

# Royal College of Surgeons in Ireland

*Coláiste Ríoga na Máinleá in Éirinn*



## Psychotropic medication in Irish children; trends and areas of inappropriate prescribing

*Udo Reulbach, Fiona Boland and Tom Fahey*



# Background

- Psychotropic medications in children: often prescribed on an off-label basis
- Increasing trends of psychotropic prescribing
- Lack of paediatric population-based pharmacoepidemiological research

# Psychotropic research

Analyses of off-label prescription and time trends in prescribing of

- benzodiazepine related drugs and benzodiazepine derivatives
- antipsychotic and
- antidepressant drugs
- psychostimulant prescribing

Potentially inappropriate prescribing and quality indicators

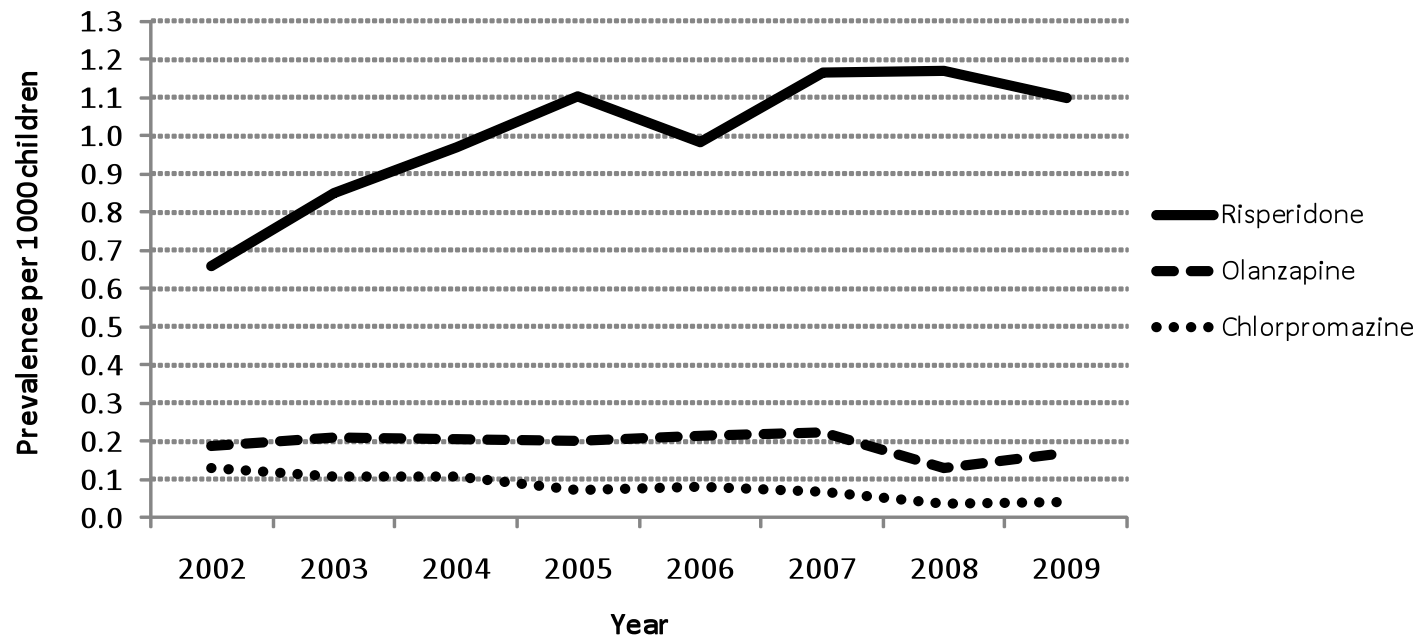
# Methodology

- *Study design:* retrospective study (2002-20011) in a national Irish population aged  $\leq 15$  years using the Irish Primary Care Reimbursement Service (HSE-PCRS) pharmacy claims database.
- *Statistical methodology:*  
Time analysis: multivariate negative binomial regression  
Spatial analysis: age-sex standardised prescribing ratios (SPRs)

