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# **The prevalence and incidence of anxiety and depression in children and young people (CYP) with life-limiting conditions (LLC): A Systematic Review and Meta-Analysis**

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# Mental Health Problems

**10%** of 5-16 year olds have a clinically diagnosable mental health problem



## Anxiety

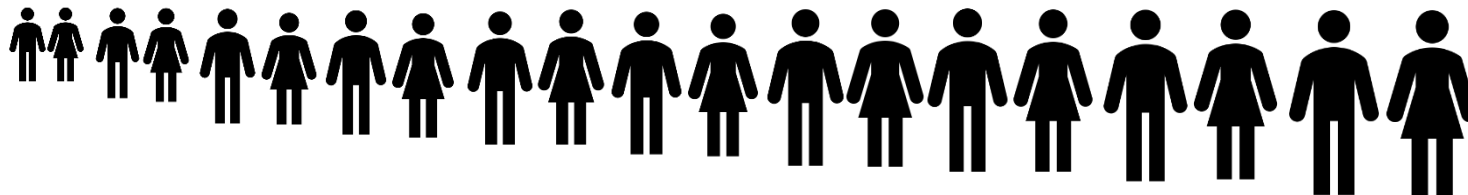
3.3% of 5-16 year olds



## Depression

0.9 % of 5-16 year olds

## Life-long mental health problems



50% by 14 years.....75% by 24 years.....



### References:

1) Public Health England. The mental health of children and young people in England. 2016; 1–33.

# Life-Limiting Conditions (LLCs)

- **Life-limiting/shortening conditions:** no reasonable hope of cure and from which children or young people will die (e.g. Batten disease)
- **Life-threatening conditions:** curative treatment may be feasible but can fail (e.g. cancer)



- *Fear of prognosis*
- *Frequent treatments and hospitalisations*
- *School absenteeism*
- *Disruption to peer relationships*



**Mental  
health  
problems**

## **Anxiety**

**8.3%** (cystic fibrosis)

**20.1%** (HIV)

## **Depression**

**13%** (cystic fibrosis)

**13.5%** (HIV)



# Search Strategy

**Aim:** to conduct a systematic review to assess the prevalence and/or incidence of anxiety and depression in children and young people (aged 5-25 years) with a range of life-limiting conditions (LLCs)

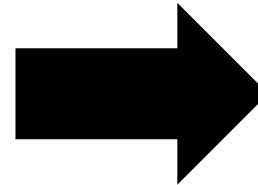
## Eligibility Criteria



- 5-25 year olds
- LLC diagnosis
- Anxiety/depression prevalence/incidence data
- 2000-Jan 2018
- OECD country



- Cancer survivorship literature
- Case studies/series, intervention studies, qualitative studies, systematic reviews



