

## Background

Depression is common in people with long term conditions (LTCs) and is associated with worse medical outcomes.



The causes of depression and mechanisms underpinning the association between depression and poor medical outcomes in people with LTCs remains unclear, however. Better understanding these could help predict who is at increased risk of adverse medical outcomes, and inform development of novel interventions that could impact both mood and physical health.

Perseverative negative thinking, such as worry and rumination, has been associated with onset, duration, and severity of depression in healthy populations, and with poor physical outcomes. However, the results from prospective studies have been more equivocal. In addition, the majority of studies have been conducted in physically healthy populations.

## Aim

This systematic review aimed to determine the strength of the association of perseverative negative thinking with subsequent depression and anxiety among adults with LTCs.

## Method



Four electronic databases (Medline, EMBASE, PsycINFO, CINAHL) were searched from inception to June 2013. Titles, abstracts and full text articles were independently screened by two reviewers.

Figure 1: PICOS criteria used for study selection

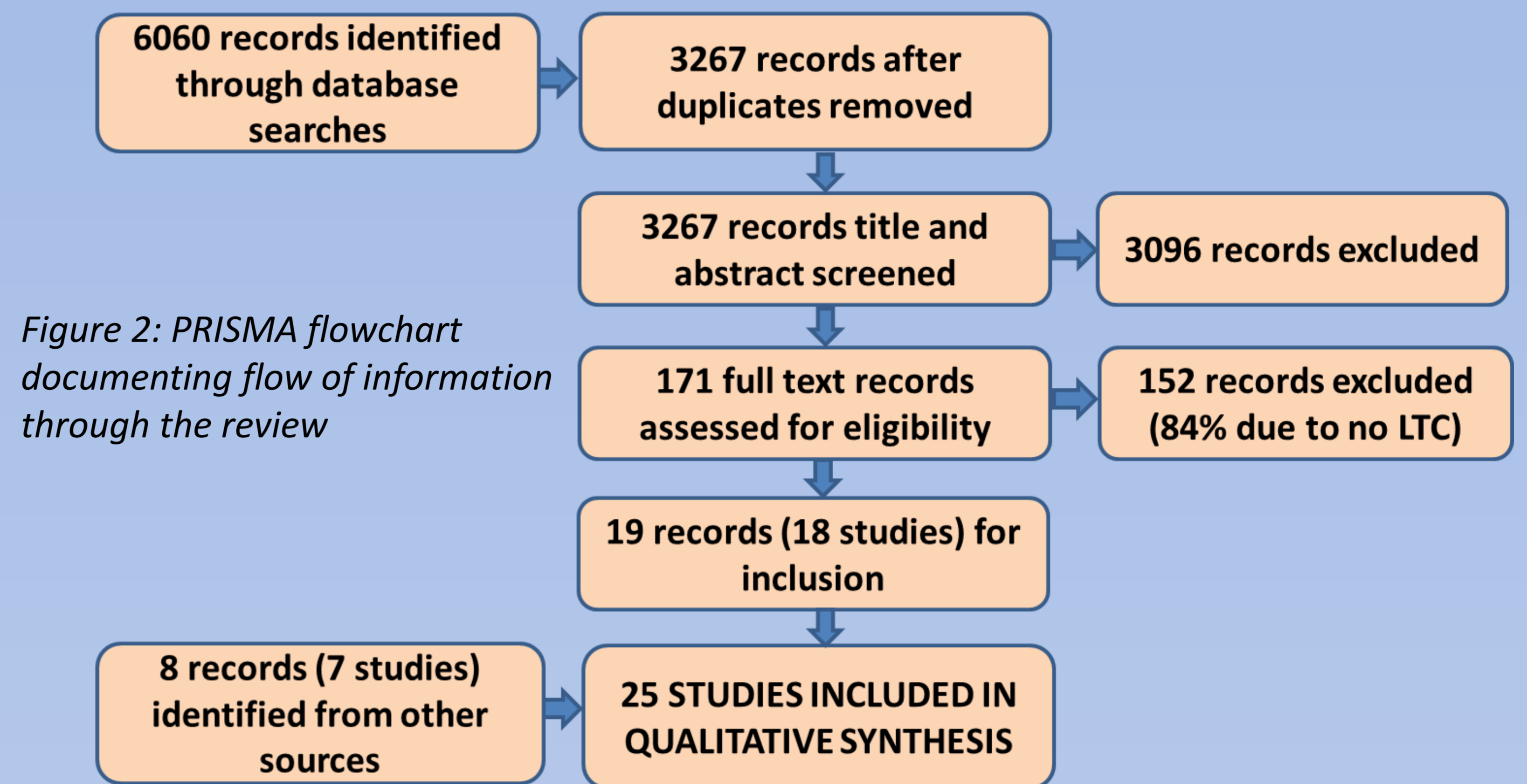
<b>Population</b>	<b>Intervention &amp; Comparator</b>
Studies in adults (>16 years) with any LTC	Use of an intervention or comparator was not a requirement
<b>Outcomes</b>	<b>Study design</b>
One measure of perseverative negative thinking (including worry and rumination) <i>and</i> one measure of negative affect (including depression and anxiety)	Observational prospective cohort studies, longitudinal studies, and experimental or quasi-experimental studies

