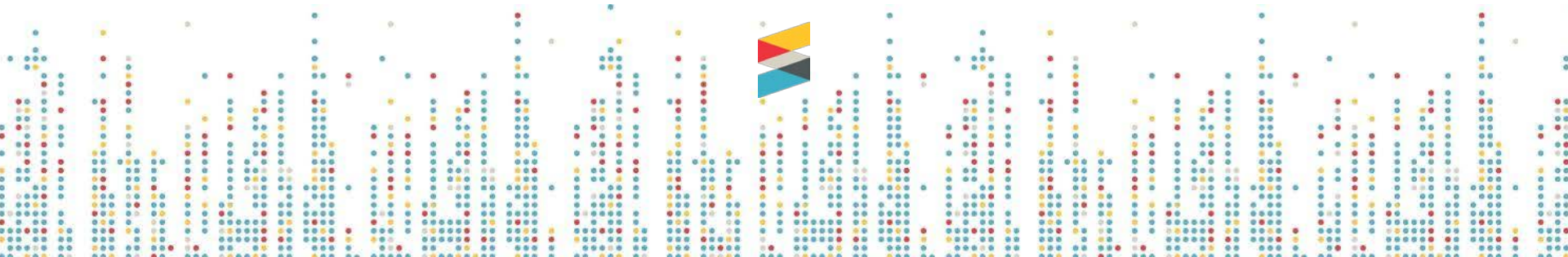


Grant IDs: building an open database of funding information



EuroCRIS strategic membership meeting.

Münster, November 19th 2019



Josh Brown
Funder Engagement Consultant
jbrown@crossref.org



The problem





Just knowing what has happened

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

 Search funders...



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





We revived our Funder Group

In conversations with funders about infrastructure needs, DOIs to identify grants uniquely across funders emerged as a priority.

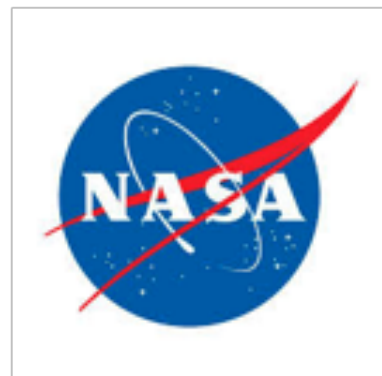
- Working groups:
 - **Technical** - gathering grant metadata schema elements
 - **Membership** - information about budgets, needs, and funding activity
- Individual discussions with funders & ‘sponsors’ like Europe PMC



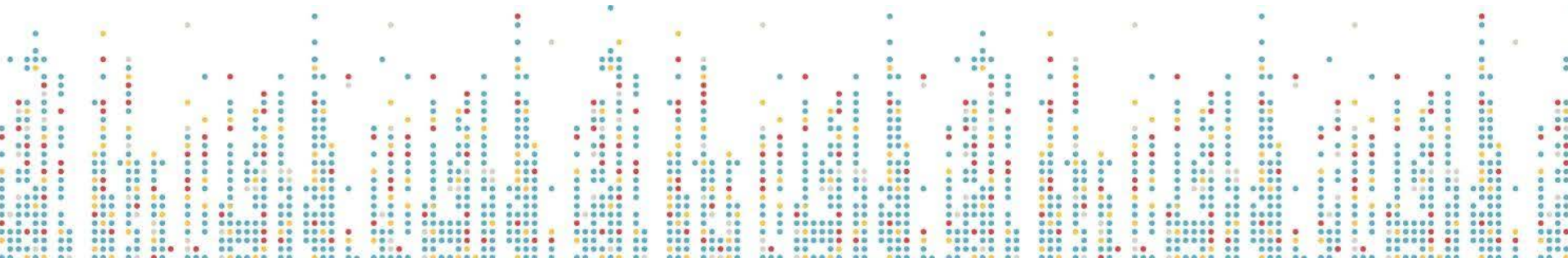
UK Research
and Innovation



European Research Council



The launch





The first grant IDs!

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  <depositor_name>Europe PMC</depositor_name>
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</?xml>
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      </project-title>
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        <person role="lead_investigator">
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          <familyName>Kiyanjui</familyName>
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        <affiliation>
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        </affiliation>
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      </affiliation>
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      <affiliation>
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    <description xml:lang="en">
      Research is key in tackling the health challenges that Africa faces. In KEMRI we have been using epidemiology, laboratory science including molecular biology and bioinformatics. Our strategy is to build productive groups and provide high quality supervision and mentorship. Here we plan to consolidate KEMRI's aim to address capacity building for research through an initiative that employs a group leader (IDARL) is to build a critical mass of African researchers who are technically proficient, self-motivated, and to act as supervisors and mentors for the next generation of researchers.
    </description>
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  </grant>
  <doi_data>
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```

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  </project-title>
  <investigator>
    <person role="lead_investigator">
      <givenName>Michael</givenName>
      <familyName>English</familyName>
    </person>
    <affiliation>
      <institution country="GB">University of Oxford</institution>
    </affiliation>
    <ORCID>https://orcid.org/0000-0002-7427-0826</ORCID>
  </investigator>
  <description xml:lang="en">
    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 Kenyans 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.
  </description>
  <description xml:lang="en">
    In Kenya 6% 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 case 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.
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```

<https://doi.org/10.35802/107769>

<https://doi.org/10.35802/207522>



Landing page for a grant ID

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E.g. "breast cancer" HER2 Smith J

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[Annotations submission Service](#)

Can a system intervention employing team-based case review help improve quality and safety of paediatric hospital care in Kenya?