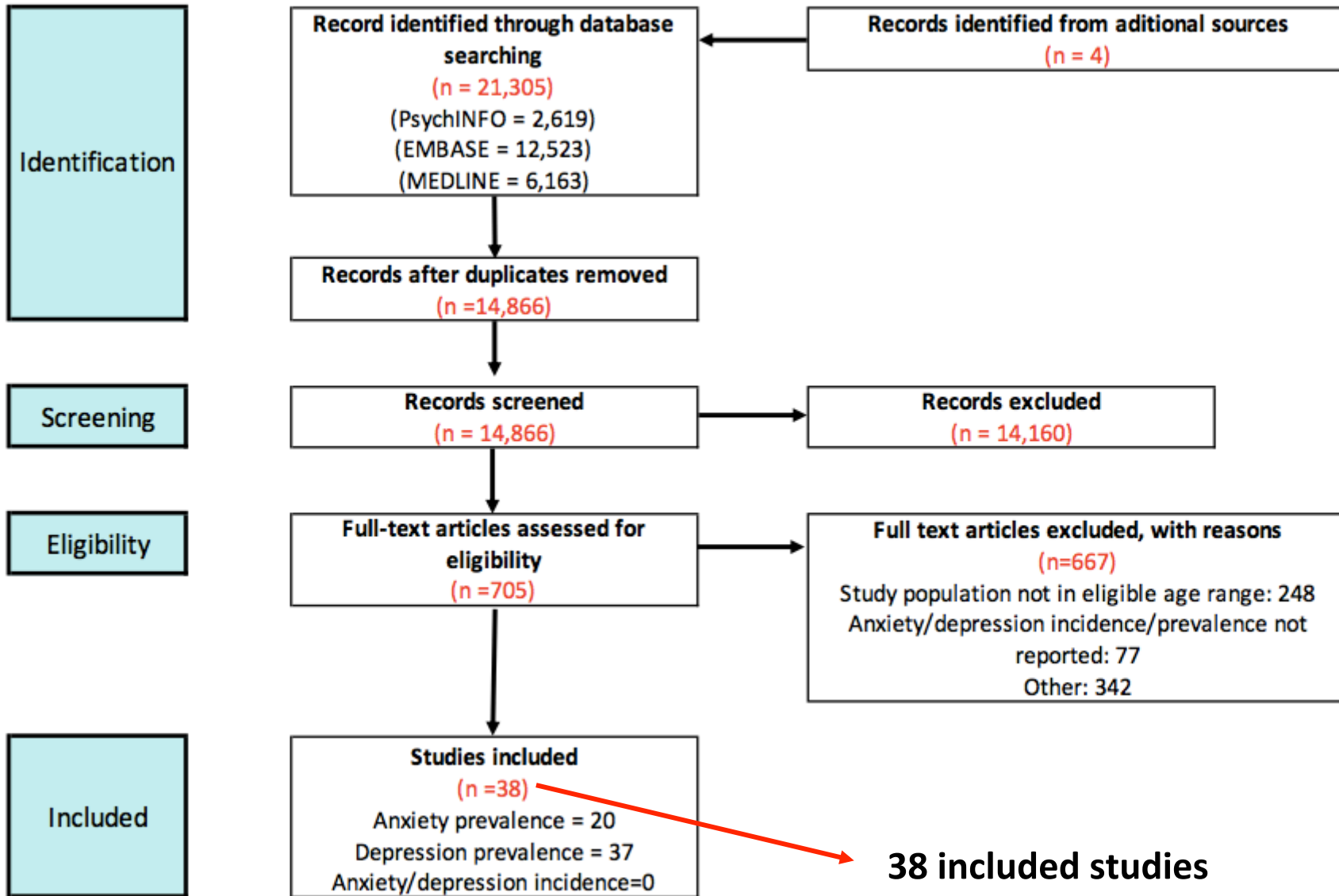
**MedLine**

**EMBASE**

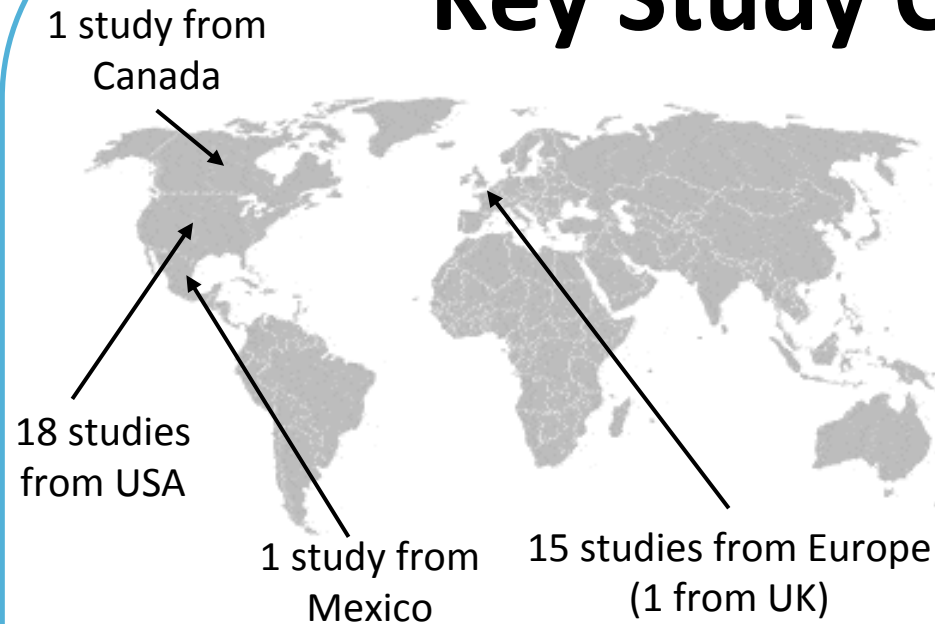
**PsychINFO**



# PRISMA Flow Chart



# Key Study Characteristics



## Sample size:

20 – 2032 (median=51.5)

## Mean age:

11.1-20.7 years

## Assessment Tools Used:

- 19 for anxiety prevalence
- 20 for depression prevalence

## Risk of Bias Assessment:

- High: 0 studies
- Moderate: 27 studies
- Low: 24 studies

## LLC Diagnostic Groups:

- Cancer: 6 studies
- Cystic Fibrosis: 9 studies
- HIV: 9 studies
- Thalassemia: 4 studies
- Neurological Diseases: 7 studies
- Chronic Kidney Disease (CKD): 3 studies

