Towards a new model for UK researcher career tracking

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To possess an inclusive, dynamic, productive and sustainable R&D ecosystem, the UK must attract and retain talented researchers with the right skills to pursue research and innovation activities. Such researchers require long-term employability and career management skills, progression prospects, and a healthy working environment to pursue sustained and fulfilling careers in the long term. The current lack of understanding about the career pathways of people with a doctoral qualification and/or engaged in research or R&D in the UK, especially those working outside the academy, hinders the effective operation of these workforce sectors. Information about these career pathways is critical for career planning, workforce planning, and researcher development initiatives, as well as to understand the impacts on people of research funding programmes.

Currently, the UK lacks a systematic and robust method for tracking researcher career paths. Improved understanding of researcher career pathways would yield numerous benefits, including:

- Identifying the impact and economic contribution of researchers more fully
- Better understanding the career impacts of research funding programmes and related initiatives, to inform policy decisions
- Gaining greater insight into intersectoral mobility and the UK economy's capacity to absorb highly skilled researchers, to inform design of policy interventions to encourage them towards sectors, locations, or fields requiring their skills
- Enhanced understanding the international mobility of researchers to ensure the UK's competitiveness in attracting and retaining research talent
- Measuring the diversity and inclusivity of post-PhD careers more fully and identifying potential barriers to progression or systemic bias
- Improving alumni engagement with research-performing organisations, leading to valuable networks and collaborations
- Informing and evaluating researcher development approaches based on researchers' skills and their utilisation
- Supporting researchers in their career learning and management by raising awareness of potential career paths and better labour market information

Existing data collection methods, including the Graduate Outcomes survey, Longitudinal Education Outcomes dataset[1], and Research and Innovation Workforce Survey, all fall short of capturing the long-term career trajectories of researchers in either sufficient detail, particularly those outside academia and with an international profile, or reach. Increasingly funders are implementing some tracking of those they fund, but this contributes to an uneven patchwork of knowledge. A new model is needed to address these gaps and provide greater understanding of the careers of researchers across all sectors and career stages.

There are many aspects of researchers' careers on which it would be important to collect data systematically. Potentially, aspects of such data can be obtained through surveys, the linking of administrative datasets, or from publicly available sources. Each of these approaches has its advantages and disadvantages. However, in isolation, any of these approaches can only ever provide partial coverage.

Rather than relying on one method, we are advocating for an aggregation and facilitation approach, which we believe would be the most viable option for the UK. This hybrid model would involve, on the one hand, facilitating and coordinating standardised approaches to data collection by funders and research performing organisations and, on the other hand, actively collating data obtained from various sources into modular datasets which could be queried by qualified appropriate individuals.

A modular conception of career tracking data would allow for us to start somewhere and work iteratively, progressively and flexibly towards a system which is as informative and as complete as

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[1] We note that UKRI is currently conducting a study with LEO data *"Exploring doctoral outcomes by source of funding using Longitudinal Education Outcomes"*

possible while also being able to respond to future needs. Some data might be obtained via surveys by a variety of parties, some incorporated via administrative data linkage, and some via bespoke collection of publicly available data or from licensed data sources. Clearly, persistent unique identifiers would be critical to combine elements of data, along with robust data security and GDPR controls. Access to whatever datasets result would have to be flexibly limited.

A central entity, potentially a national observatory or centre, could be responsible for developing standardised tools and protocols, aggregating data, and facilitating collaboration among the numerous stakeholders with an interest in collecting or using these data. A hybrid approach is expected to increase researcher engagement in data sharing by fostering trust in a central, potentially government-endorsed, body while allowing HEIs and funders to maintain strong connections with their alumni and leverage their existing data collection efforts. In turn, such an entity, through its central position in relation to potential researcher career tracking and stakeholder support, would be in a better position than any single funder or institution to engage and undertake co-development work with bodies such as DSIT, Jisc/HESA, HMRC, ONS, LinkedIn, ResearchFish, KONFER and others to utilise and link data from their datasets. Cross-referencing data could include ORCID and NI numbers. In time, this could begin to make progress towards a more complete linkage-based solution, with decreasing reliance on surveys. A national entity's activities should align with the protocols of the EC's Research and Innovation Careers Observatory (ReICO).

Critically, the benefits of centralising protocols, data management and security are matched by the advantages of funders, HEIs, and other research performing organisations being actively involved in reaching out to their alumni. They are the best placed to encourage alumni to actively engage in data collection processes, often being in possession of contact details. They are likely to be able to develop the meaningful and sustained alumni engagement systems that need to be better leveraged in the UK. It is also likely that a hybrid approach, supported by a central aggregation and facilitation body, will increase engagement of researchers in any provision or sharing of data sought from them. Researchers will be more likely to trust a third party (potentially a government-endorsed or -supported body) with their salary and employment data, where it is sought from them, whereas they might be more likely to provide useful feedback on researcher development activities to the HEI that trained them or to the body that funded them.

Potential next steps

- Feasibility studies, such as piloting some alignment and aggregation of individual funder- or HEI-focused tracking studies, in order to develop common approaches to topics and methodologies;
- Development of guidelines for such parties planning "exit" or destination surveys of graduating doctoral students – this could assist in the collation of contact details, ORCID numbers, LinkedIn pages and other critical information about UK researchers, ensuring that any future tracking activities have corroborating data. This could also be a good opportunity to gain critical GDPR permissions for future activities;
- Re-kindling and focusing the idea of establishing a group of key individuals representing significant stakeholders, to steer UK efforts on researcher career tracking and act as a sounding board for those taking incremental steps forward;
- Further desk research and engagement to establish the specific data needs of different stakeholders and for different purposes, and requirements of different data asset holders should linkage be considered;
- Development of costings for approaches and potential funding models for such future developments.

This summary document is based on a comprehensive review of national and international methods for researcher career tracking commissioned by the University of Oxford's MPLS Researcher training and development department, and undertaken by CRAC-Vitae which includes a description of the proposed direction of travel above: *Towards Systematic Tracking of Researcher Careers: A Scoping Review and Development Plan*