Advocates of RCTs in education should look more closely at the differences between medical research and education research

blogs.lse.ac.uk/politicsandpolicy/theres-no-such-thing-as-a-free-rct-a-response-to-goldacre-and-gove/

4/16/2013

Neil Davies *reflects on recent debates about randomised controlled trials (RCTs) and education research. While the renewed attention given to education is certainly welcome, the focus on RCTs has obscured the crucial differences between medical research and educational research, with the latter being chronically underfunded.*

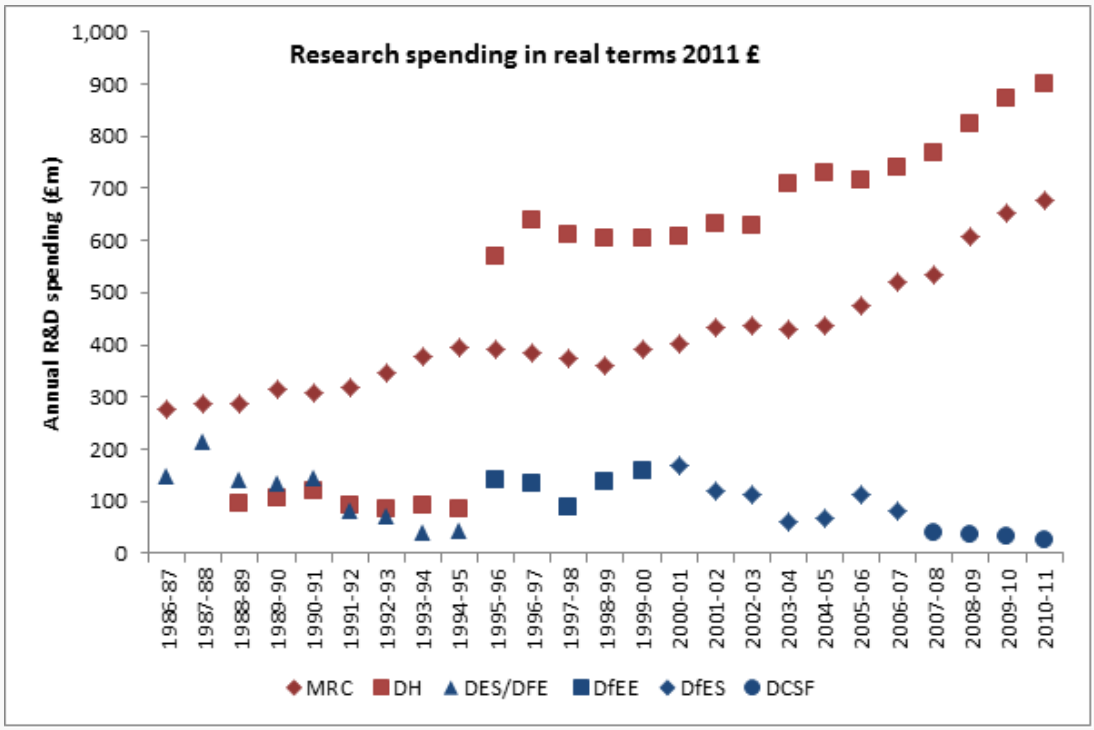
How much does the government spend on education research? How much should they spend on research? These questions have been unusually prominent since Ben Goldacre recently published an interesting policy paper on the value of high quality experimental evidence in education. Goldacre was keen to highlight the Educational Endowment Foundation, set up by the Department for Education, which is funding a series of randomised controlled trials in schools.

In some ways Goldacre's paper is hard to disagree with. There are so many unanswered questions in education. What is the optimal class size? Should schools set by ability? Should teachers have performance related pay? How much does teacher quality matter? Well conducted randomised trials are a great way to answer these questions and discover the best ways to teach and learn. But Goldacre's paper raises more questions than it answers: why has medical research been so much more successful in using experiments than education research?

Goldacre argued that differences between medical and educational research are due to cultural differences in research methodologies. He argued that educationalists prefer qualitative research and are reluctant to test their beliefs, whereas medics prefer quantitative science. He suggests that recent policy developments, such as the Educational Endowment Foundation are helping improve the standards of British research into education.