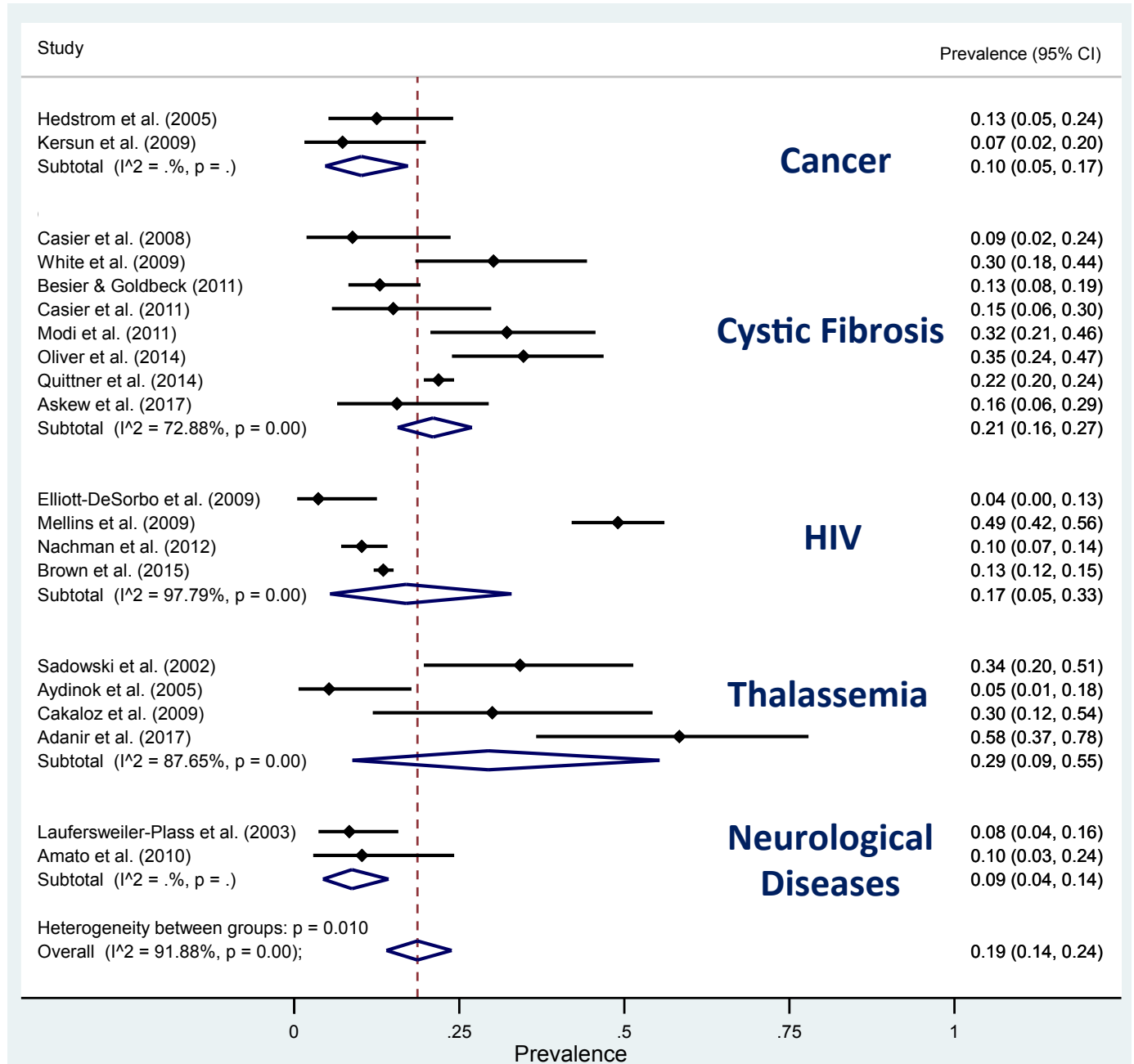


# Anxiety

- 20 studies
- 4,709 participants
- Pooled prevalence estimate: **18.7%** (95% Confidence Interval: 14.0%-23.9%)
- Heterogeneity:  $I^2$ : 91.8%,  $p < 0.001$

## Meta-regression

- Assessment tool: diagnostic interviews significantly associated with higher pooled anxiety prevalence ( $\beta = 0.16$ , 95% CI: 0.02-0.29,  $p = 0.025$ )

