

'Every little helps': infant feeding and levelling up in the early years

PHINS 2023

Omotomilola ('Tomi) Ajetunmobi

Co-authors: Emma McIntosh, Diane Stockton, David Tappin, Bruce Whyte



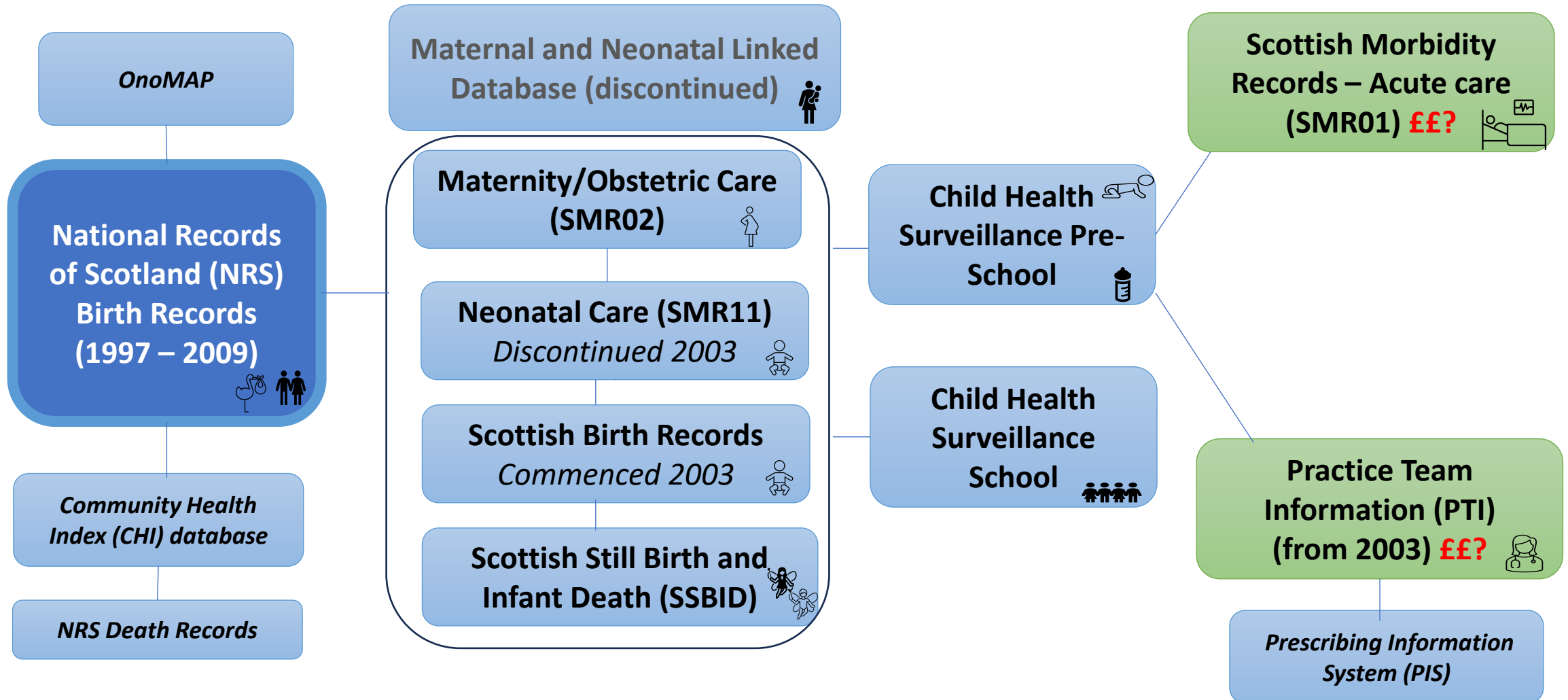
Background: GCPH Breastfeeding Project

- Unique linkage
- Strands of work
 - Infant feeding trends in Glasgow neighbourhoods (SCHRP Project report)
 - Factors associated with early infant feeding (published paper)
 - Deprivation and early infant feeding (published paper)
 - Factors associated infant feeding and baby friendly units (project report)
 - Risk of hospital admission associated with infant feeding (published paper)
 - Child weight associated with early infant feeding (SCHRP Project report)
 - Economic evaluation of costs associated with infant feeding

