EVIDENCE FOR THE FRONTLINE

A REPORT FOR THE ALLIANCE FOR USEFUL EVIDENCE

Dr Jonathan Sharples

June 2013

This is a paper for discussion.

The author would welcome comments, which should be emailed to: **jonathan.sharples@york.ac.uk** or **Jonathan.Breckon@nesta.org.uk**

The paper presents the views of the author and these do not necessarily reflect the views of the Alliance for Useful Evidence or its constituent partners.

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ACKNOWLEDGEMENTS

We would like to thank the following for their comments and help with this report: Nick Abercrombie, Jo Casebourne, Bette Chambers, Jonathan Clifton, Robbie Coleman, Kevan Collins, Grace Coles, Marie Conlin, Zoe Elder, Jonathan Haslam, Paul Kelly, Claire Lightfowler, Sue Littlemore, Laura Meagher, Andrew Morris, Estelle Morris, Sandra Nutley, Steve Palmer, Jonathan Shepherd, Sonia Sodha, Kathleen Stokes, Rachel Tuffin. Any errors are, however, the author's own.

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PREFACE

The idea of evidence-based medicine is now deeply ingrained in public expectations of how our health services operate. Evidence-based policing though is still relatively new, which is strange when we are equally concerned with preserving life and promoting safety. The symptoms police deal with are no less important than those presented to the NHS every day, although how we respond to them is very different. If there is a spike in thefts from a city centre we immediately diagnose the problem: it's those new smartphones, it's organised crime, it's insurance scams, it's because of welfare cuts, it's proximity to that hostel. Well, which one is it? Then, too often, we go straight to a treatment: shut down the hostel, target a certain group of people, put an extra 100 officers on duty. Some of those actions may work and some may cause further harm. An evidence-based approach tackles hypotheses systematically, making sure it is underpinned by accurate data (both qualitative and quantitative). It then looks at what has been proved to work in real world contexts. In the world of crime, like education, medicine and other fields, a before-and-after analysis is far too weak. Too many other factors operate on people to make them ill, commit crime or achieve bad grades. Test and control groups are easy but rarely used. Randomised control trials are rare.

The question is, are we happy spinning figures that make us look good but never really make a difference? Integrity has been defined as 'having the courage to face the demands of reality'. For me, an evidence-based approach is the only way to know if we are meeting the demands of reality. Otherwise we are left being naive or disingenuous.

The Society of Evidence Based Policing, like many other groups, is trying to make a difference by using, promulgating and producing research evidence. It's a concept whose time has come, and I am convinced that nothing will stop the progression to a much more professional service, where police leaders embrace evidence as a basis for decision making.

Chief Superintendent Alex Murray
Birmingham East Commander, West Midlands Police
Chair, Society of Evidence Based Policing

Imagine this scenario....

The headteacher of an inner-city primary school is stuck. She has just had a meeting with her senior management team to discuss how they can do more for their struggling readers. On the positive side, everyone has contributed really well and come up with some great ideas. Her deputy has suggested that they should provide one-to-one tutoring, but she cannot be sure that the expense is worth it. The literacy leader is certain he has heard of a scheme that recruits volunteers from the community to do the same thing – he is positive he had read it in a magazine somewhere. The Special Educational Needs co-ordinator thought it might be a problem with the way they are teaching all children to read, and maybe they should look for something that was more effective across the whole school. Now, to add to the confusion, a colleague from a neighbouring school is on the phone, telling her about a really exciting pilot project they are using, which uses a new computer programme to help those who are struggling.

These are the types of questions that are faced every day by schools and colleges across the country, whether they are choosing a new literacy programme, developing a behaviour management strategy, or deciding to introduce a new approach to social and emotional learning. In scenarios like these, research evidence still plays a relatively small part in informing professional decision making, with practitioner's own experience, and that of colleagues, much more likely to influence day-to-day practice. A similar situation might apply to a police sergeant trying to decide on options in a domestic violence case, or a social worker faced with referring a looked-after child. Inevitably, too many important decisions are made by best guesses and are overly influenced by politics, marketing, anecdotal evidence and tradition. This results in classic pendulum swings, where new ideas and practices are enthusiastically embraced, found wanting and abandoned, only to be rediscovered in cycles.

Comparisons around evidence-informed practice in education, criminal justice and social care inevitably turn to medicine and engineering, with good reason. Although not perfect, these fields have developed systems by which they are able to capture and build on the knowledge held within research and practice, so that innovation can stand on the shoulders of previous progress (Shepherd, 2003). Nevertheless, these developments have taken a long time, they have required considerable investment, and, of course, the systems continue to be refined.

This paper explores what can be drawn from the advances in a range of fields to mobilise research knowledge more effectively across social policy and practice. I frame the issue by looking at the individual elements of an effective evidence chain – production, synthesis, transformation and implementation – whilst at the same time considering what needs to be done to integrate these elements more coherently. As well as looking at gaps in current infrastructure, I also pick out some exciting new initiatives and ideas that can hopefully produce tangible benefits for professional practice.

