Public service value: better evidence can revolutionise effectiveness and cut costs

Jonathan Shepherd

Never before, perhaps, in peacetime, has there been such a need to take a long hard look at how evidence is produced and published. Government is taking radical steps to cut costs. Local and health authorities and police commissioners need to make decisions on the basis of outcomes and value for money about which services should be funded. Reliance on evidence about what works and what's worth the money is key to success.

Pleas by scientists to preserve science funding have rightly been heeded. But there has been far less interest in making sure that scientific method is applied to finding out what works in education, offender rehabilitation, policing, victim services, welfare reform and crime analysis, for example, and that scientific advances result in public service improvement.

And groundless objections to organised experiment get in the way of crucial public service R&D. It is claimed, for example, that there are greater ethical and political problems with research where outcomes include offending or educational attainment than with health research where they include illness, injury and death.

Properly organised R&D can deliver fast as any student of warfare knows. It has brought us enormous benefits in healthcare and not just new medicines. Day case surgery is a classic example of how good research has delivered better outcomes for patients at less cost. In the last 15 years, numbers of wisdom teeth extractions and grommet operations have been halved on the back of research which found that these unpleasant, expensive procedures often do more harm than good. We also have rigorous R&D to thank for coronary artery bypass grafts, shockwave fragmentation of kidney stones and cognitive behavioural therapy, to name three stars from a galaxy of other healthcare advances. In mental health and heart disease, every pound of public and voluntary research funding invested between 1975 and 1992 is leading to benefits equivalent to £0.39 per year in perpetuity according to a recent AMS report.

So, what does the history of healthcare teach us about how this applied science should be organised to put other services on the same road to improvement?

First, there is the medical school model, which integrates practice, R&D and the education of practitioners. This arrangement ensures that the coal face problems of practice constantly inform the research agenda, that new evidence constantly improves practice and that practitioners are infused with the ethic of evidence based practice. Few public health experiments or clinical trials would have been possible without them. 200,000 experiments in healthcare in the last century dwarf numbers in other public services. This is where healthcare evidence is produced. Without them, NICE wouldn't have enough evidence to publish its guidelines.

Second, medical and dental schools are led by practicing clinical academics, which means that the research they do is designed to solve their clinical problems. Every patient is a motivator to evaluate. With one foot anchored in the university and the other in the clinic, a continuum of knowledge production and transfer is maintained all the way from basic science to patient care and the training of doctors and dentists.

But where are similar learning communities in other public services? Apart from the pioneering University Police Science Institute in Wales, whose work informed the recent Inspectorate of Constabulary report on policing antisocial behaviour, there are no university police schools, no offender management schools and almost no practitioner-academics, for example. The chances of the Justice Secretary's "rehabilitation revolution" seem shrinkingly small without them. One might have thought that the Metropolitan Police College at Hendon is the home of university evaluators, some of them police officers perhaps, but not so. In stark contrast, the Joint Services Command and Staff College at Shrivenham is the home of 40 Kings College London academics.

In education and, staggeringly, also in nursing now, the day a practitioner becomes an academic in a university school is the day they stop practicing with all the detriment that brings to credibility, craft skills and the relevance of their research. Imagine if medicine was organised in such a way! Policy makers rail at the sheer irrelevance and volume of most published education research. Michael Gove, the Education Secretary, is starting out in the right direction with his proposals for teaching hospital style institutions for training teachers and needs to keep to the same compass

bearing. This proposal also answers David Willetts' call for courses to include more work experience.

Evidence has to be generated from organised evaluations in service settings. This evidence needs to be brought together and used to generate practice guidelines. And it needs to be implemented in services by practitioners and their managers. Government needs to ensure that this evidence production line is set up and working well and that its products are highly visible. Evidence quality control is essential. A strategic perspective, public service by public service, is therefore required.

Such an perspective quickly demonstrates shortfalls, particularly in education and crime and justice, almost all of them organisational, alignment and evidence quality control problems rather than funding challenges. We have noted this already with regard to university schools and practitioner –academics. There are also no R&D arrangements akin to the National Institute for Health Research in the NHS. Furthermore, unlike for medicine and engineering, there are no education or crime and justice research councils. This sounds like salami slicing Economic and Social Research Council funds for little useful purpose, but current arrangements are perhaps symptomatic that there is little identification with these funds by these services or a specific strategic direction towards public service and user benefit.

