Table 3: Examples of problems in industry-sponsored clinical trial design

Problem	Examples
Inappropriate comparator	A meta-analysis evaluating the effect of fluconazole in neutropenic cancer patients found that in some trials the drug was inexplicably compared against nystatin, which is considered ineffective. Moreover, in three arm trials comparing fluconazole to nystatin and to oral amphotericin (a poorly absorbed and ineffective drug), the latter two groups were inexplicably combined post-hoc into a single group, biasing the results in favor of fluconazole.[24]
Inappropriate use of surrogate end points	Many drugs approved on the basis of surrogate outcomes have later been found to cause previously unsuspected harm (in some cases death), e.g. aprotinin, clofibrate, encainide, erythryopietin, estrogen/progestin, flecainide, flosequinan, fluoride, ibopamine, milrinone, moxonidine, and rosiglitazone.[25]
Selective publication (or suppression) of results and misinterpretation of results	Of 74 antidepressant trials conducted on drugs that were approved by the FDA from 1987 to 2004, 31% were not published. Whereas positive trials were mostly published, many negative or equivocal trials were either not published, or published in a fashion that contradicted the FDA's interpretation of the results.[26]
Inappropriate cessation of trials	Pharmaceutical companies sometimes stop clinical trials prematurely for purely commercial reasons, which has negative scientific effects and violates ethical precepts of responsible research.[27]
Preponderance of positive results and conclusions	According to a meta-analysis of 75 studies, industry-funded clinical trials are more likely than those not funded by industry to find positive results and reach conclusions favouring the study drug.[28]