Background: GCPH Breastfeeding Project

- Unique linkage
- Strands of work
 - ~~Infant feeding trends in Glasgow neighbourhoods (SCHR Project report)~~
 - ~~Factors associated with early infant feeding (published paper)~~
 - ~~Deprivation and early infant feeding (published paper)~~
 - ~~Factors associated infant feeding and baby friendly units (project report)~~
 - ~~Risk of hospital admission associated with infant feeding (published paper)~~
 - ~~Child weight associated with early infant feeding (SCHR Project report)~~
 - **Economic evaluation of costs associated with infant feeding**

GCPH Breastfeeding Project Data Sources



GCPH Breastfeeding Project Cohort 1997 - 2009

Follow up starts

Birth cohort ends (last birth)

Follow up ends

Birth cohort
(1997 – 2009)

Hospital admissions
(1997 – 2012)

GP
Consultations
(2003 – 2012)

27 months:
0- 6 months
7- 27 months

1997

2003

2009

2012

Objective

- To estimate the primary (GP consultations) and secondary healthcare (hospital admission) costs of infant feeding in the Scottish 1997 - 2009 birth cohort
 - **Selected ill-health outcomes:** *gastrointestinal, respiratory (lower and upper) and urinary tract infections, otitis media, asthma, eczema, diabetes, dental caries and fevers*
 - **Infant feeding: Mode of infant feeding reported at the 6-8 weeks review** *(exclusively breastfed, mixed fed or formula fed)*
 - **Scottish Index of Multiple Deprivation (2006)**
 - **Other relevant socioeconomic variables** *(maternal/paternal socioeconomic status)*
 - **Exclusions** *(multiple births, invalid infant feeding records, infants admitted to high dependency units or diagnosed with a congenital disorder or conditions that originated during the perinatal period and non-Scottish residents)*