A great deal of public service funding is wasted on low grade evaluations from which almost no reliable conclusions can be drawn; local authorities and police services often commission meaningless before and after comparisons of back of an envelope ideas. The results are rarely subject to peer review or published. How much better it would be if, as in the NHS, evaluations have to be scrutinised for scientific merit beforehand. Garnering all this funding, the recently retired Government Chief social scientist has observed, would probably pay for crime and justice schools.

The opportunities represented by the new fee arrangements in higher education should be capitalised on. University applicants are looking for new, vocational courses in good universities whilst universities are worried about filling places in non vocational courses. What better solution for all than courses in policing and probation for example, which include a degree and professional training as in dentistry and town planning, both hugely popular courses with high employability at the end. The costs would be

transferred from the tax payer to the professionals of the future, and universities would increase their impact. Since research intensive universities would recruit practitioner - academics to run the new courses, R&D capacity would be increased. The proper balance between pure and applied scientific endeavour, as advocated by Richard Burdon Haldane a century ago when he led the development of many of our civic universities, would be restored.

Government has yet to ensure, through the higher education funding councils perhaps, that all major public services have an interface with universities and that services and government departments learn from each other how best to organise evidence production, dissemination and implementation. A public services R&D summit or board, in which R&D expertise is shared, would probably pay handsome dividends. These arrangements would certainly foster natural reciprocal altruism and local social cohesion.

So much for evidence supply, but what about evidence demand? We look again to healthcare and engineering, where, largely prompted by ethical questions about effectiveness and safety, it was practitioners themselves who demanded to know what worked, and set up professional bodies and university schools where they could acquire research skills and experiment.

It was also practitioners who founded journals like the weekly British Medical Journal, dedicated to the succinct publication for busy practitioners of high grade evaluations of practice. Why aren't there household name outlets for education and offender management evaluations? Surely this reflects less commitment to effective practice. William Osler, professor of medicine at Oxford a century ago, faced with legion quack remedies, famously demanded an invasion of hospitals by universities. We have been reaping the benefits ever since.

Clearly, it's not enough to depend on non operational social scientists – at least, in the absence of sustained leadership by professionals. Indeed, practitioner commitment to R&D as manifest by university schools, practitioner-academics and practitioner friendly research journals should perhaps be thought of as defining a profession. Fostering greater professionalism is likely to drive up demand for reliable evidence.

The other main way to drive up demand for evidence is through commissioning on the basis of the best evidence.

Peter Orszag, Director, US Office of Management and Budget, 2009 has said that "wherever possible, we should design new initiatives to build rigorous data about what works and then act on evidence that emerges — expanding the approaches that work best, fine-tuning the ones that get mixed results, and shutting down those that are failing.

This approach is also growing at State level, led by the Washington State Institute for Public Policy governed by a Board of Directors from the legislature, executive and public universities. The Institute's mission is to carry out practical research on policy questions relevant to Washington State.

Similar rigour is necessary here if we are not to see local service commissioners floundering about wastefully in a swamp of ineffective, fervently advocated, even harmful public services. In the face of poor or no evidence, service commissioners at all levels need to practice saying no. The good news is that this is easier now than ever. At the same time, policy makers need to say yes to R&D so that interventions can be properly tested. Most importantly perhaps, public services need to start learning from each other how best to organise this.

Proposals for public services research reform

- Formal R&D arrangements in every major public service.
- Formal links between all major public services and research-intensive universities.
- Research Council functions should reflect public service research needs as well as research community needs.
- Schools and Institutes in research intensive universities to support all major public services
- A Public Services Research Board in which R&D arrangements and expertise are shared.

Jonathan Shepherd is professor of oral and maxillofacial surgery and director of the violence and society research group at Cardiff University. He is a trustee of the Royal College of Surgeons and a fellow of the Academy of Medical Sciences