CRD summary
This well-conducted review found only weak evidence to support the effectiveness of treatment agreements and drug testing in reducing opioid misuse in patients with chronic pain. The authors’ conclusions reflected the limitations of the evidence and are likely to be reliable.

Authors’ objectives
To evaluate the effectiveness of opioid treatment agreements and urine testing for reducing opioid misuse in outpatients with chronic non-cancer pain.

Searching
The authors searched MEDLINE, PsycINFO, EMBASE and the Cochrane Central Register of Controlled Trials (CENTRAL) to June 2009. Search terms were reported. The search was limited to articles published in English, Spanish or French. The authors also reviewed reference lists of included studies, consensus statements and review articles, and contacted experts in the field to identify additional studies.

Study selection
Studies of any design that evaluated opioid misuse after implementation of treatment agreements or urine drug testing in outpatients with chronic non-cancer pain were eligible for the review. Studies had to have at least 50 participants. Participants had to be prescribed opioids for at least three months or be receiving opioid treatment described as long-term or chronic. Studies performed in emergency departments and studies of people with cancer-related, acute or postoperative pain were excluded.

Opioid misuse outcomes included behaviours defined as aberrant or indicative of abuse, misuse or diversion, or results of urine drug tests.

Included studies were performed in pain clinics or primary care. Most evaluated treatment agreements with or without urine testing; one study evaluated urine testing alone. Patient characteristics varied between studies; some studies included participants with a history of substance abuse. Follow-up or observation, where reported, ranged from three months to four years.

Two reviewers independently selected studies for the review.

Assessment of study quality
Studies were assessed and scored based on characteristics of the sample (maximum 3 points), design (maximum 12 points) and a global assessment based on the GRADE (Grading of Recommendations Assessment, Development, and Evaluation) system, with a maximum 4 points. Overall scores were used to rate quality as excellent, good, fair or poor.

Two reviewers independently assessed validity and disagreements were resolved by a third reviewer.

Data extraction
Two reviewers independently extracted data using a standardised form. For controlled studies, data on numbers of participants and outcomes in each group were used to calculate absolute risk reductions and 95% confidence intervals (CIs) for opioid misuse in the intervention versus the control or comparator group. A continuous outcome variable was converted to a dichotomous outcome for one study.

Methods of synthesis
A narrative synthesis was presented which discussed controlled and uncontrolled studies separately. Differences between studies were presented in tables and discussed in the text.

**Results of the review**
Eleven prospective or retrospective cohort studies, with approximately 3,155 participants, were included in the review. Four of these (1,426 participants) included a control group. Seven studies were rated fair for quality and four were rated poor.

All the controlled studies showed decreases in opioid misuse in the intervention groups. Absolute risk reductions ranged from 6.5 (95% CI 1.3 to 11.7) to 22.9 (95% CI 17.3 to 28.7) percentage points. In the uncontrolled studies, the proportion of patients with opioid misuse after intervention ranged from 3% to 43%.

**Authors' conclusions**
There was relatively weak evidence to support the effectiveness of treatment agreements and drug testing in reducing opioid misuse in patients with chronic pain.

**CRD commentary**
The review question and inclusion criteria were clear. All study designs were eligible but the authors excluded the weakest studies by requiring a minimum of 50 participants. The search covered a number of relevant databases and other sources. Some language restrictions were imposed, which meant that relevant studies may have been missed. Risk of publication bias was not assessed. Study selection, validity assessment and data extraction were performed by two independent reviewers, minimising the risk of reviewer errors or bias.

Quality was assessed using appropriate criteria for observational studies and the results were used in the synthesis. Relevant details of included studies were presented. A narrative synthesis was appropriate in view of the heterogeneity of the included studies.

The authors' conclusions reflected the limitations of the evidence and are likely to be reliable.

**Implications of the review for practice and research**
**Practice:** The authors did not state any implications for practice.

**Research:** The authors stated that further research is urgently needed to assess risk reduction strategies for opioid misuse, particularly in primary care. Studies should use standardised measures of misuse, ideally associated with clinical outcomes, and should assess potential harms as well as benefits of the intervention.

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Record Status
This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.