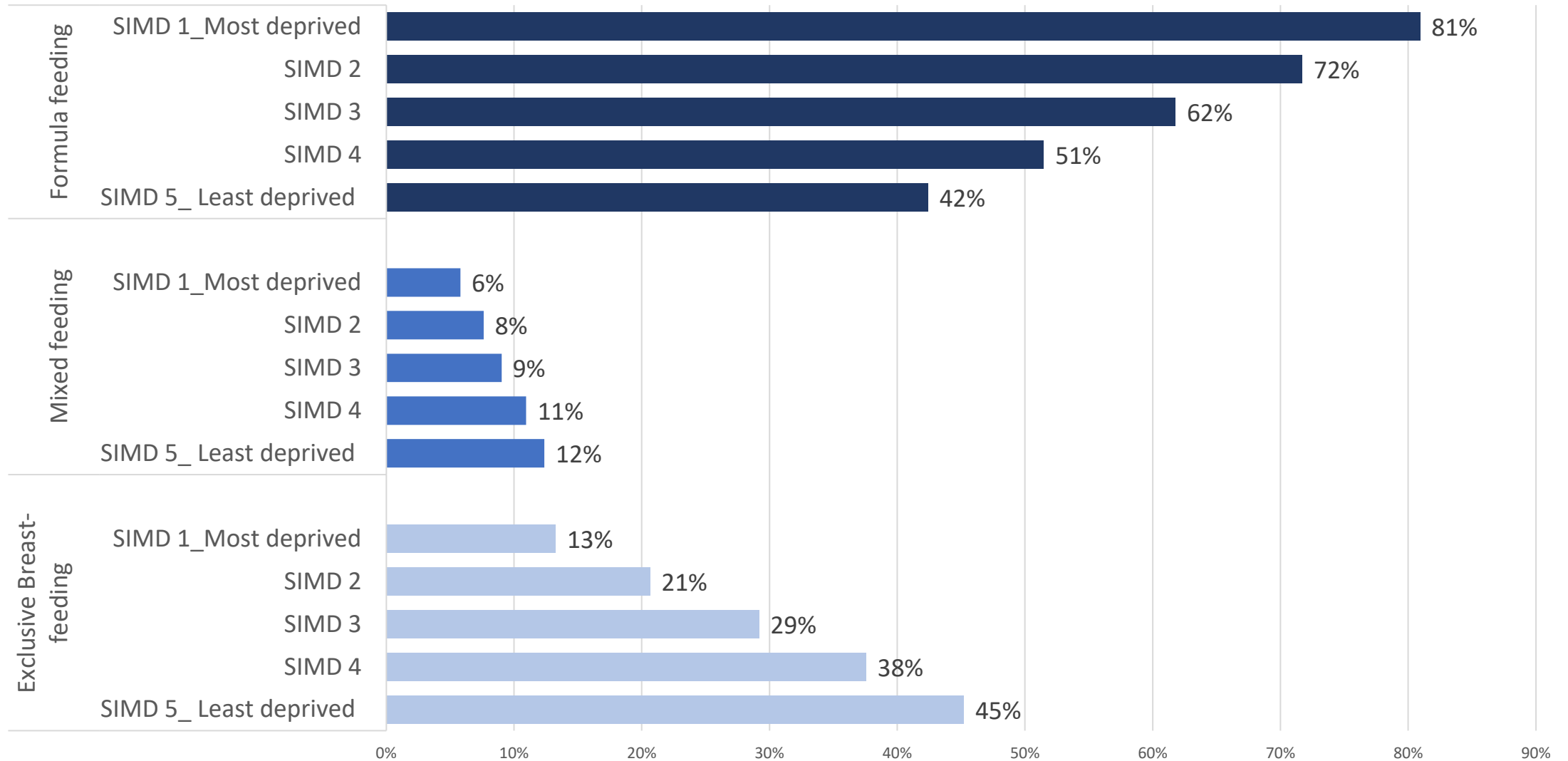
Methods: Estimating Healthcare Costs

- Hazard Ratios (adjusted)
- Population attributable fractions
- **Applied costs (base year: 2009)***
 - Hospital admissions - 502,944 infants (type of admission, case-mix)
 - GP Consultations* - 11,288 infants (length/type of consultation)
- **Adjustments/Discounting**
 - Inflation
 - Discounting: 1.5% (NICE guidelines)
- **Assumptions**

