s RD/RDO has notified them

4. Reminder emails will be sent automatically by nGager to the PI and RDO for the following:
   • 7 days before the progress report’s submission due date
   • 3 days after the progress report’s submission due date (overdue reminder)
Final Report on nGager

1. Final Report to be submitted within 3 months of Project’s Completion date.

2. Reminder emails to submit Final Report will be sent to the PI (cc: HI RDO) during the following conditions
   • On PI’s project’s completion date
   • 2 months after project’s completion date
   • When Final Report is overdue (overdue reminder)

3. Same workflow as Progress report submission
nGager Progress Report Screenshots (PI)

Accessing Project Details on nGager
### nGager Progress Report Screenshots (PI)

**Ongoing Project Search**

Search:

![Search bar with options: Project Title, Project ID, Project Status, Host Institution, Principal Investigator.]

**Projects**

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Project ID</th>
<th>Project Status</th>
</tr>
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<tbody>
<tr>
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</tr>
</tbody>
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1 item(s)
nGager Progress Report Screenshots (PI)
**nGager Progress Report Screenshots (PI)**

**Progress Report Submission**

- Please download the Progress Report template provided, and upload your completed Progress Report.
- You may upload any supporting document (single file or zip file).
- Do complete the 'Key Performance Indicator' and 'Summary Write Up' sections.
- Click 'Save' to save any changes and 'Submit' to submit your report.

**Request Date:** 19-Dec-2014

**Request Status:** Draft

**Progress Report Template:** Pending Uploading

**Financial Year:** 2014

<table>
<thead>
<tr>
<th>Milestones</th>
<th>Description</th>
<th>Start Month</th>
<th>Duration (Months)</th>
<th>Status</th>
<th>Justification</th>
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<tr>
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<td>4</td>
<td>12</td>
<td>Select One</td>
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**Project Status:** Ongoing
### nGager Progress Report Screenshots (PI)

<table>
<thead>
<tr>
<th>Key Performance Indicator</th>
<th>Overall</th>
<th>FY2011</th>
<th>FY2012</th>
<th>FY2013</th>
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<tbody>
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<td></td>
<td>Target</td>
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<td>Target</td>
<td>Achieved</td>
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<td></td>
</tr>
<tr>
<td>No. of PhD students trained and graduated</td>
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<tr>
<td>No. of Master students trained and graduated</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No. of Post-Docs employed</td>
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<tr>
<td><strong>Intellectual Capital</strong></td>
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<tr>
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<td>No. of awards for research at national and international level</td>
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<td>No. of projects with industry</td>
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<tr>
<td>Amount of industry funding - in cash ($)</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Amount of industry funding - in kind ($)</td>
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<td>0.00</td>
<td>0.00</td>
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</tr>
<tr>
<td>No. of spin-offs &amp; start ups from results of research programme</td>
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<tr>
<td>No. of new products/ processes/services commercialised</td>
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<td>0</td>
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<tr>
<td>Amount of royalties and licensing revenue from research results</td>
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<tr>
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<tr>
<td><strong>Others</strong></td>
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<td></td>
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<tr>
<td>No. of human subjects recruited</td>
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</table>
nGager Progress Report Screenshots (PI)
### nGager Progress Report Screenshots (PI)

#### Add Item

**No. of PhD students trained and graduated:**

1. Please provide the names and nationalities of PhD students.
2. Please only indicate students who have been involved in the project for at least a year.

<table>
<thead>
<tr>
<th>Name</th>
<th>Nationality</th>
<th>Is Singapore PR?</th>
<th>NRIC/FIN</th>
<th>Graduation Date</th>
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</thead>
<tbody>
<tr>
<td>Test Student</td>
<td>Singapore</td>
<td>Yes</td>
<td>S0000000S</td>
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### nGager Progress Report Screenshots (PI)

#### Key Performance Indicator

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<tr>
<th>Human Capital</th>
<th>Overall</th>
<th>FY2011</th>
<th>FY2012</th>
<th>FY2013</th>
<th>FY2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of PhD students trained and graduated</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No. of Master students trained and graduated</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No. of Post-Docs employed</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0</td>
</tr>
</tbody>
</table>
Progress Report Submission

- Please download the Progress Report template provided, and upload your completed Progress Report.
- You may upload any supporting document (single file or zip file).
- Do complete the 'Key Performance Indicator' and 'Summary Write Up' sections.
- Click 'Save' to save any changes and 'Submit' to submit your report.

Request Date: 29-Oct-2014
Request Status: 
Progress Report Template: 
Financial Year: 
Progress Report: 
Uploaded Progress Report: 
Supporting Document: 

Message from webpage

Please ensure that you have provided/revised Summary Write-Up. Are you sure you want to proceed?

[OK] [Cancel]
nGager Progress Report Screenshots (PI)

Request has been submitted successfully

[Image of a progress report submission]

**Summary Write Up**

Request Date: 29-Oct-2014
Request Status: Pending HI Endorsement
Progress Report Template: Pending Uploading
Financial Year: 2014
Uploaded Progress Report: Progress Report Template.doc
nGager Progress Report Screenshots (RDO)

**Progress Report Submission**

- Please download the Progress Report template provided, and upload your completed Progress Report. You may upload any supporting document (single file or zip file).
- Do complete the 'Key Performance Indicator' and 'Summary Write Up' sections.
- Click 'Save' to save any changes and 'Submit' to submit your report.