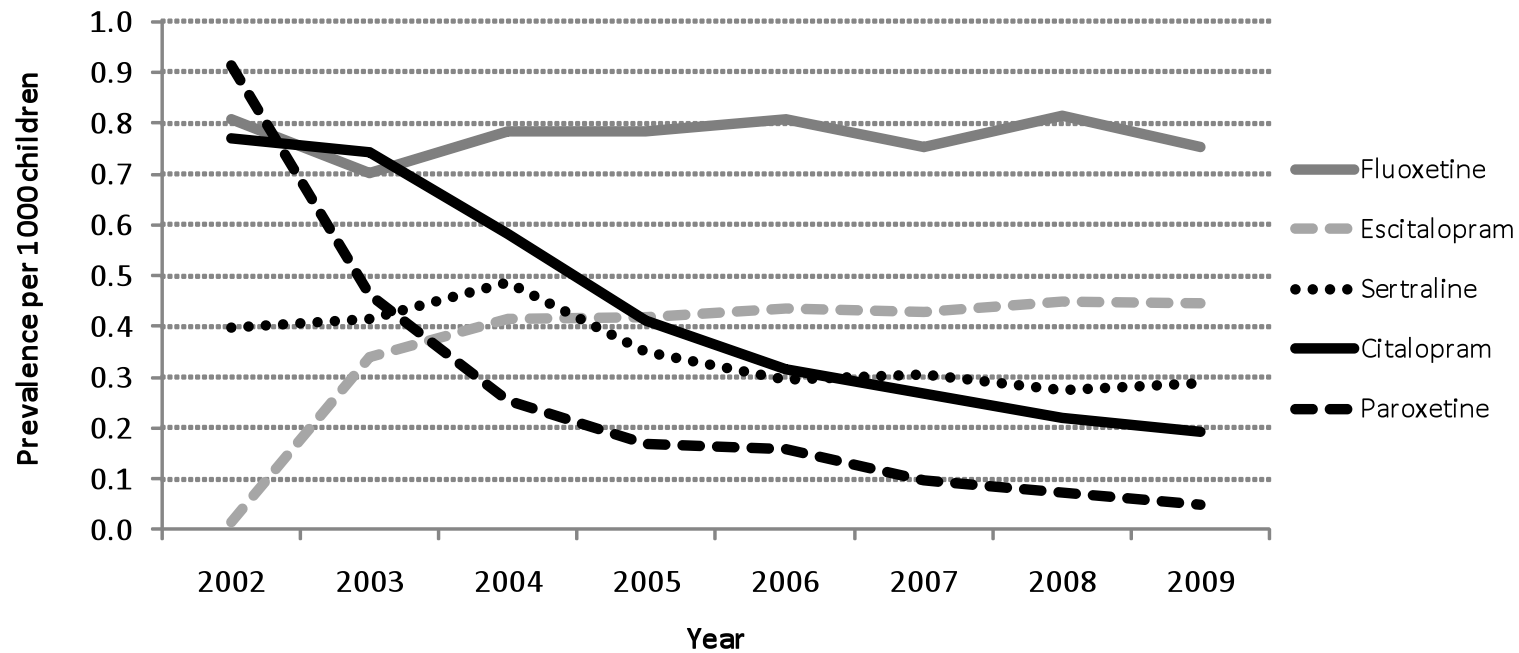
# Benzodiazepine prescribing

- Rates from 5.3 to 8.6 / 1000 GMS population (2002 – 2011)
- Concomitant prescribing (2011):
  - 6.3% antipsychotic
  - 27.0% antiepileptic
  - 12.3% antidepressant
  - 2.0% psychostimulant
- 4.7% benzodiazepine derivatives