Results

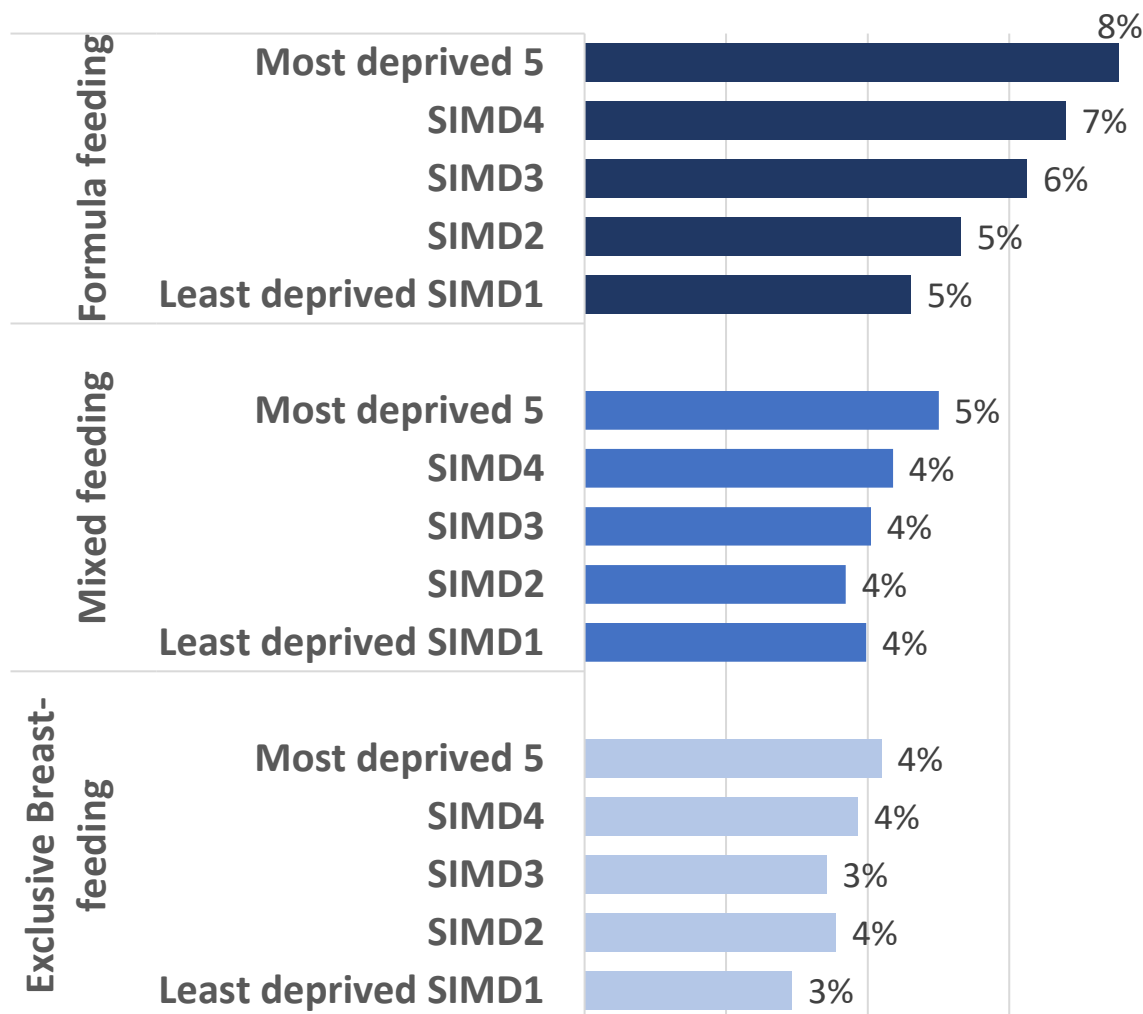


Results: Infant feeding patterns 1997-2009 cohort

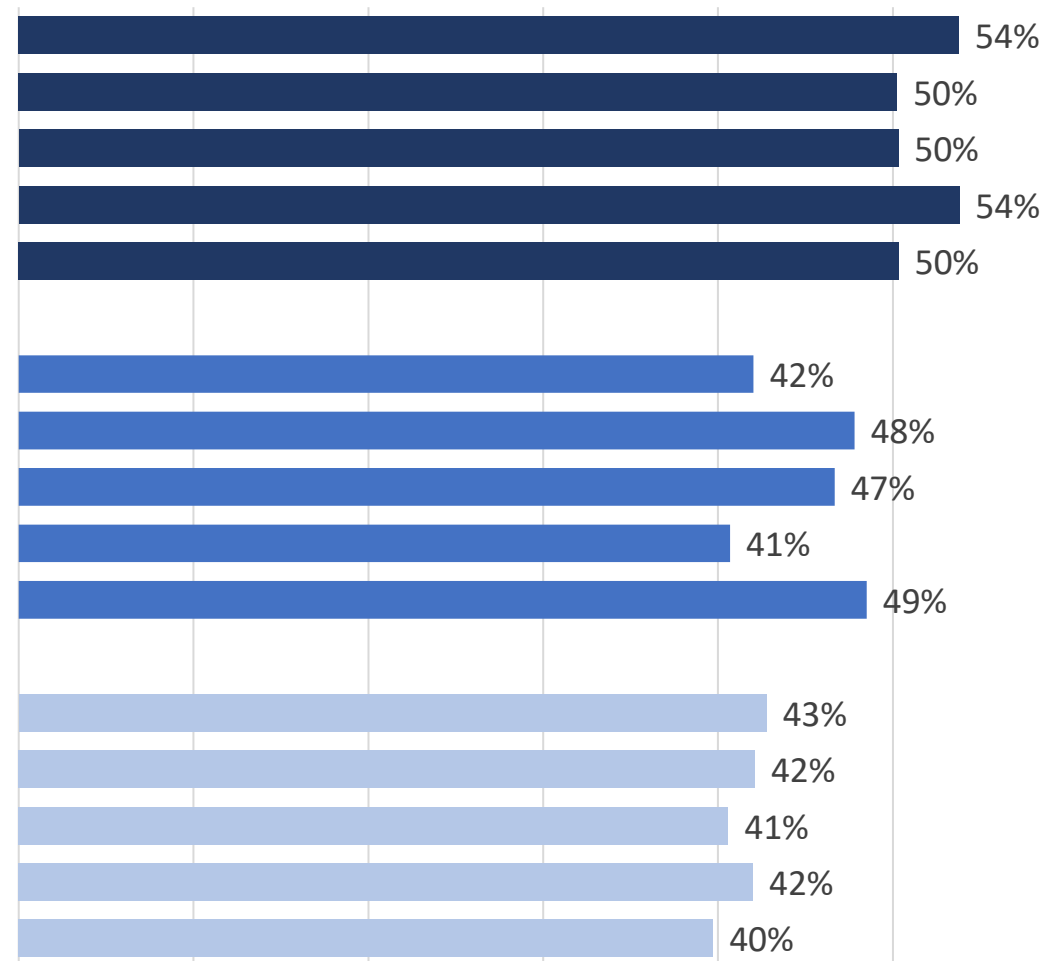


Admissions and GP Consultation patterns (0-6 months)