**Milestones**

- Test
  - Description: Test
  - Start Month: 11
  - Duration (Months): 11
  - Status: Completed

**Research Development Officer**

Comments:

Supporting Document:
- RDO has certified that the information and request submitted is accurate
Progress Report Submission

Please download the Progress Report template provided, and upload your completed Progress Report. You may upload any supporting document (single file or zip file). Do complete the "Key Performance Indicator" and "Summary Write Up" sections. Click 'Save' to save any changes and 'Submit' to submit your report.

Request Date: 18-Dec-2014
Request Status: Pending HI Endorsement
Request Status: Pending Uploading
Financial Year: 2014
Uploaded Progress Report: Sample.docx

Milestones

<table>
<thead>
<tr>
<th>Description</th>
<th>Start Month</th>
<th>Duration (Months)</th>
<th>Status</th>
<th>Justification</th>
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</thead>
<tbody>
<tr>
<td>Test</td>
<td>11</td>
<td>11</td>
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<td></td>
</tr>
</tbody>
</table>

Research Development Officer

Date: -
Status: -
Comments: RDO has certified that the information and request submitted is accurate

Research Director

Comments:
## Progress Report

**Project Details Page**

- Save
- Endorse
- Return to PI
- Reject
- Close Window

### Project ID

- [ ]

### Progress Report Submission History

<table>
<thead>
<tr>
<th>Request Date</th>
<th>Financial Year</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-Dec-2014</td>
<td>2014</td>
<td>Pending HI Endorsement</td>
</tr>
<tr>
<td>01-Dec-2014</td>
<td>2014</td>
<td>Rejected By GM</td>
</tr>
</tbody>
</table>

### Key Performance Indicator

- [ ]

### Summary Write Up

- [ ]

### History

- [ ]
Please download the Progress Report template provided, and upload your completed Progress Report. You may upload any supporting document (single file or zip file). Do complete the ‘Key Performance Indicator’ and ‘Summary Write Up’ sections. Click ‘Save’ to save any changes and ‘Submit’ to submit your report.

**Request Date:** 19-Dec-2014
**Request Status:** Return to PI by RD
**Financial Year:** 2014
**Progress Report:**
**Uploaded Progress Report:** Sample.docx
**Supporting Document:**

<table>
<thead>
<tr>
<th>Milestones</th>
<th>1 item(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>Start Month</td>
</tr>
<tr>
<td>hgh</td>
<td>4</td>
</tr>
</tbody>
</table>

**Research Director**
**Date:** 19-Dec-2014 14:58:05
**Status:** Return To PI
**Comments:** Return
nGager Screenshots (RDO certification)

Request has been saved successfully

Project Details Page  Close Window

Project D

Progress Report Submission

Please download the Progress Report template provided, and upload your completed Progress Report. You may upload any supporting document (single file or zip file). Do complete the 'Key Performance Indicator' and 'Summary Write Up' sections. Click 'Save' to save any changes and 'Submit' to submit your report

Request Date: 07-Nov-2014
Request Status: Pending HI Endorsement
Progress Report Template: test-template-cbrg.docx
Financial Year: 2014
Uploaded Progress Report: Research Scope.docx
Uploaded Supporting Document: Supporting Document.docx

Research Development Officer
Date: 27-Feb-2015 15:55:44
Status: Certified
Comments: RDO has certified that the information and request submitted is accurate
nGager Progress Report Screenshots (RD)

Progress Report Submission

Please download the Progress Report template provided, and upload your completed Progress Report. You may upload any supporting document (single file or zip file).
Do complete the 'Key Performance Indicator' and 'Summary Write Up' sections. Click 'Save' to save any changes and 'Submit' to submit your report.

Request Date: 07-Nov-2014
Request Status: Pending HI Endorsement
Progress Report Template: test-template-cbrg.docx
Financial Year: 2014
Uploaded Progress Report: Research Scope.docx
Uploaded Supporting Document: Supporting Document.docx

Message from webpage

Are you sure you want to endorse this request? Press <OK> to continue or <Cancel>.

Research Development Officer
Date: 27-Feb-2015 15:56:44
Status: Certified
Comments:
☐ RDO has certified that the information and request

Research Director
Comments:
nGager Final Report Screenshots (PI, RDO, RD)

Steps for creating and submitting Final Report are similar to the Progress Report

[Image of nGager Final Report Screenshots]
nGager Final Report Screenshots (PI, RDO, RD)

This screen is slightly different due to the Final Report Template. The rest of the sections are the same as per Progress Report.

![Final Report](image_url)

<table>
<thead>
<tr>
<th>Description</th>
<th>Start Month</th>
<th>Duration (Months)</th>
<th>Status</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milestones</td>
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<td>pending</td>
</tr>
</tbody>
</table>

**Research Development Officer**

Comments: 

Supporting Document: [Browse] [Upload]

[ ] RDO has certified that the information and request submitted is accurate
nGager Progress/Final Report

Notifications will be sent to the respective users (PI and RDO) when there are changes in the report’s status. Eg: submission by PI, endorsement by HI, approval by NMRC

Only 1 Progress Report can be submitted for each FY.

Detailed User guides will be available on the NMRC website
Thank You
Q & A