"Profits before people": a systematic review of the health and safety impacts of privatising public utilities and industries in developed countries
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CRD summary
This well-conducted review of the effects of government privatisation policies on health and safety found that privatisation-linked redundancies and down-sizing may result in the deterioration of physical and mental health. The authors appropriately concluded that there was no consistent evidence of privatisation affecting injury or fatality rates, but further robust evaluation studies are required.

Authors' objectives
To establish the evidence for alleged effects of government privatisation policies on the health and safety of employees and the public.

Searching
The following databases were searched from 1945 (or inception if later) to February 2003: ASSIA, Business Source Premier, CORDIS, Dissertation Abstracts, ECLAS, EconLit, EMBASE, GEOBASE, HMIC, Index to Theses, IBSS, JSTOR, MEDLINE, PAIS, PapersFirst, Planex, PsycINFO, REGARD, RePEc, Social Sciences Citation Index and Sociological Abstracts.

Example search terms were reported in the paper and the full strategy is available from the corresponding author. Bibliographies, reference lists and websites were searched manually, and experts in the area were contacted.

No language restrictions were applied.

Study selection
Studies that evaluated the health of populations before and after the privatisation of public sector industries and utilities were eligible for inclusion. Eligible health outcomes included measures of physical or mental health, injuries or absenteeism, and were gathered through self-report or routine data collection.

Eligible study designs included experimental and quasi-experimental studies, both quantitative and qualitative. Interrupted time series (ITS) analyses were also included. Any population whose health could be affected by privatisation were considered to be eligible for inclusion. Studies had to be located within developed countries to enable comparisons between comparable situations.

The included studies were diverse. Overall, they assessed the psychosocial and physical health of staff, and the health and safety of the public, following privatisation of the following organisations: civil service department, water industry, gas industry, electricity industry, rail industry, bus industry, coal mines, paper factory and cement companies.

One reviewer performed the initial screening and two independent reviewers assessed the remaining full-text articles. Any disagreements were resolved by discussion.

Assessment of study quality
Two reviewers assessed validity using a combination of criteria from previous systematic reviews of complex interventions and published checklists. ITS studies were assessed using criteria adapted from the Cochrane Effective Practice and Organisation of Care Group.

Experimental studies were assessed as meeting or not meeting the following criteria: prospective; appropriate comparison group; representative sample; all intervention groups exposed (uncontaminated control group); baseline response; better than 60% follow-up; adjustment for non-response and drop-out; appropriate statistical tests; exploration of or adjustment for confounding interventions; conclusions substantiated by the data.
ITS studies were assessed as meeting or not meeting the following criteria: clearly defined intervention point; 3 or more data points before and after the intervention; no concurrent interventions; intervention unlikely to affect data collection; objective or blinded outcome measurement; reliable or accurate outcome measurement; data sets describe 80% or more of the participants; rational explanation for intervention effect; rationale for number and spacing of data points used; appropriate time series analysis used.

**Data extraction**
Odds ratios expressing the risk of impact on health, or exact p-values, were extracted or recalculated where possible. One reviewer extracted the data and a second reviewer checked the extraction.

**Methods of synthesis**
A narrative synthesis was used in this review. The studies were grouped according to their outcomes (psychosocial impact, injuries) and the validity of the study referred to when reporting the overall results.

**Results of the review**
Eleven studies were included in this review: 3 prospective cohort studies (two contained cross-sectional elements) and 8 ITS studies of routinely collected data. Given the nature of the data, it was not possible to calculate the numbers of participants.

The validity assessment suggested that the cohort studies were of reasonable quality, with all of them meeting at least half of the quality criteria; in particular, one controlled element met all of the criteria. No studies met all the ITS criteria, and 6 studies met less than half.

Privatisation and psychosocial health impacts: 3 studies evaluated this outcome. The most robust study (prospective controlled) found an overall increase in measures of stress-related ill health and self-reported morbidity in the period immediately before privatisation. Following privatisation, insecurely employed or job seeking employees experienced increased psychiatric morbidity and visited their general practitioner more than securely employed colleagues. A prospective cohort study found increased stress indicator scores for clerical and administrative staff 8 months after privatisation (p=0.018) compared with a month before privatisation, but there were no significant differences after 20 months. A controlled repeat cross-sectional study found no differences between privatised and control groups in occupational stress indicators, but a further cross-sectional comparison suggested a positive relationship between ill-health and extent of privatisation: increased levels of privatisation were associated with increased levels of ill-health.

Privatisation and injuries: 8 ITS studies used routinely collected data before and after privatisation, but several did not report details of their statistical testing or results. One study of train crash fatalities found a higher incidence in the post-privatisation period, but the reviewers suggested that this might be a result of random clustering rather than privatisation per se. Three studies of bus privatisation overall found a decrease in injuries after privatisation but with various contributory factors. The remaining 4 studies were poorly conducted and reported, and showed no reliable evidence that privatisation impacted on employee injury rates for the UK water, gas, electric and mining industries.

**Authors' conclusions**
Privatisation-linked redundancies and down-sizing may result in the deterioration of physical and mental health, as is common with other redundancies. There was no consistent evidence of privatisation affecting injury or fatality rates, but the available research was of a poor standard. Robust evaluation studies are needed to provide evidence in an often contentious area of ideological debates.

**CRD commentary**
The review question was clearly expressed and the inclusion criteria were adequate to capture this broad topic. Extensive searches were carried out across multiple sources and are likely to have retrieved all relevant material. The study selection and data extraction processes were carried out robustly, thereby reducing the chances of error. All studies were assessed for quality and validity, with these being taken into account during the synthesis. The narrative synthesis was appropriate given the wide variability in study designs, settings and outcome measurement. The reviewers' conclusions clearly follow from the evidence presented in the review, and the review itself appears to have been well-
Implications of the review for practice and research
Practice: The authors did not state any implications for practice.

Research: The authors stated that policy makers and researchers should work together to evaluate the health impacts of privatisation and build a suitable evidence base. Evaluations should include prospective, controlled designs with appropriate follow-up duration.

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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.