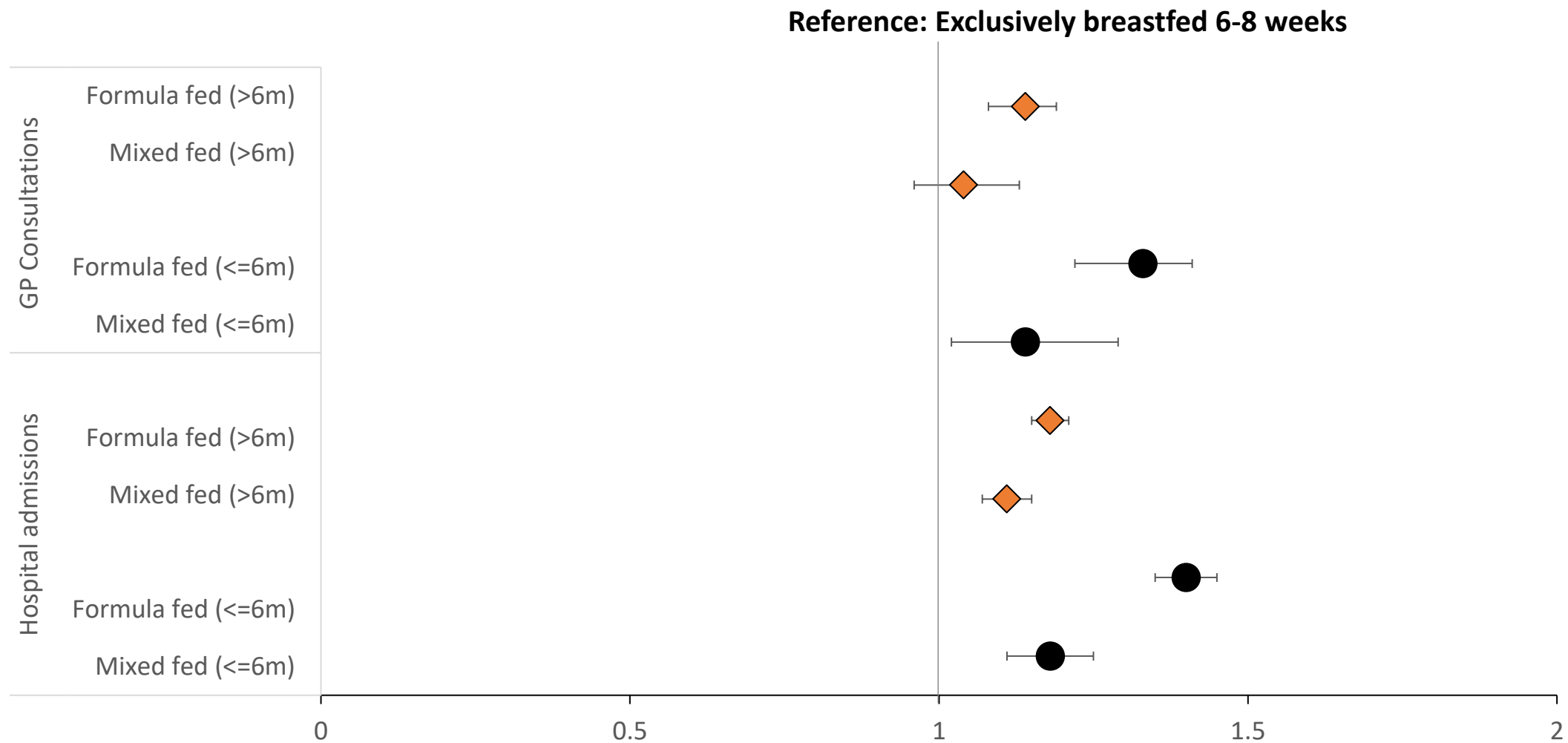
Infants admitted for selected conditions (%)