[Prof MC English, University Of Oxford](#)
[View author profile](#) • ORCID: 0000-0002-7427-0826

Abstract

In Kenya 6% 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: 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.

Lay abstract

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 Kenyans that helps healthcare teams reflect on



Funded by
[Wellcome Trust](#)

£ 2,553,243

Duration
01 Apr 2018 - 01 Apr 2023

Grant number
207522

Funding stream
Population and Public Health

Grant type
Senior Research Fellowship Clinical
Renewal

Publications
No publications available



And in publications

[PUBLISH](#)[ABOUT](#)[BROWSE](#)[OPEN ACCESS](#) [PEER-REVIEWED](#)

RESEARCH ARTICLE

Evaluating the foundations that help avert antimicrobial resistance: Performance of essential water sanitation and hygiene functions in hospitals and requirements for action in Kenya

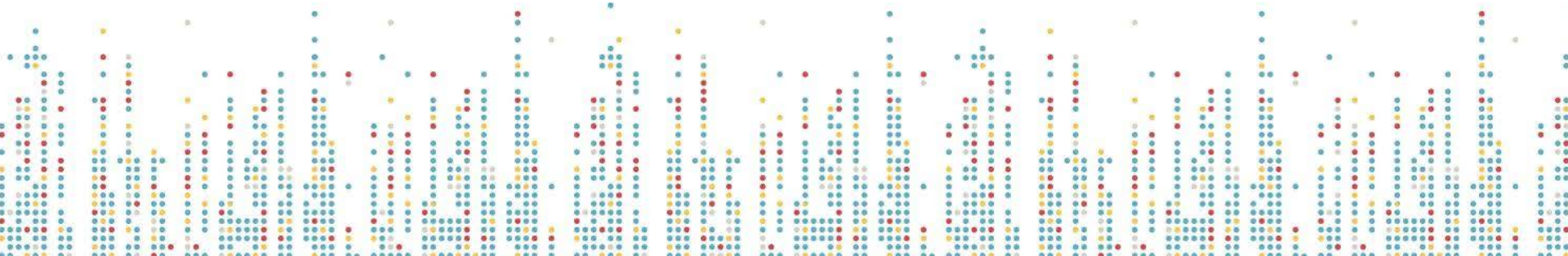
Michuki Maina , Olga Tosas-Auguet, Jacob McKnight, Mathias Zosi, Grace Kimemia, Paul Mwaniki, Constance Schultsz, Mike English

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

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

Funding: MM, GK, JM, MZ and OT were supported by funds through a grant from the Economic and Social Research Council ESRCs (ES/P004938/1) awarded to ME. A Senior Research Fellowship awarded to ME by The Wellcome Trust (#207522, <https://doi.org/10.35802/207522>) supported PM. MM received additional support from a grant to the Initiative to Develop African Research Leaders (IDeAL) through the DELTAS Africa Initiative (DEL-15-003), an independent funding scheme of the African Academy of Sciences (AAS)'s Alliance for Accelerating Excellence in Science in Africa (AESA) and supported by the New Partnership for Africa's Development Planning and Coordinating Agency (NEPAD Agency) with funding from the Wellcome Trust (#107769, <https://doi.org/10.35802/107769>) and the UK government.

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

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

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/>



Grant ID schema: input welcome

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Schema information at: <https://github.com/CrossRef/grantID-schema/>



Grant ID schema: input welcome

affiliation	container for affiliation information	optional, multiple allowed
institution	institution an investigator is affiliated with when associated with the project being defined. Multiple affiliations should be supplied where applicable	1 allowed, use multiple <code>affiliation</code> groups for investigators with multiple affiliations
@country	ISO 3166-1 alpha 2-letter country code, captures location (country) of affiliation	optional
ROR*	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.	pending

Schema information at: <https://github.com/CrossRef/grantID-schema/>



Grant ID schema: input welcome

investigators	container for investigator information	required
person	container for individual investigator details	at least 1 required, multiple allowed (unbounded)
@role	available roles are lead_investigator, co-lead_investigator, investigator	required
@start-date	Date an investigator began work with the project	optional
@end-date	Date an investigator ended work with the project	optional
givenName	given or first name	optional
familyName	family or surname	optional

Schema information at: <https://github.com/CrossRef/grantID-schema/>



Grant ID schema: input welcome

funder-name	name of the funder	required
funder-id	funder identifier from Crossref Funder Registry	required
funding-scheme	scheme for grant or award as provided by the funder	optional

Schema information at: <https://github.com/CrossRef/grantID-schema/>



Grant ID schema: input welcome

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