Maternal and Child Health Network

Data Briefing 1

What Can We Learn about Child Health Inequalities with Data Linkage? A Scottish Example

Anna Pearce on behalf of the Maternal and Child Health Network MRC/CSO Social and Public Health Sciences Unit, University of Glasgow

Acknowledgements

Introduction

The Maternal and Child Health Network aims to harness cross-country administrative data to evaluate national policy impacts on maternal, infant and child health, and health inequalities across the 4 UK nations.

MatCHNet's briefings and reports provide baseline knowledge in the areas of policy, data, and methods relevant to early years policy evaluations.

MatCHNet's data briefings aim to provide examples of how administrative data can be used to describe and understand child and maternal health and/or evaluate the impacts of policies.

MatCHNet
Maternal and Child Health Network

What Can We Learn about Child Health Inequalities with Data Linkage? A Scottish Example

Context

- The early years are an effective time in the life course to support population health.
- Unfortunately, children from less advantaged backgrounds are less healthy than their more advantaged peers, from birth.
- Scotland's outstanding systems of data linkage offer untapped potential to monitor Scotland-wide health and inequalities throughout the early years, understand why they emerge, and consider policy options to reduce them.

MatCHNet's data briefings aim to provide examples of how administrative data can be used to describe child and maternal health and/or evaluate the impacts of policies across the 4 UK nations.

In this briefing, we discuss an 'administrative cohort' in Scotland: We created a cohort of all (~200,000) children, and their mothers, born in Scotland, September 2009-March 2012 (see Figure below). Information was linked across different datasets (left of Figure) on health and development up until age 7 years (see arrows):
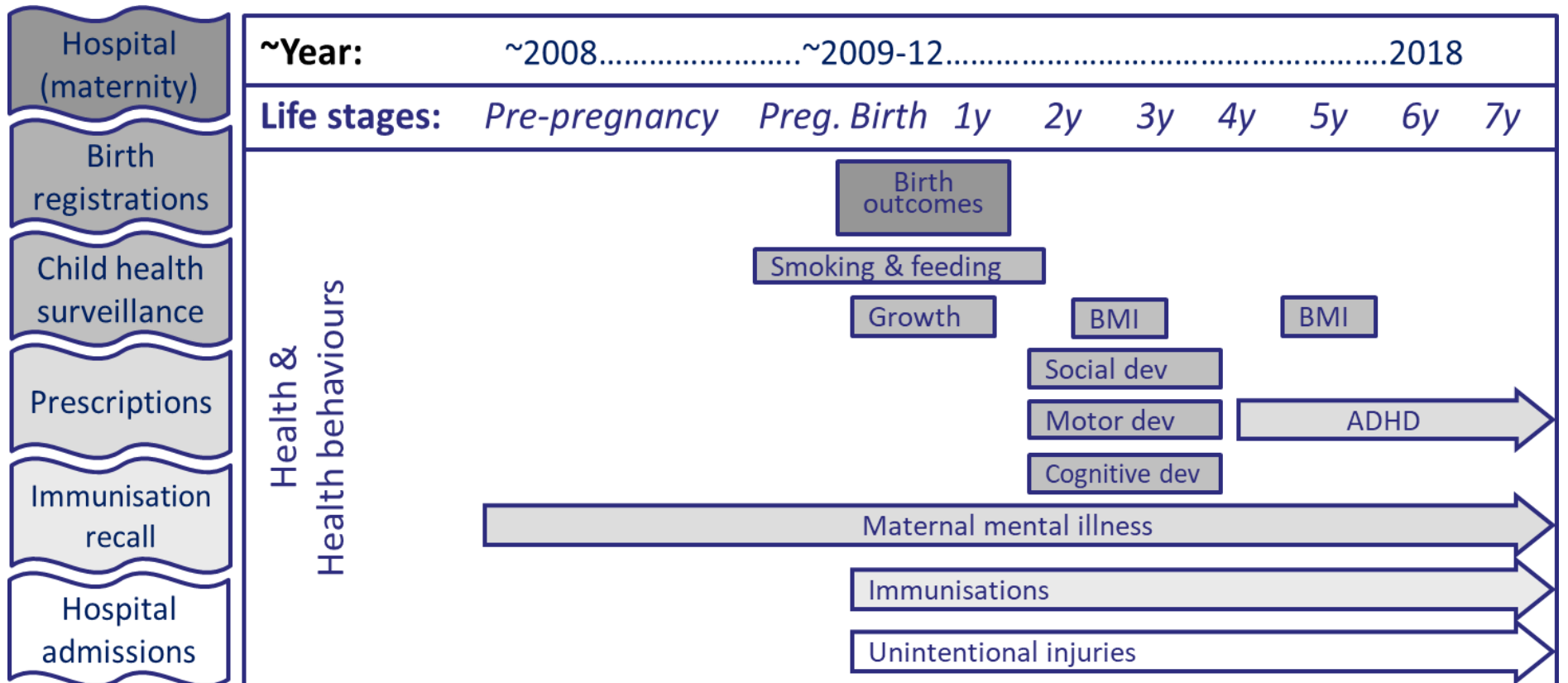