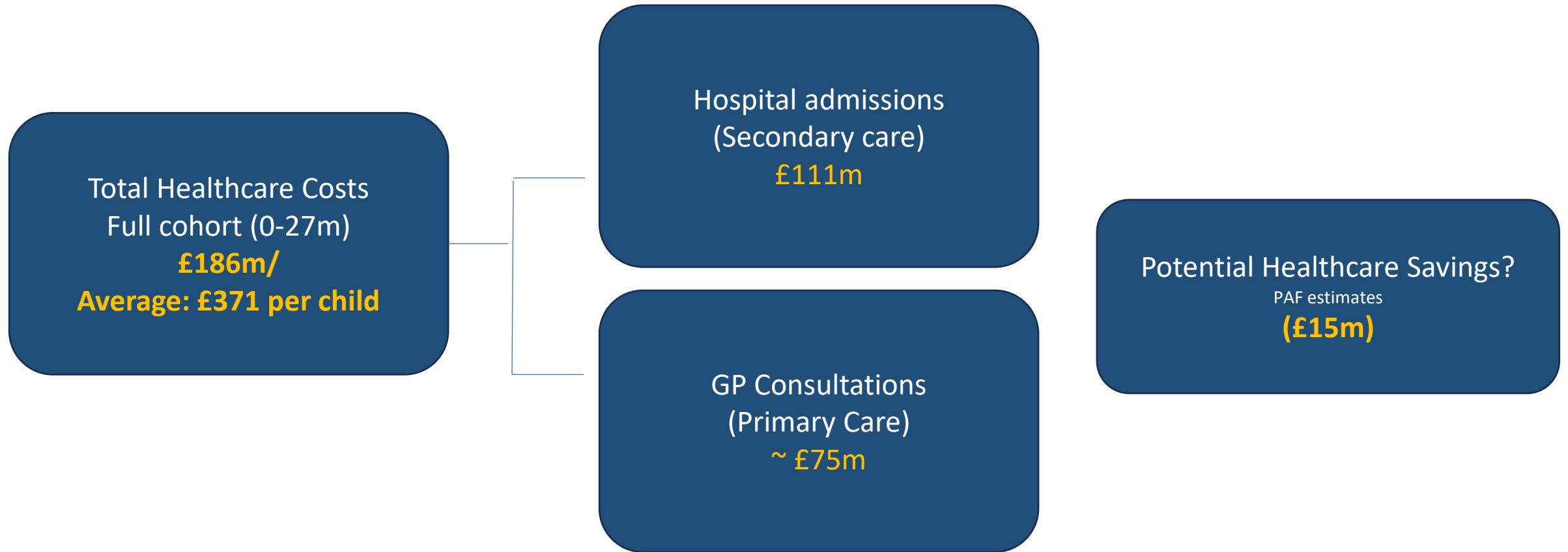
Infants with GP consultation for selected conditions (%)



