Grant IDs: building an open database of funding information
EuroCRIS strategic membership meeting.

Münster, November 19th 2019
The problem
A recent survey by ORCID found that “the primary challenge reported by funders is connecting grants to subsequent research activities and outputs”

https://doi.org/10.23640/07243.9149240.v1
Just knowing what has happened

“While most funders state that the majority of their reporting requests are fulfilled, much of the information reported is provided late or of low quality and requires time-consuming cleanup.”
For example…
Open Funder Registry

- Launched 2012
- Taxonomy of funding bodies, each with its own DOI
- Grown from 4000 to 21,000 funders
- Donated and updated by Elsevier, CC-0
- github.com/CrossRef/open-funder-registry
Search 21,242 funders connected to 4,147,467 published works with funding data
One Hundred Million
records and counting...
But...

- 4.1m content items have some funder info
- 2.6m have a funder DOI associated with them
- Take up is surprisingly low
- The data contains inaccuracies and mistakes
- The onus is on authors and publishers to fill in the gaps
The solution
In conversations with funders about infrastructure needs, DOIs to identify grants uniquely across funders emerged as a priority.

- **Working groups:**
  - **Technical** - gathering grant metadata schema elements
  - **Membership** - information about budgets, needs, and funding activity
- **Individual discussions with funders & ‘sponsors’ like Europe PMC**
The launch
The first grant IDs!

https://doi.org/10.35802/107769

Many more children die in Kenyan hospitals than in richer countries, often from treatable illnesses. Preventing deaths in very sick children requires health-workers to act effectively as a team to initiate correct care rapidly and sustain good care over time. When teams do not or cannot act effectively mistakes can be made and children may not receive what they need. I aim to: develop an approach with Kenyan teams that helps healthcare teams reflect on events surrounding a child death in hospital and identify what and how work needs to be changed. Test the effect of the approach developed by comparing improvements in care in hospitals that use this approach and those that don't and see how it is actually delivered - develop a model that helps us think through how generating and sharing the insights from reviewing deaths might change how teams, local and national managers and experts in child health act to improve care - use the findings to understand what the major problems in providing care to sick children are and how these might vary across patients, time and place. Work aims to enable health systems to providing continuous, safe care in countries like Kenya.

In Kenya 4% of children admitted to hospital die, a figure many times higher than developed countries. Severe illness and co-morbidity underlie many deaths and require a coordinated response from health-worker teams to deliver multiple interventions safely across admission periods of several days. This can expose many team and system weaknesses that need to be addressed to improve outcomes. I will build on prior work in Kenya to: comprehensively describe quality and safety concerns, avoidable mortality, their relationship with case severity and case complexity and the changing epidemiology of care in multiple Kenyan county hospitals - co-design the tools and procedures that enable multi-site, team-based care review (TCR) to diagnose and tackle inpatient quality and safety concerns locally and at scale - test if intervention can reduce the frequency of modifiable factors that undermine quality and safety of hospital care and reduce potentially avoidable mortality - Undertake empirical work to refine a theory of change supporting a detailed process evaluation and critical exploration of mechanisms of intervention effect spanning individual providers, teams, organisations and institutions. This work will be a major contribution to the field of quality and safety in Africa and help develop scalable improvement interventions.
Can a system intervention employing team-based case review help improve quality and safety of paediatric hospital care in Kenya?

Prof MC Empey, University Of Oxford

Abstract

In Kenya, 6% of children admitted to hospital die, a figure many times higher than developed countries. Severe illness and co-morality underlie many deaths and require a coordinated response from health-worker teams to deliver multiple interventions safely across admission periods of several days. This can expose many team and system weaknesses that need to be addressed to improve outcomes. I will build on prior work in Kenya to: 1. Comprehensively describe quality and safety concerns, avoidable mortality, their relationship with case severity and case complexity, and the changing epidemiology of care in multiple Kenyan county hospitals. 2. Co-design the tools and procedures that enable multi-site, team-based case review (TCR) to diagnose and tackle inpatient quality and safety concerns locally and at scale. 3. Test if intervention can reduce the frequency of modifiable factors that undermine quality and safety of hospital care and reduce potentially avoidable mortality. 4. Undertake empirical work to refine a theory of change supporting a detailed process evaluation and critical exploration of mechanisms of intervention effect spanning individual providers, teams, organisations and institutions. This work will be a major contribution to the field of quality and safety in Africa and help develop scalable improvement interventions.

Funded by Wellcome

£ 2,553,243

Duration
01 Apr 2018 - 01 Apr 2023

Grant number
207622

Funding stream
Population and Public Health

Grant type
Senior Research Fellowship Clinical Renewal

Publications
No publications available
Evaluating the foundations that help avert antimicrobial resistance: Performance of essential water sanitation and hygiene functions in hospitals and requirements for action in Kenya

Michuki Maine, Olga Tosas-Auguet, Jacob McKnight, Mathias Zosi, Grace Kimemia, Paul Mwaniki, Constance Schultz,
Mike English

Published: October 9, 2019 • https://doi.org/10.1371/journal.pone.0222922

https://doi.org/10.1371/journal.pone.0222922

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The benefits
Benefits of a global grant identifier

Grant IDs paint a richer picture of research support.

• Understand connections between projects and collaborators
• Identify pockets of expertise and emerging areas of activity
• Fill in gaps in the map of the research landscape with new data points and better quality information
Benefits of a global grant identifier

Grant IDs help to maintain a healthier research environment.

