Data linkages and microdata for perinatal statistics for improve international data
Views from Finland

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Linkages are performed routinely

• Within THL:
  – Reproductive registers: induced abortions, sterilisations, births, congenital anomalies
  – Hospital care: Inpatient care, outpatient care in hospitals, outpatient care in primary care (new)

• To other register keeping organisations
  – Statistics Finland: causes-of-death, socioeconomic and demographic background
  – Social Insurance Institution: data on reimbursed medication
Personal identity code from 1964-1968

– Until 1899:  DDMMYY+XXXY
– 1900-1999:  DDMMYY-XXXY
– 2000-2099:  DDMMYYAXXXXY

DDMMYY
– date, month and year of birth
XXX
– serial number: even for women, uneven for men
Y
– control number
Finnish options

1. To give data for Eurostat (easy)
2. INSERM to apply for a permission to get the data from THL and Statistics Finland (complicated)

- Data cannot be given for permanently, e.g. for Joint Research Centre or for any research group. A study permission is valid for five years with a possibility to extend the period
Data sources: THL

Medical Birth Register: most cases & 23 variables
Gestational age, Birthweight at delivery, Sex, Type of pregnancy + birth order, Presentation, Woman identifier, Vital status at birth, Maternal age at delivery, Parity, Previous caesarean delivery, Mode of delivery, Mode of onset of labour, Smoking before or at beginning of pregnancy, Smoking in the third trimester of pregnancy, Mother’ pre-pregnancy body mass index (BMI), Sub fertility treatment (IVF, IUI, OI), Timing of first antenatal visit, Anaesthetic during labour (excluding General anesthesia), Episiotomy, Apgar score at 5 minutes, Perineal tears (3 or 4), Place of birth by number of annual births, Place of birth by level of care

Register on Induced Abortions: new cases
Pregnancy terminations between 22+0 and 24+0 gestational weeks

Malformation Register: one variable
Information on certain congenital anomalies

Hospital Discharge Register: three variables
General anesthesia, Severe maternal morbidity, Perineal tears (all grades)
Data sources: Statistics Finland

Cause-of-Death Register: sex variables
Neonatal death, Infant death, Cause-of-death, Age at death, if death < 1 year, Maternal death, Cause-of-death

Register on Education: one variable
Mother’s education

Register on Occupation: two variables
Mother’s occupation, Father’s occupation

Population Register: one variable
Mother’s country of origin

Data not available before 2017:
Infants breastfed in first 48 hours
Flow chart

Data from THL
- Pregnancy number
- Mother’s ID
- Child’s ID

Data from Statistics Finland
- Mother’s ID
- Father’s ID
- Child’s ID

MICRODATA to INSERM/EUROSTAT
- Encrypted IDs
- Possibility to link back e.g. in case of incorrect data.
Pros and cons

+ More detailed information
+ Better data validation possibilities
+ More accurate country comparisons
± Less work for national correspondents?
- May not be free of charge
- Time to get permission and data from Statistics Finland
- Different timing when registers are complete
Option 2: Aggregated data

- Aggregated data (example for a Nordic study)

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<th>BMI</th>
<th>Smoking</th>
<th>Previous births</th>
<th>Multiple</th>
<th>Order</th>
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<th>Gestational age</th>
<th>SGA/LGA</th>
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