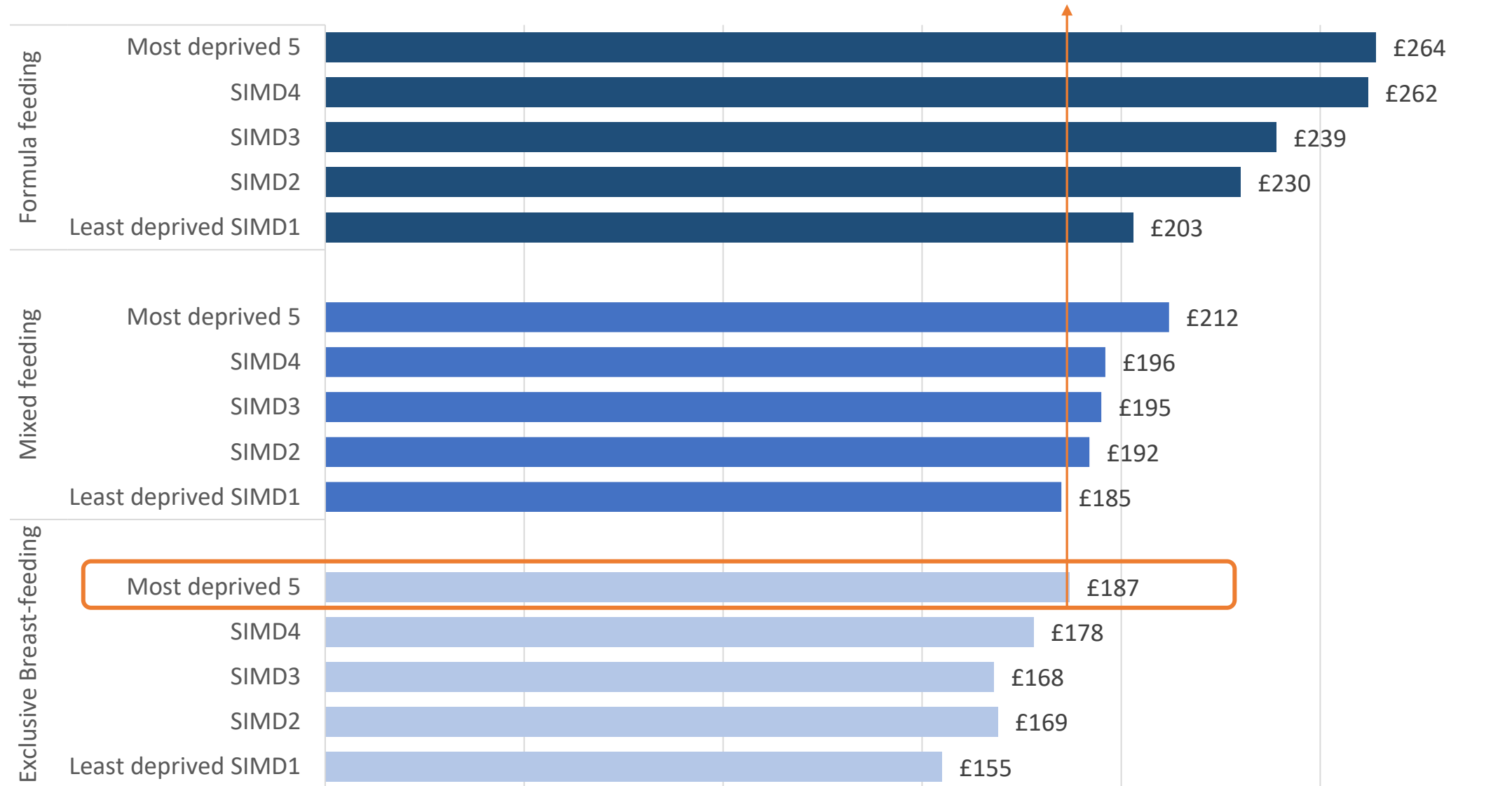
Infant feeding and healthcare: Hazard ratios (adjusted)



Infant feeding and healthcare costs (0-27 months)



Infant feeding and average healthcare costs (0-27m)



Levelling up breastfeeding in Scotland?

- **WHO Europe publication by Whitehead and Dahlgren (2006)**

describe health inequities as:

- **Systematic**
- **Socially produced**
- **Unfair**

Summary

- **The power of linked data sources**

- Use of linked administrative data to conduct a population level, representative study.

- **The benefits of optimising early nutrition**

- Lower healthcare costs and potential savings associated with exclusive breastfeeding to 6-8 weeks after birth, compared to formula feeding for commonly reported childhood conditions.

- **The *unfair* cost(s) of health inequalities**

- The need for investment in multi-sector interventions to promote health in the early years.

Thank you!

Acknowledgements

Glasgow Centre for Population Health

Glasgow Centre for Population Health Breastfeeding Project (Steering Group)

Public Health Scotland

Scottish Collaboration for Public Health Research



References

GCPH Breastfeeding Project Publications (peer reviewed) and other referenced reports:

- Public Health Scotland Infant Feeding Statistics: <https://publichealthscotland.scot/publications/infant-feeding-statistics/infant-feeding-statistics-financial-year-2021-to-2022/>
- Whitehead M, Dahlgren G & WHO (2006) [Levelling up \(part 1\) : a discussion paper on concepts and principles for tackling social inequities in health](#). WHO Publication
- Ajetunmobi O, Whyte B, Chalmers J et al. Informing the early years agenda in Scotland: understanding infant feeding patterns using linked datasets. *Journal of Epidemiology and Community Health* 2013; 68:83-92
- Ajetunmobi O, Whyte B, Chalmers et al. Breastfeeding is associated with reduced childhood hospitalisation: Evidence from a Scottish birth cohort. *Journal of Paediatrics* 2015;166(3): 620 - 525
- Ajetunmobi O & Whyte B. Deprivation and infant feeding at birth. *Archives of Disease in Childhood* 2012;97:A183-A186.
- Ajetunmobi O, McIntosh E, Stockton DS et al. Levelling up health in the early years: A cost-analysis of infant feeding and healthcare (currently under-review).