- *Less duplication of effort in overlapping grants or repeated projects*
- *Ask “who paid?” and check for any possible conflicts of interest in review and reading*
- *Understand the impact of funding on career development and activities*
Benefits of a global grant identifier

Grant IDs offer easier, more accurate analysis

- Search for grants, or for investigators, projects or organizations associated with grants
- Track the impact of funding shared infrastructures and facilities
- Simplify the process of research reporting with automatic matching of outputs to grants
What next?
Grant ID schema: input welcome

### Grant metadata

Each grant ID can be assigned to multiple projects. The metadata within each project includes basics like titles, descriptions, and investigator information (including affiliations) as well as funding information. Funders will supply funder information (including funder identifiers from the Crossref Funder Registry) as well as information about funding types and amounts.

Multiple grants may be included in a single XML file. Project metadata is included for each grant and multiple projects may be applied to a single grant.

### Project description

<table>
<thead>
<tr>
<th>Element / attribute</th>
<th>Description</th>
<th>Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>project</td>
<td>Container for project information. Multiple projects may be assigned to a single Grant ID</td>
<td>required; multiple allowed</td>
</tr>
<tr>
<td>project-title</td>
<td>title of the project a grant is supplied for</td>
<td>required; multiple allowed</td>
</tr>
<tr>
<td>description</td>
<td>Used to capture an abstract or description of project, provide multiple descriptions in different languages</td>
<td>optional; multiple allowed</td>
</tr>
<tr>
<td>@xml:lang</td>
<td>use @xml:lang to identify language for each project-title or description. This allows you to provide multiple titles in different languages.</td>
<td>optional</td>
</tr>
</tbody>
</table>

### Funding types

Types of funding are limited to the following values:

- award: a prize, award, or other type of general funding
- contract: agreement involving payment
- crowdfunding: funding raised via multiple sources, typically small amounts raised online
- endowment: gift of money that will provide an income
- equipment: use of or gift of equipment
- facilities: use of location, equipment, or other resources
- fellowship: grant given for research or study
- grant: a monetary award
- loan: money or other resource given in anticipation of repayment
- other: award of undefined type
- prize: an award given for achievement
- salary-award: an award given as salary, includes intramural research funding
- secondment: detachment of a person or resource for temporary assignment elsewhere
- seed-funding: an investor invests capital in exchange for equity
- training-grant: grant given for training

Schema information at: [https://github.com/CrossRef/grantID-schema/](https://github.com/CrossRef/grantID-schema/)
# Grant ID schema: input welcome

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<tr>
<th>Field</th>
<th>Description</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>affiliation</td>
<td>container for affiliation information</td>
<td>optional, multiple allowed</td>
</tr>
<tr>
<td>institution</td>
<td>institution an investigator is affiliated with when associated with the project being defined. Multiple affiliations should be supplied where applicable</td>
<td>1 allowed, use multiple affiliation groups for investigators with multiple affiliations</td>
</tr>
<tr>
<td>@country</td>
<td>ISO 3166-1 alpha 2-letter country code, captures location (country) of affiliation</td>
<td>optional</td>
</tr>
<tr>
<td>ROR*</td>
<td>A ROR ID may be supplied in the future to disambiguate affiliation information. Note that ROR is a new initiative and is not yet available.</td>
<td>pending</td>
</tr>
</tbody>
</table>
## Grant ID schema: input welcome

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
<th>Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>investigators</td>
<td>container for investigator information</td>
<td>required</td>
</tr>
<tr>
<td>person</td>
<td>container for individual investigator details</td>
<td>at least 1 required, multiple allowed (unbounded)</td>
</tr>
<tr>
<td>@role</td>
<td>available roles are lead_investigator, co-lead_investigator, investigator</td>
<td>required</td>
</tr>
<tr>
<td>@start-date</td>
<td>Date an investigator began work with the project</td>
<td>optional</td>
</tr>
<tr>
<td>@end-date</td>
<td>Date an investigator ended work with the project</td>
<td>optional</td>
</tr>
<tr>
<td>givenName</td>
<td>given or first name</td>
<td>optional</td>
</tr>
<tr>
<td>familyName</td>
<td>family or surname</td>
<td>optional</td>
</tr>
</tbody>
</table>

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## Grant ID schema: input welcome

<table>
<thead>
<tr>
<th>funder-name</th>
<th>name of the funder</th>
<th>required</th>
</tr>
</thead>
<tbody>
<tr>
<td>funder-id</td>
<td>funder identifier from Crossref Funder Registry</td>
<td>required</td>
</tr>
<tr>
<td>funding-scheme</td>
<td>scheme for grant or award as provided by the funder</td>
<td>optional</td>
</tr>
</tbody>
</table>

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Planned extensions to the schema:

- **APCs as a funding type**
- **Add more detail on acknowledgements (e.g. the right text!)**
- **Subject keywords (A.K.A. Field of Research)**
- **Content policy description (Open Access, data management etc.)**
Rolling out our API

We will add grant IDs to our Application Programming Interface (API) in Q1 2020. This will enable:

• New tools for registering grants and DOIs
• Structured metadata search
• Tools to embed grant data in content platforms
What should you do?

1. Suggest improvements.
2. Register IDs for grants.
3. Be ready to integrate grant look-ups.
Find out more about:

Our **grant ID service**
How **DOI registration** works
Crossref **membership**
Our **technical documentation**