Developing a protocol for process evaluation across multiple complex interventions; an example from Born in Bradford’s Better Start

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### Bradford context

#### West Yorkshire, Great Britain

**Better Start Bradford areas within Bradford Metropolitan District**

**Better Start Bradford areas: Bowling and Barkerend, Little Horton and Bradford Moor**

<table>
<thead>
<tr>
<th></th>
<th>England</th>
<th>Bradford district</th>
<th>Better Start Bradford</th>
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</thead>
<tbody>
<tr>
<td>Population (all ages)</td>
<td>54316618</td>
<td>528155</td>
<td>65102</td>
</tr>
<tr>
<td>Births per year (% of the population)</td>
<td>661501 (1.2%)</td>
<td>8,100 (1.5%)</td>
<td>1335 (2.0%)</td>
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<tr>
<td>Children 0-3 yrs (% of the population)</td>
<td>2748017 (5.1%)</td>
<td>32711 (6.2%)</td>
<td>5467 (8.4%)</td>
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<tr>
<td>Infant mortality rate (per 1,000 live births)</td>
<td>3.6</td>
<td>7.0</td>
<td>*9.4</td>
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<tr>
<td>Decayed, missing, filled teeth (age 5)</td>
<td>0.9</td>
<td>2.0</td>
<td>3.6</td>
</tr>
<tr>
<td>Obesity Reception (age 4-5)</td>
<td>9.1%</td>
<td>8.6%</td>
<td>11.0%</td>
</tr>
<tr>
<td>Obesity Year 6 (age 10-11)</td>
<td>19.1%</td>
<td>21.5%</td>
<td>25.7%</td>
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Better Start Bradford

- Big Lottery funded: £49 million over 10 years
- Community partnership led by Bradford Trident
- Pregnant women, and children aged 0-3 years
- 22 interventions focusing on key outcomes:
  - Nutrition and obesity, language and communication, emotional well-being
Better Start Bradford Projects

- Babies and bonding
- Talking Together
- Bump start your baby
- Eat, Live, Love

BSB Projects

- Family Nurse partnership
- Baby Steps antenatal + postnatal
- Family Action Perinatal Peer Support
- ESOL+
- Personalised midwifery
- Baby buddy/ Best beginnings
- Family Links Antenatal
- Doula
- HAPPY

Child age
1
2
3
4

Childhood 1-3 years old

Main outcome domains:
- Social & Emotional Development
- Social & Emotional Development / Obesity & Nutrition
- Obesity & Nutrition
- Communication & Language Development
Three Levels of Evaluation

Monitoring

Evaluation

Process
- When, how, why does it work/not work?

Effectiveness
- Does it have an effect on outcomes?

Using methods which include a comparison group such as:
- Randomised Trials (Twics)
- Quasi-Experimental designs

Using methods such as:
- Interviews with staff/parents
- Focus groups with staff/parents
- Observations of project delivery
- Analysis of reach / engagement of targeted groups (in comparison with BiBBS)

Descriptive methods focusing on:
- Reach
- Engagement
- Fidelity
- Before & after evaluation without comparison group

Born in Bradford’s Better Start
Process evaluation

- Consulted MRC guidance (Moore et al 2016) to develop overall protocol for all 22 interventions
- Based on the Conceptual Framework for Implementation Fidelity (Carrol et al 2007, Hasson 2010)
- Individual evaluation protocols determined by potential reach, existing evidence base, complexity of intervention & involvement of stakeholders and commissioners
- Using mixed methods to assess intervention adherence (content, delivery, reach), potential moderating factors and mechanisms of impact at both individual (micro) and wider community (macro) levels
Modified conceptual framework for implementation fidelity
Carroll et al 2007, Hasson et al 2010
Summary

• Process evaluation is integral to understanding the causal mechanisms, how an intervention’s quality, fidelity and context are associated with outcomes
• Adoption of a pragmatic and flexible approach – interventions are being delivered in a natural experiment by independent services so opportunities for control groups & data collection are limited.
• Maintaining efficiency to evaluate multiple interventions at the same time
• Enhancing delivery – development of progression criteria and strategies for support e.g. additional data collection to investigate possible recruitment issues
References


Thank you! Any questions?

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www.borninbradford.nhs.uk/about-the-project/better-start-bradford-innovation-hub