

Open Science In Practice

From a researcher's perspective

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Impact & Open Science

- *Goal of my research is to have impact*
- *Open Science increases impact*
 - Findable & Accessible
 - Practitioners can learn from research and change their decisions
 - Researchers can connect to and build off of our work
 - Interoperable & Reusable
 - Encourages others to engage with our work – data and methods can be scrutinized / used as benchmark or starting point for others
 - Highlights data as part of contribution – how do we measure X vs how others measure X ?

Experience with European Grants

- Open science practices evaluated by funders (& increasingly required by journals)
 - *MSCA: Describe how appropriate open science practices are implemented as an integral part of the proposed methodology.*

The paper will be posted on the IE institutional repository, and the project's webpage. The code to reproduce results on open-source software (python) will be published as supplementary files available from the project's web site, and institutional repository which will be cross-referenced and linked in the paper.

The data for this project is needed to conduct a calibrated numerical experiment to evaluate the potential benefit of the proposed production control heuristic. The data management plan will provide the necessary details. However, at a high level the U.K. based partnering pharmacy has agreed to provide the data to the research team which once appropriately masked can be shared via open access repositories, consistent with the FAIR principals.

Responsible Open Science Under Constraints

- “As open as possible, as closed as necessary”
 - Often cannot publish healthcare data when providers or patients are the unit of analysis
- Journals and funders support alternative disclosure paths
 - *The patient level data from the Florida Agency for Health Care Administration necessary for the empirical analysis cannot be shared due to the required data use agreement necessary to access this data. We will provide (1) **documentation of data sources to enable other researchers to generate a comparable dataset**, (2) **a data dictionary that contains a description of all variables used in the paper**, and (3) **the code and associated log files to demonstrate the methods and results.***

Actionable Guidance

- **Work with the librarians at your institution**
 - Have your university library index your work + data in a repository
 - Link Metadata – cross reference DOIs for data / paper in both the paper and the repository
- Use open source software whenever possible
 - E.g., Python/R, upload data as CSVs
- Publishing data / code
 - highlight this as part of the contribution in your work
 - Plan for this from the beginning
 - Document your code / file structure
 - Manage file structures / names carefully – I like to name outputs referencing the name of the code file that generates them and the date