BMI: body mass index; Dev: development; ADHD: attention deficit & hyperactivity disorder.

These data show that inequalities are greater for more persistent health outcomes, e.g.:

A. Inequalities (by neighbourhood deprivation) are greater for smoking in pregnancy AND infancy-toddlerhood than just smoking at one of these time points:

Legend: Most deprived fifth; 2; 3; 4; Least deprived fifth
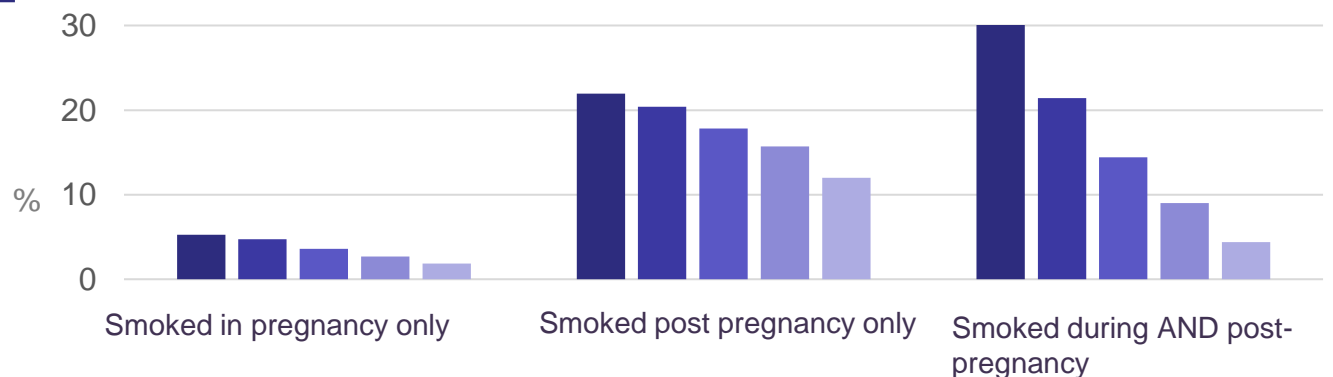
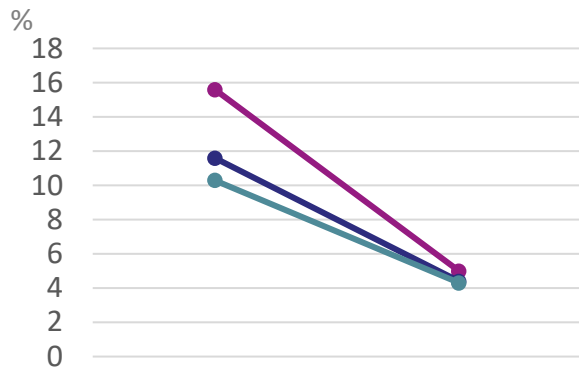**B. Inequalities in maternal mental health prescriptions, by neighbourhood deprivation, are higher when experienced over longer periods of time:**
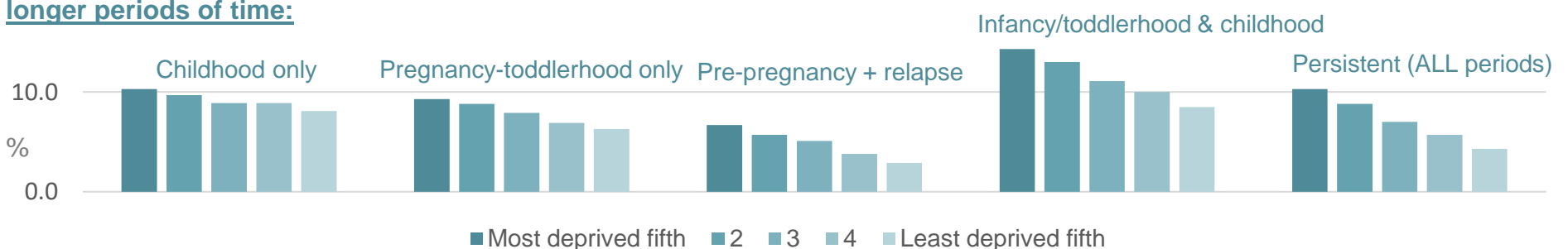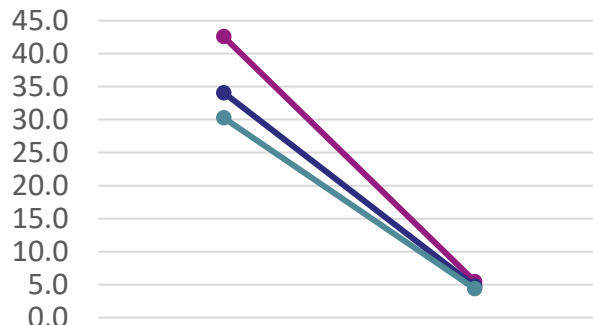