No date or language restrictions were applied.

Risk of bias was assessed using the Effective Public Health Practice Project (EPHPP) Quality Assessment Tool.

Further details of the review protocol can be found in: Trick et al. (2014) *The association between perseverative negative cognitive processes and negative affect in people with long term conditions: a protocol for systematic review and meta-analysis Systematic Reviews*, 3:5.

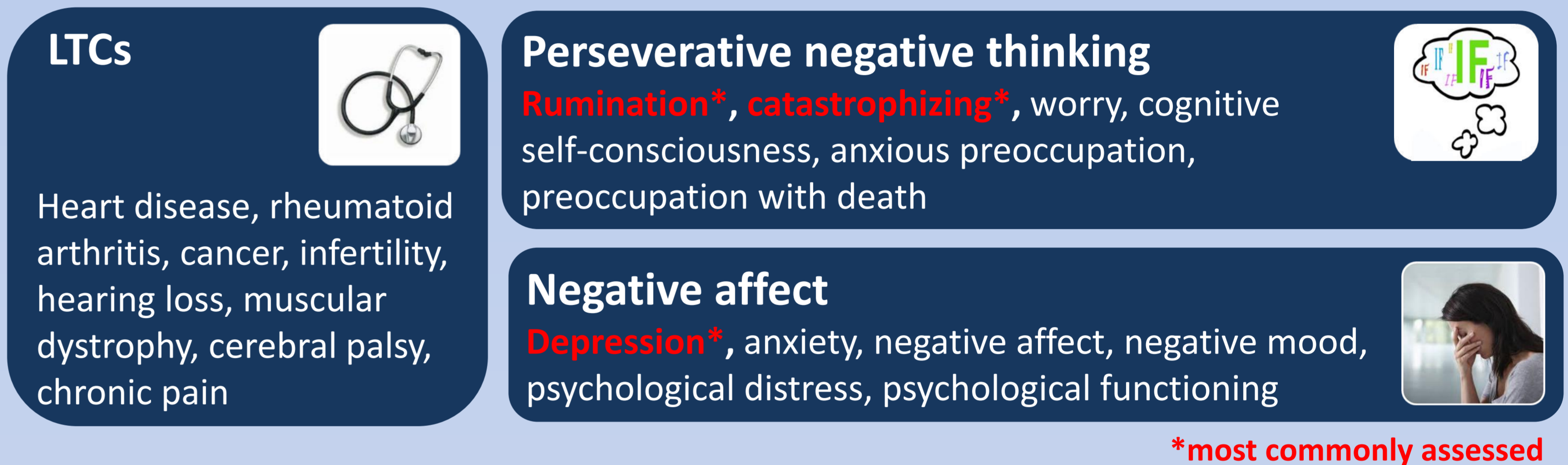
## Results



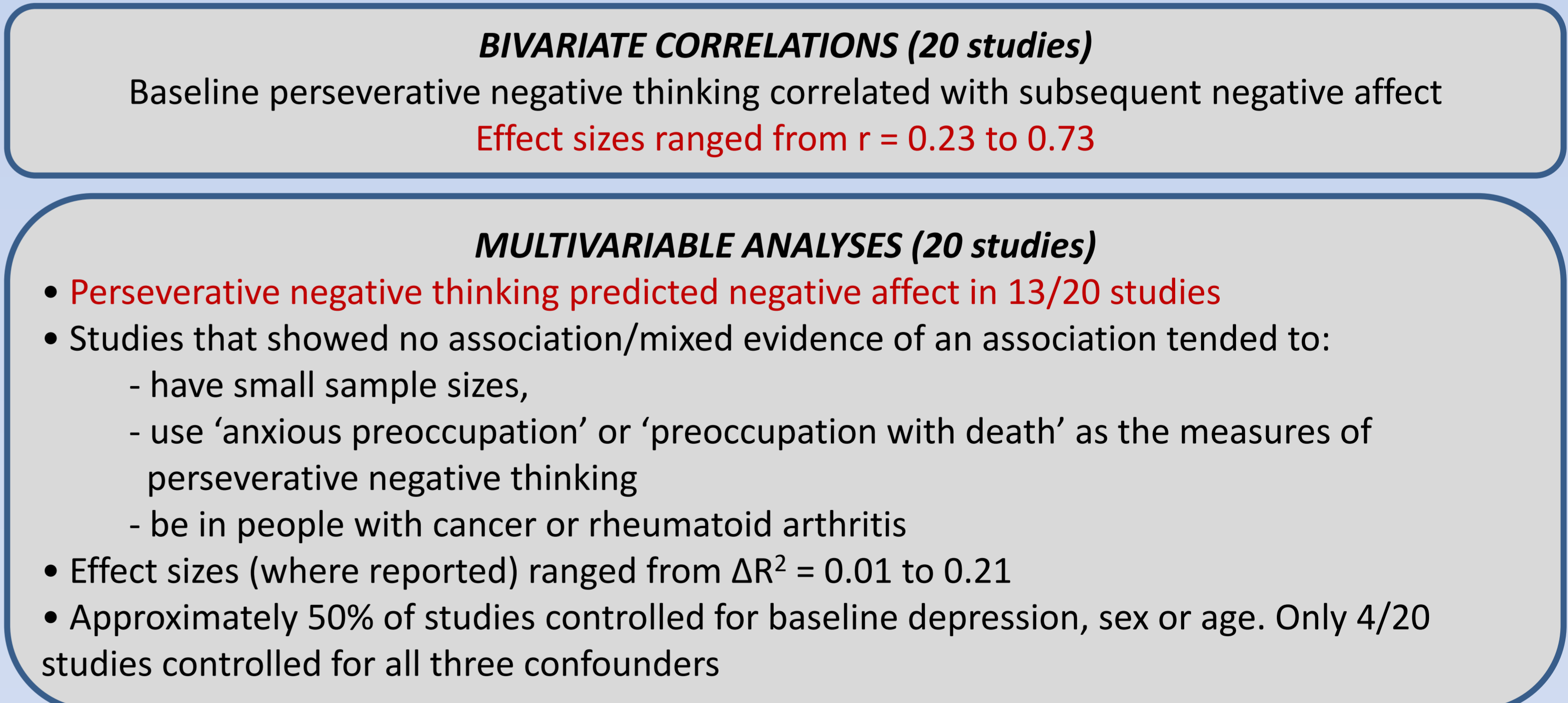
### CHARACTERISTICS OF INCLUDED STUDIES:

25 observational prospective cohort studies were identified. Sample sizes ranged from 22 to 506 (mean = 146) and comprised approximately equal numbers of males and females, with a mean age of 52 years. Baseline assessments were made within the first year post-diagnosis, and up to 13 years post-diagnosis. Follow-up assessments ranged from within a few days and up to 2 years post-baseline.

Figure 3: Populations and constructs identified



### FINDINGS OF INCLUDED STUDIES:



### RISK OF BIAS:

Studies were moderate or weak quality. Quality issues related particularly to selection bias and dropouts. Sample sizes were small in some studies. There was variability across studies in the number and nature of confounders controlled for.

### GAPS IN THE LITERATURE:

Few studies included physical outcome measures. Also, measures of both rumination and worry were not taken in the same studies so the specificity of the association between worry & rumination on the one hand, with depression & anxiety on the other, is unclear.

## Conclusion

The majority of studies identified provide support for the prospective association of perseverative negative thinking with subsequent negative affect in people with LTCs. However, research in this area is sparse and of limited quality.

Further prospective research is warranted to indicate whether perseverative negative thinking is a relevant target for treatment of depression and anxiety in people with LTCs.

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