

## Early directions for research to evaluate national policies affecting maternal and child health using administrative data

### About this research manifesto

The Maternal and Child Health Network (MatCHNet) is developing a multidisciplinary, community of public health researchers, methodologists, policy makers and service providers who together can prioritise national policy interventions, or social, environmental, or service determinants of adverse child outcomes that can be feasibly and validly evaluated.

This interim manifesto, which will be further refined with our stakeholders, outlines three key challenges that must be tackled to provide the baseline knowledge and methodological foundation for cross-country analysis of national policies affecting child and maternal health.

### EARLY DIRECTIONS FOR FUTURE RESEARCH

There is a need for high quality evidence for universal or national policies that affect maternal and child health, and in turn impact on NCDs throughout the life course. The principle of the 'best start in life' has penetrated government policy across UK countries, including in universal maternity and child health services. Which programmes and policies work best are crucial questions for policymakers and service providers.

We have identified three key life periods where policy can intervene and have an impact on maternal and child health, leading to improvements in NCDs: pregnancy, infancy (0-1 year), and early childhood (1-6 years). Cutting across these three life periods are three interlinked research challenges.

#### Challenge 1: To identify priority national policies across the 4 UK nations that affect maternal and child health.

First, there is a need to comprehensively map the multiple interventions, across multiple policy domains, that can affect maternal and child health. The figure illustrates the range of Government departments that create and implement such policies. Subsequently, there is a need to prioritise these national policy interventions and their contexts for evaluation.

#### Initial Research Questions

RQ1: What are the key social, economic, or environmental policies most likely to impact on maternal health, birth outcomes, or child health up to school age, that are amenable to change?

RQ2: How are the key policies (defined by RQ1) situated within the wider policy system within and between countries? How do these policies vary over time?

RQ3: What are the possible relationships between policy context, intervention mechanism and outcomes, and are they likely to be similar in comparator settings?

#### Challenge 2: To ascertain what administrative longitudinal data can be linked and harmonised across the 4 UK countries.

Second, there is a need to focus on harmonising data resources across the 4 UK nations, and developing coding clusters that reflect similar exposures and outcomes in the different settings. An added benefit of choosing pregnancy and early childhood as intervention points, is the fact that administrative longitudinal, health data for mothers and their children can be linked in the UK. In effect, whole country, longitudinal birth cohorts can be created in UK countries, with longitudinal records for

children born up to 30 years ago. Further linkage to census data, now possible in Scotland, Wales, and England, can provide important details about the household, migration status and employment.

### Initial Research Questions

RQ4: How can comparable administrative data sources be identified, documented, and catalogued across the UK countries and extended internationally? (if appropriate based on RQ1).

RQ5: What are the administrative data resources and indicators within these resources (including outcomes, important confounders, and socioeconomic variables to measure inequalities) that can be linked and compared across UK countries (and internationally) to evaluate policies in the early years?

RQ6: How complete and comparable are these data resources and indicators over time, and within and between countries?

**Challenge 3: To determine suitable methods that can be used to evaluate national policies and make cross-country comparisons.**

Third, in order to undertake evaluations, it is necessary to identify the methods which are the most appropriate to evaluate national policies within their specific contexts. Natural experiment evaluations and cross-country comparisons require comparable data over time and between countries respectively, and difference in difference analyses require both. The network will consider triangulation of methods and analyses from multiple data resources, for example, using survey data or qualitative assessments from multiple settings.

### Initial Research Questions

RQ7: What criteria need to be met to ensure fair comparisons are made across countries/jurisdictions?

RQ8: What are the optimal methods for the evaluation of discrete national policies in the crowded policy landscape to disentangle the effects of interlinked national policies and interventions? What other evidence should be used to triangulate findings?

RQ9: How do we address the methodological challenges in modelling longitudinal data across different countries and datasets?

RQ10: What study design, comparators and analytic methods are most appropriate to address the priority questions developed in Challenge 1 using data resources identified in Challenge 2?