Legend: Most deprived fifth; 2; 3; 4; Least deprived fifth

% Persistent maternal mental health prescribing

% Smoked during AND post pregnancy

% Overweight in toddler AND childhood

KEY
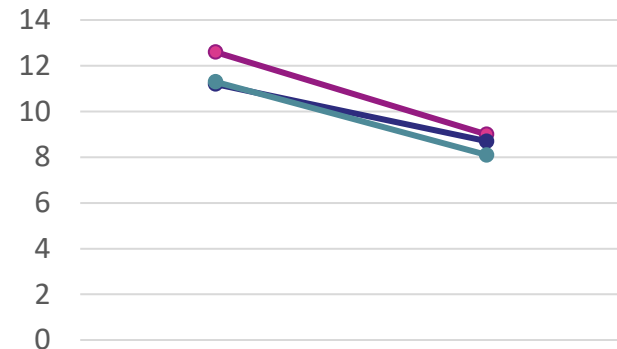
Parent's relationship status (sole registration vs. married)

Neighbourhood deprivation (most vs. least deprived)

Mother's occupation (unemp vs. manager&professionals

Risk is especially high in those experiencing multiple disadvantage for some (but not all) health outcomes

6=most deprived neighbourhoods + unemployed + lone parent

0=least deprived neighbourhoods + managerial & professional + married

---
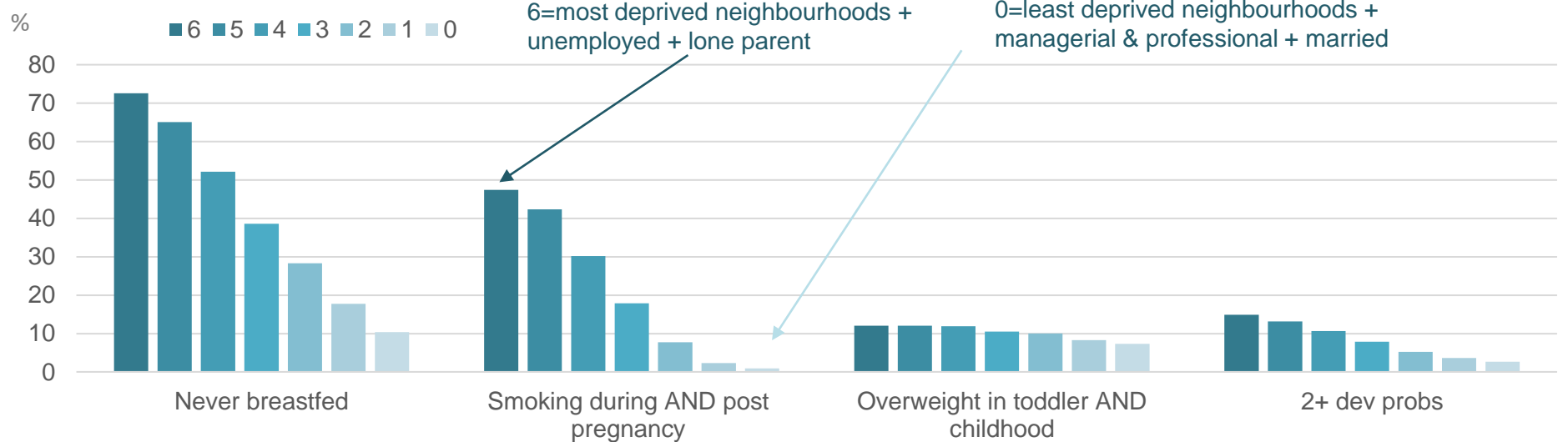
We can consider ways to support health and wellbeing of young families, e.g. maternal mental health:

Children whose mothers were prescribed medication for anxiety/depression before pregnancy were*:
- 40% less likely to be breastfed at 6-8 weeks

Children whose mothers were prescribed medication for anxiety/depression before pregnancy were*:
- Twice as likely to have been exposed to smoke in utero and as an infant/toddler

In contrast, children whose mothers were prescribed medication for anxiety/depression across the early years were*:
- 10% less likely to be partially immunised, and half as likely not to be immunised, at the start of primary school

*after adjustment for a range of socio-economic, demographic and birth characteristics.