However, I think this issue is a bit more complicated than he makes out. In research, as in life, you get what you pay for. How much should we spend on research? Well, the European Commission's growth strategy sets a target of 3% of GDP to be devoted to research. Medical researchers from Bradford Hill and Doll to Ramakrishnan and Goldacre have been generously funded by the Government since the Medical Research Council (MRC) was set up in 1913. In 2011 the British government still invested heavily in medical research, investing around £679m through the MRC and £901m via the Department of Health. This is relative to the NHS budget of £104bn. This relatively high level of funding has been hugely productive (29 Nobel Prize winners and counting) and has been sustained for many years. Partly because of these historic government investments, Britain also has world leading pharmaceutical companies, who invest even larger sums in research and development in the Britain. The success of medical research in Britain reflects government investment over many decades.

How does this compare to research spending in education? Central government spent around £56.4bn on education in 2012. Did they spend anything like 3% (£1.7bn) of that on educational research? As you can see below, not only do we spend far less on education research, the disparity in research funding between education and health has never been greater. The graph below plots the spending on research by the Department for Education and its predecessors (blue) and spending on research by the Department of Health and the MRC (red).



Note: Prior to 1995 the spending on research and development by individual hospital trusts was not included in the figures for health spending.

In 2010-11, the Department for Education spent £27m on research, or 0.05% of education spending. Whereas the Department of Health spent 33 times as much: equivalent to 0.88%, of health spending. Is it any wonder that British medical researchers have produced far more research and are far more likely to use expensive randomised trials than researchers in education? Given this long term bi-partisan neglect of funding for research in education, you might think I would welcome any extra funding due to the Educational Endowment Foundation.

Unfortunately, the Department for Education has also further reduced its spending on research to £12.1m in 2011-12, and expects to spend around £9m in each of the following three years. Thus, even including the £10m spent by the Educational Endowment Foundation, total research spending by the Department for Education actually fell by around £5m last year.

So does the Secretary of State for Education have a “huge enthusiasm” for rigorously evaluating policy, as Goldacre claims? His decisions over spending and the commissioning of policy papers suggests that, like his predecessors, he cares more about appearing interested in evidence rather than actually committing to invest any serious money on gathering it. In comparison, the Department for International Development spent £90m on a single randomised trial in the Democratic Republic of Congo. To put this in context, they spent more on a single trial in Africa than the Department for Education will spend on all its research over this entire parliament. Put in even more perverse terms, Britain spent 150 times as much (£3.3bn) on agricultural subsidies , as it did on research in education in 2012. You might be thinking that food is more important than education, so it’s right the government subsidises it. But that’s a short-sighted assessment.

Food is what economists would call a private and excludable good. This means that businesses can produce food and sell it for a profit. They can stop anyone who doesn’t pay for their goods from buying them, so private markets produce just enough food for everyone. In contrast, researchers’ discoveries are normally public goods. Once they publish their research, researchers can’t control who uses it. Consequently, researchers rarely receive much of the total benefit society receives from their ideas. For example, Bradford Hill, funded by the Medical Research Council in 1948, helped demonstrate that streptomycin, an anti-biotic, was an effective treatment for tuberculosis. The entire world benefited from this knowledge, yet Bradford Hill merely received his salary as a researcher. Consequently,

absent of government intervention, far less research will be done than would be optimal for society as a whole.

Private markets generally produce just the right amount of food, and they also generally fail to provide enough public goods, like research. Thus, government subsidies for farmers merely benefit farmers and land-owners at the expense of tax-payers. Governments funding for public goods like research can make everyone better off.

Research in education, even more so than in medicine, is often a public good. Individual schools or hospitals will not do this research on their own. Why would they pay for research, when most of the benefits would go to others? Patents allow pharmaceutical companies to capture some of the total benefits of their research. This provides them with an incentive to invest in developing new drugs; whereas currently most educational research is impossible to patent. So ultimately, much of the funding for research in education must come from the state.

Michael Gove may welcome the Goldacre's sensible suggestions for evaluating interventions in education. But talk is cheap and the only credible signal that the Department for Education takes research and evidence seriously is if they commit a sufficient proportion of their budget to funding it.

Note: This article gives the views of the author, and not the position of the British Politics and Policy blog, nor of the London School of Economics. Please read our comments policy before posting.

About the Author

Neil Davies *is a researcher at the University of Bristol in the MRC Centre for Causal Analysis in Translational Epidemiology.*