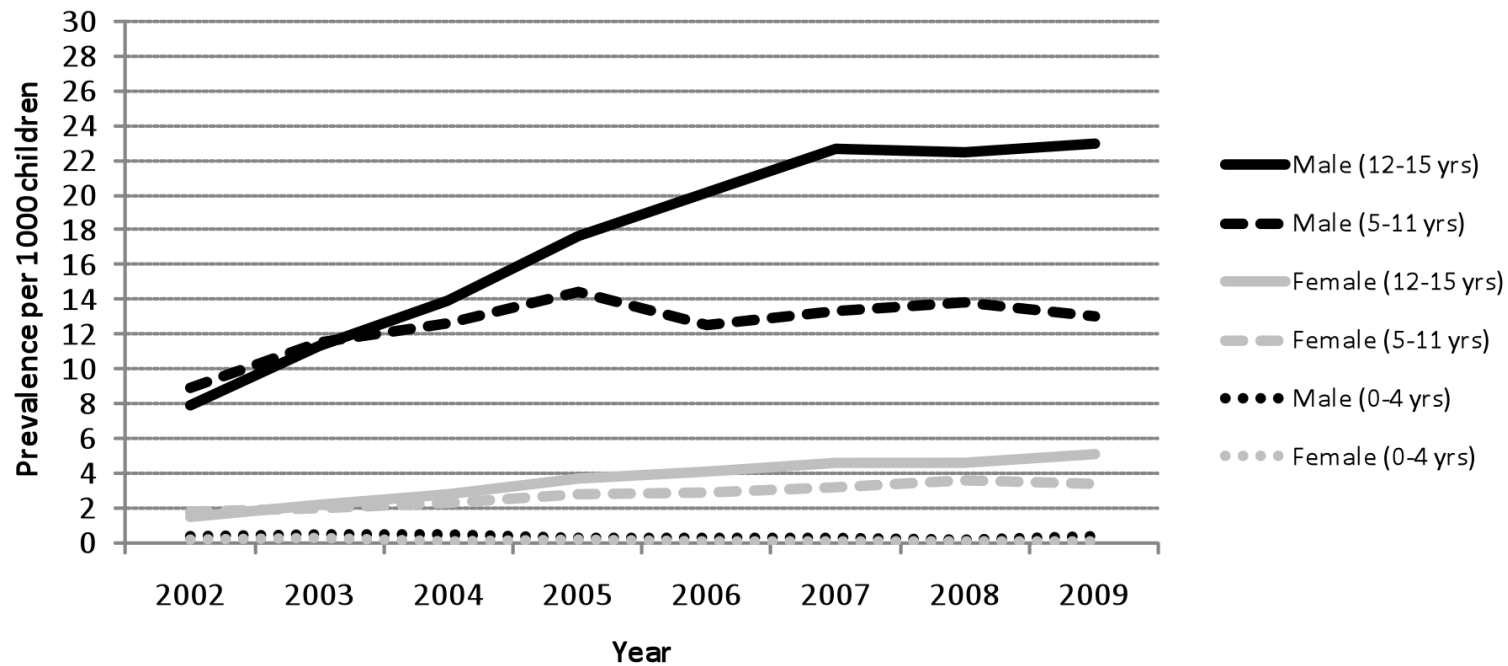
# Antipsychotic prescribing



# Antidepressant prescribing



# Psychostimulant prescribing





# Attention deficit hyperactivity disorder

- Prevalence estimates of attention deficit hyperactivity disorder (ADHD) vary according to the diagnostic criteria used and the population sample:
- Among school children in US: 3-5%
- No objective tests exist to confirm the diagnosis of ADHD (remains a clinical diagnosis)
- Formal diagnostic criteria are most applicable to boys aged 6-12 years

# Core symptoms and diagnostic criteria of ADHD

- Inattention, hyperactivity and impulsiveness
- Other conditions frequently coexist with ADHD, including developmental disorders and psychiatric disorders (particularly oppositional defiant and conduct disorder, anxiety and depressive symptoms)
- Symptoms must be present for at least 6 months, are generally observed in children before the age of 7 years and cause clinically important impairment

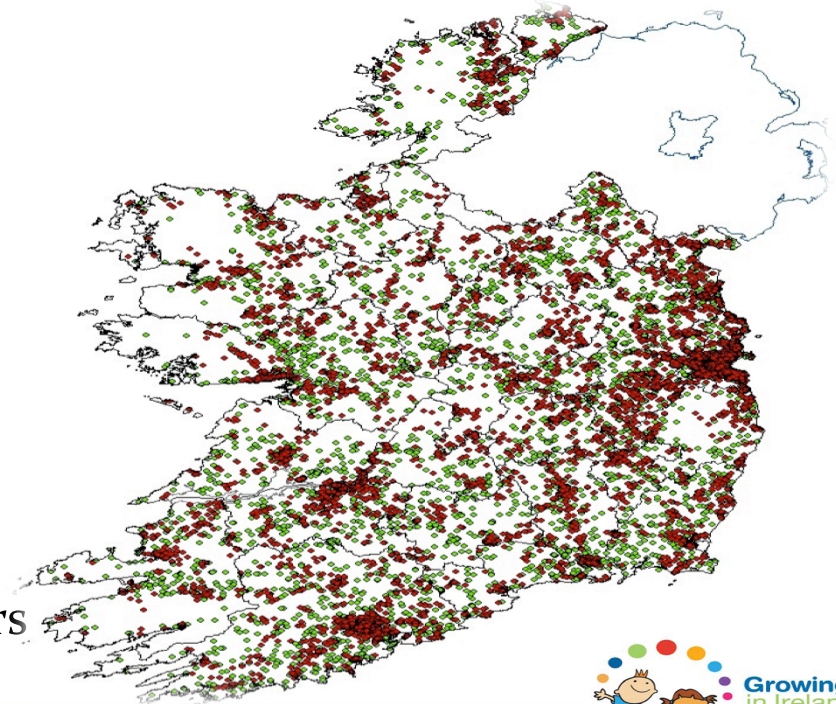
# Data linkage Growing Up in Ireland and PCRS

## Infant Cohort

at 9 months, 3 years and 5 years  
(initial cohort of  
11,134 infants and their parents)

## Child Cohort

at 9 years and 13 years  
(initial cohort of  
8,568 children, their parents, carers, teachers)



# Summary

- Increasing trend of prescribing for psychostimulant prescribing, but stable or decreasing for other psychotropic medication
- High rate of concomitant prescribing
- Potentially inappropriate prescribing
- Quality indicators and data linkage