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## Plan Overview

*A Data Management Plan created using DMPonline*

**Title:** What factors determine the indicators used for performance-based funding of health facilities, and how do these schemes impact the incidence of non-communicable diseases?

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**Template:** University of Nottingham generic Data Management Plan

### Project abstract:

The four major non-communicable diseases (NCDs) groups are cardiovascular disease, diabetes, cancer, and respiratory diseases. These groups are responsible for over 80% of all premature NCD deaths, namely cardiovascular diseases (17.9million/year), then cancers (9.3 million/year), followed by respiratory diseases (4.1 million/year), and 1.4 million died of diabetes yearly. Health insurance is a proven mechanism to fund health care costs and provide universal health coverage. The performance-based financing (PBF) type of health insurance, also called pay-for-performance, pay-for-service, social impact bond financing, pay-for-success bond etc., is a type of health insurance being promoted as a viable approach for the realization of universal health coverage (UHC), particularly in LMICs. However, over the last two decades of implementing PBF, its institutionalization and or national level scale-up have been difficult, and the reasons for these are not well documented.

Given the above, it is essential to explore whether the designs of PBF performance indicators are derived from national health policies or strategies, are priorities established by local authorities and civil society organizations, are the community engaged at the design phase of the PBF schemes, etc. The aims of the proposed systematic review are to give insight into why the sustainability of this funding strategy has been challenging to implement, and to analyze the impacts of PBF on cardiovascular diseases, cancers, diabetes, and respiratory diseases (the major NCDs), which have not been documented in the literature.

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# **What factors determine the indicators used for performance-based funding of health facilities, and how do these schemes impact the incidence of non-communicable diseases?**

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## **Data description**

### **What data will you create?**

This project will require a review of original peer-reviewed papers and grey literature for performance-based financing of primary healthcare systems and non-communicable diseases. No regional restrictions on the scope of data. The type of data to be managed will include randomised controlled trials and or non-randomised controlled trials/descriptive observational studies generated from databases like Cochrane Library, MEDLINE (Ovid), PubMed/NCBI, Elsevier (Scopus), OECD iLibrary, Evidence for Policy and Practice Information and Coordinating Center (EPPI-Center) Evidence Library, Health Systems Evidence, Global Health Archive, African Index Medicus, and World Health Organization Database and grey literature. A snowballing search will be conducted on a reference list of eligible papers.

## **Data collection / generation**

### **What are your methodologies for data collection / generation? How will you ensure data quality? What data standards will you use?**

Collect data via systematic document searching of the databases mentioned above. An initial search will be conducted to identify all the articles on performance-based financing. This search will be followed by individual database searches using specific search items and keywords. Keywords will include ('performance-based funding', 'results based funding', 'incentives schemes', 'social impact bond\*', 'pay for success bond', 'health impact bond\*', 'impact bond\*') "AND" (non-communicable disease\* OR NCDs OR diabet\* OR cancer\* OR respir\* dis\* OR cardiovascular dis\* OR cardio\*vascular dis\*) "AND" (performance indicator\*, output-based strateg\*, outcome-based strateg\* ) "AND" (impact\* "OR" success\* "OR" achievement\* "OR" failure\*) "AND" (RBF programs "OR" RBF projects "OR" Incentives based mechanics "OR" Health Financing "OR" PBF "OR" SIB. Articles retrieved will be screened against established inclusion/exclusion criteria. Only studies reported in the English language evaluated the impact of performance-based financing with information on what premise the performance indicators covered were based on, and at least one of the selected NCDs will be included in the study.

To ensure quality the Cochrane Risk of Bias Tool will be used as the assessment tool for Randomised Controlled Trials. For non-randomized control studies, the Newcastle-Ottawa scale Risk of Bias Tool will be utilized

## **Data storage and security**

## **Where and how will data will be stored, backed-up, transferred, and secured during the active phase (short to medium term) of research?**

We will keep our work data on UoN's OneDrive service because it's ISO 27001 compliant and licensed by UoN. It allows secure and controlled data sharing between the research team and encrypts data both in transit and at rest. Continual failover support will ensure the information doesn't fall victim to unauthorized access. Free-at-point-of-use is available up to 5TB, and since we won't generate more than that, we won't have to pay for this service. To allow easy retrieval and citation, Mendeley software will be used to manage PDF documents.

## **Data management, documentation, and curation**

### **What are your principles, systems, and major standards for data management and creation? What metadata and documentation will you keep?**

The data will be uploaded into Review Manager 5, and a quantitative meta-analysis will be performed using Comprehensive Meta-analysis when appropriate, and if otherwise, a detailed table of narrative synthesis will be produced.

The following steps will be taken to ensure that data is read and interpreted correctly in the future.

- (1) Include supplemental materials listing details of the databases and research tables/data generated
- (2) Include/exclude detailed criteria.

## **Ethics & Privacy**

### **Are there any ethical or privacy related issues associated with your data?**

There is no ethical issue or concerns regarding privacy with this data, as it is composed of freely available documents. In addition, it will be used for its intended purpose.

## **Data preservation**

### **How will you ensure the long term storage and preservation of data?**

Data will be kept securely until the end of the project when it will be deleted according to UoN processes. If the systematic review is to be published or released into the public domain, then the spreadsheet for inclusion and exclusion, and any data from meta-analysis, will be preserved for a minimum of 7 years in the University of Nottingham research data archive.

(<https://rdmc.nottingham.ac.uk>).

## **Data sharing and access**

### **How will the data generated be shared and published?**

Research data created by the project will be deposited at Nottingham University's Research Data Management Centre, <https://rdmc.nottingham.ac.uk/>. The University's data archive is supported by a commercial digital storage solution, which is audited twice-yearly for compliance with the necessary security standards of ISO 27001. There is no cost for data archiving for this project. We expect the amount of data generated for long-term retention will not exceed 50GB (the free capacity provided by the University).

## **Roles & responsibilities**

### **Who will be responsible for managing data, data security, data quality, and data security both during the award and post-award?**

The project supervisor and PI, Dr Louise Lansbury, will have overall responsibility as the Data Asset Owner. However, day-to-day processing, security and quality will be managed by the student undertaking the research, Noah Ajanaku.

## **Relevant policies**

### **What are the relevant institutional, departmental or study policies on data sharing and data security?**

We will ensure that our research aligns with the University of Nottingham's Research Data Management Policy, Information Security Policy, Code of Research Conduct, and Research Ethics requirements.

## **IPR**

### **Who will own the copyright and IPR of any data that you will collect or create? Will you create a licence(s) for its use and reuse? If you are planning to use existing data as part of your research, do any copyright or other restrictions determine its use?**

Copyright & IPR for all project research data is owned by University of Nottingham. UoN gives researchers the right to take a copy of any data for future use.

## **Budgeting**

**What are the costs or funding required for capturing, processing, storing, and archiving your data?**

There will be no financial cost associated with completing this dissertation.

## **Further Help**

**Would you like your plan to be reviewed by specialists in Libraries?**

**Saving this plan after checking the "Yes" box will immediately notify Libraries DMP review service, please only do this when you are ready for review.**

- No

**Would you like a reminder and further guidance on depositing your data? If so, indicate when would be most useful.**

**Guidance is sent out twice a year, but you can contact library-researchsupport@nottingham.ac.uk at any time for further support.**

- July 2022