Conclusions: There are large inequalities in child & maternal health, with especially high rates of poor health among those experiencing multiple disadvantages. These families would benefit, in particular, from greater support for breastfeeding and smoking cessation. Supporting mothers with mental health problems may be a way to do this.

Next steps: Simulate impacts of interventions on health inequalities, considering different modes of implementation (e.g., targeting high-risk groups vs. universal roll-out), and evaluate enacted policies.

Can you help? What important questions could be addressed with these data? Please contact Anna Pearce to discuss more: anna.pearce@glasgow.ac.uk.

Interested in using administrative data to understand upstream policy impacts on child and maternal health across the 4 UK nations? Join the Maternal and Child Health Network and follow @MatCHNet_

UKPRP
Prevention Research Partnership
Joint action for a healthier, fairer future.

wellcome

MRC/CSO Social and Public Health Sciences Unit

UKRI Medical Research Council

CHIEF SCIENTIST OFFICE

University of Glasgow

Cite as: Pearce, A. on behalf of MatCHNet. 2022. What Can We Learn about Child Health Inequalities with Data Linkage? A Scottish Example *MatCHNet Data Briefing 1*, University of Glasgow, Glasgow

For more information, please visit our website: www.gla.ac.uk/matchnet and follow us on Twitter: @MatCHNet_