## OUR STAKEHOLDERS

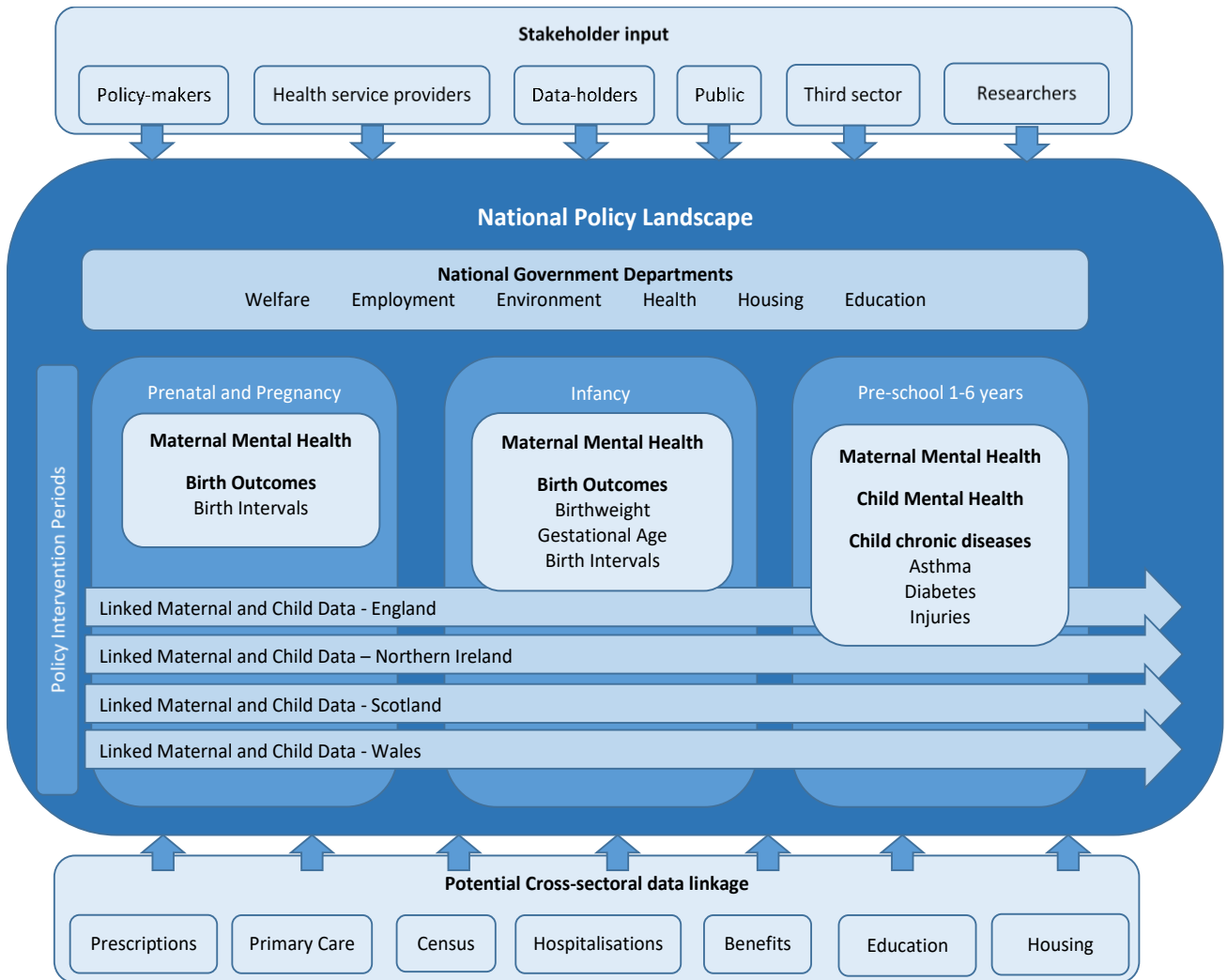
Input and perspectives from different stakeholder groups is crucial to the success of MatCHNet. We have proposed the three research priority areas, with research questions, above. These will be developed and refined by engaging with stakeholders, who fall into several key groups (Figure 1). This includes policy makers, data holders/providers and methodologists.

## OUR PROCESS

We will hold several discussions with policy makers, practitioners, and academics to agree and consolidate our policy priorities [Challenge 1]. We will commission a piece of work to identify, document and catalogue comparable administrative data sources. A 'hackathon' or 'data dive' will bring together data experts from the UK countries and network members to consolidate findings [Challenge 2]. We will commission working papers documenting appropriate methods for a range of exemplars of national policy evaluation questions. These will stimulate discussion at a series of workshops focussed on how to carry out robust evaluations of the policies using the data identified [Challenge 3].

## OUTCOMES

The network will collectively develop a shared understanding of 1) the variation across nations and time of UK upstream policies likely to impact on early childhood outcomes; 2) comparable population-based administrative data available across settings; and 3) robust methodological approaches from various disciplines to assess the impact of policy interventions. We will produce a range of resources, including policy landscapes, methods working papers, online meta-data, and cohort profile papers. These will be used by members during the life of the network and by the wider research and policy communities, now and in the future. The pump-priming funds will support initial research, resulting in larger funding proposals to address the research priorities identified by the network. In achieving all of the above, the network will contribute to an enriched evidence base for the potential for upstream policies to support child and maternal health and reduce inequalities.



**Figure 1: MatCHNet Schematic - Policy intervention points, stakeholders, policy departments and longitudinal data sources and their integrations within the system**