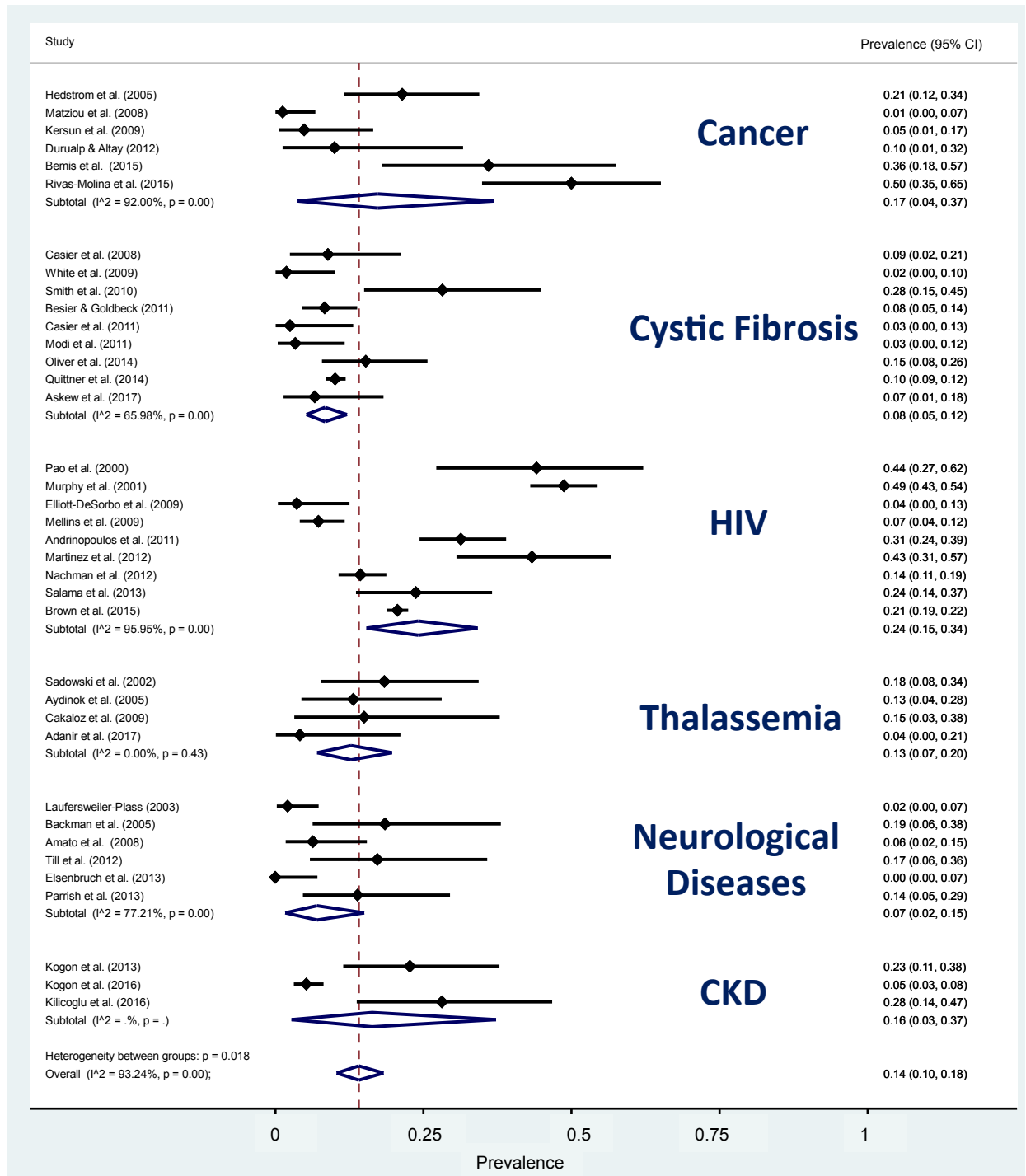


# Depression

- 37 studies
- 6,096 participants
- Pooled prevalence estimate: **14.1%** (95% Confidence Interval: 10.4%-18.3%)
- Heterogeneity:  $I^2=93.2\%$ ,  $p<0.001$

## Meta-regression

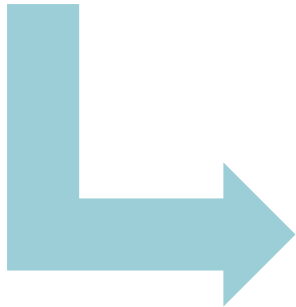
- Age: older age significantly associated with higher pooled depression prevalence ( $\beta=0.02$ , 95% CI: 0.01-0.03,  $p=0.001$ )
- Sex: lower proportion of males significantly associated with higher pooled depression prevalence ( $\beta=-0.00$ , 95% CI: -0.01- 0.00,  $p=0.033$ )





## Conclusions

- Higher prevalence of anxiety and depression among children and young people with LLCs vs. general population
- Variations in prevalence by LLC diagnostic group, age, assessment tool etc.
- Highlights needs for psychological support
- However, current research has focused on a very narrow range of LLCs



## Next Steps

1. Risk factor review
2. Quantitative analysis of UK primary care data



**Thank you for listening...  
any questions?**

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