Introducing the OPTIMUNISE consortium

Peter Aaby
Optimising the impact and cost-effectiveness of child health intervention programmes for vaccines and micronutrients in low-income countries

EU FP7 supported OPTIMUNISE with 3 mill €

Monitoring and assessing the impact of vaccination and other childhood interventions for both boys and girls

DANIDA supported research training within the vaccine network with 1.3 mill €
INDEPTH’s Vaccination and child survival Working Group

I. DANIDA research training
1. Routine surveillance
2. Determinants of delay
3. Out-of-sequence
4. Sex-differences

II. EU-FP7
1. Measure real life effects
2. Combining observ. and trials
3. Multi-centre trial of early MV
4. INDEPTH dissemination

III. European partners:
SSI, Denmark
Heidelberg University, Germany
RIVM, The Netherlands
The justification for both applications was the non-specific effects (NSE) of vaccines and vitamin A supplementation observed in many studies in Africa and Asia.

- The way interventions are implemented is often quite different from the intended; e.g. BCG vaccination
- Vaccines and vitamin A may have positive or negative NSEs
- NSEs are often sex-differential
- Interventions often interact, e.g. vaccines and vitamin A
EU had a call for “Impact and cost-effectiveness of existing major health programmes”

- We therefore suggested to use INDEPTH HDSSs for
  1. Measuring the real-life effects of interventions
  2. Testing possible modifications in trials
  3. Testing new interventions or interactions in trials
Specific objectives of EU proposal - 1:

To develop HDSS sites into a platform for monitoring real life effects of our current child health programmes with the aim to assess the specific and non-specific, sex-differential effects of child health intervention programmes, as well as intervention interactions. This implies collection of routine data on all health interventions in childhood.

A manual will be developed during the first year and will be updated based on the experience with implementing routine surveillance. The manual will be available through the INDEPTH Network. [Now available INDEPTH webpage]
Specific objectives of EU proposal -2:

To measure the health impact and cost-effectiveness of the existing major child health programmes with vaccines and vitamin A controlling for known determinants of programme compliance. Specifically we were to examine:

- The 4 hypotheses about sex-differential effects
- Effect of vitamin A provided with different vaccines
- Effect of age of BCG vaccination
- Effect of out-of-sequence vaccination with measles vaccine and DTP (diphtheria-tetanus-pertussis)
- Effect of additional dose of MV at 18 months
- Cost-effectiveness of rotavirus and pneumococcal vaccines

At least 8 papers were planned to be submitted during the 3rd to the 5th year of the project.
Specific objectives of EU proposal 3+4:

Based on this platform:

(3) To evaluate in a randomised trial a specific modification of the current child health programme: To provide an additional measles vaccine at age 4.5 months, in addition to the recommended measles vaccine at age 9 months.

(4) To assess the relevance of different health outcomes parameters for the evaluation of the real life effect of child health programmes.
Challenges in implementing the OPTIMUNISE project

- The Ghanaian Ethical committee rejected the proposal for the early measles vaccine (MV) trial. Not considered relevant in Ghana but only relevant in GB and BF => enlarged trial in GB and BF => renewal ethical permission => delays in implementation and analysis of data

- Child mortality has dropped far more than anticipated => more difficult to measure effects of interventions
INDEPTH’s Vaccination and child survival Working Group

4 PhDs theses in 2016-17:
Nouna; Navrongo; Nairobi; Chakaria

62 papers published or submitted – and more to come

INDEPTH Network

Chakaria
Nairobi
Kintampo

Navrongo
Nouna
Bandim

DANIDA-EU
4.3 mill €
The vaccinations here are BCG (TB), oral polio vaccine and measles vaccine

We will take you on a journey:
– How different vaccines affect child survival
– How effects may differ for girls and boys
– How vaccines may interact with other interventions

The context for the EU project was the MDG4 – i.e. reducing child mortality by 2/3 from 1990 to 2015

So first we will present the three INDEPTH sites and how child mortality has declined