The report draws on the themes raised at the Alliance for Useful Evidence 'Evidence for the Frontline; What Works for Practitioners?' event in Autumn 2012, which included inputs from social care, policing and education,[1] as well as on previous literature, events and seminars that have explored the interface between research and practice.[2]

What is evidence-informed practice?

When trying to clarify what we mean by evidence-based practice perhaps it is easier to start by saying what it isn't. Evidence-based practice is not 'cook book' teaching or policing, nor should it be about prescribing what goes on from a position of unchallenged authority. It is about integrating professional expertise with the best external evidence from research to improve the quality of practice. It is important to remember that there is a huge amount of experiential knowledge that is not captured by research, and, therefore, that an absence of evidence certainly does not mean absence of effectiveness. Hence, whilst the term 'evidence-based practice' has historical relevance, perhaps 'evidence-informed practice' is a more appropriate term (Chalmers, 2005).

One of the important themes arising from the 'Evidence for the Frontline' event in October 2012 was that the demand for evidence must come from a will to advance standards in practice, rather than being a research or policy-driven agenda. Across social policy and practice, research is too often seen as outside of professional practice; something that is done to practice; practice serving research, rather than the other way around. If we compare this again to medicine we see that the communities involved in delivering frontline services are much more infused with a research-facing outlook, so that the people involved in training, research and practice are able to move more fluidly between these different roles.

It is these inherent gaps between research and practice across many of our public services that means mobilising knowledge is so challenging – the wider the gap is after all, the harder it is to bridge. As we discuss below, efforts need to focus on ensuring these two worlds can operate with greater synergy and interaction. The ultimate goal should be straightforward: *to empower professionals with evidence.*

Where is evidence-informed policy? Moves towards decentralisation

It is clear that we have entered a period of decentralisation across social practice, with all parties competing to divest Whitehall of the powers it has acquired over the last 20 years or so. As parties deliver on decentralisation, the focal point of policymaking is shifting, with frontline organisations increasingly making strategic decisions about the provision they provide – what is delivered, how they deliver it and by whom.

Take the example of our headteacher above, deciding on a strategy for struggling readers. Previously, under the guidance of the National Strategies, it is likely she would have supported her struggling pupils through a government initiative called 'Every Child a Reader' – a one-to-one tuition programme called Reading Recovery. One clear advantage of such a centralised approach is that it provides a pathway to get an evidence-based approach working at scale. Nevertheless, schools often felt restricted by such a singular approach and there was a degree of pushback and sceptical uptake.[3]

In the current landscape, schools are granted much greater freedom to pursue their own approaches to teach struggling readers – something that has generally been welcomed across the sector. Yet with this freedom has come increased responsibility to make informed choices, as teachers and commissioners are faced with a myriad of different strategies and interventions to choose from, each with varying levels of effectiveness. In this context, how are school leaders expected to know if the claims made by publishers, colleagues or advocates for a given approach are true? What, or who, can they rely on to give them accurate and tested information about what has been proven to work? The need for reliable and accessible evidence to inform decision making becomes ever more acute.

An additional challenge posed by decentralisation is how to bring research to bear on practice at scale. Decentralisation has, inevitably, led to a range of different networks and affiliations forming in education, including academy chains, teaching schools, free schools and local authority networks. As a result we are seeing a profusion of individual, small-scale approaches to finding and using evidence emerging, and without a coherent overall infrastructure, there is a real danger of duplication and confusion for practitioners. As Ben Levin put it in a recent paper, "Mobilising knowledge for 20,000 individual schools is not an easy task!" (Campbell and Levin, 2012)

BOX 1. SUPPORTING SCHOOLS TO SPEND THE PUPIL PREMIUM

One of the coalition government's flagship policies in education has been to introduce a national Pupil Premium, a policy that aims to target disadvantage by allocating additional funding to schools for pupils on free school meals (£623 per pupil, rising to approximately £1,200 in 2014/15). In the spirit of autonomy, schools are currently free to use the pupil premium as they see fit although, unfortunately, signs are emerging that little of the £1.2 billion allocated in 2012/13 will be spent on activities proven to be best for raising outcomes (Cunningham and Lewis, 2012). This suggests that a purely unringfenced distribution of funding is not working to best effect (something that the Institute for Fiscal Studies predicted as the policy was announced (Chowdry and Sibieta, 2010)).

The existence of the Pupil Premium provides an ideal opportunity to link evidence-based practice with enlightened policy. Through the work of groups like the Education Endowment Foundation, and Institute for Effective Education in York, reliable information is emerging on a wide range of practical approaches that can raise achievement for pupils from poorer backgrounds – tutoring programmes, reading schemes, summer schools etc. A middle path could certainly be struck where government could inform and incentivise the use of these effective interventions without the need for central prescription, leaving room for local choice and adaptations whilst supporting widespread school improvement.

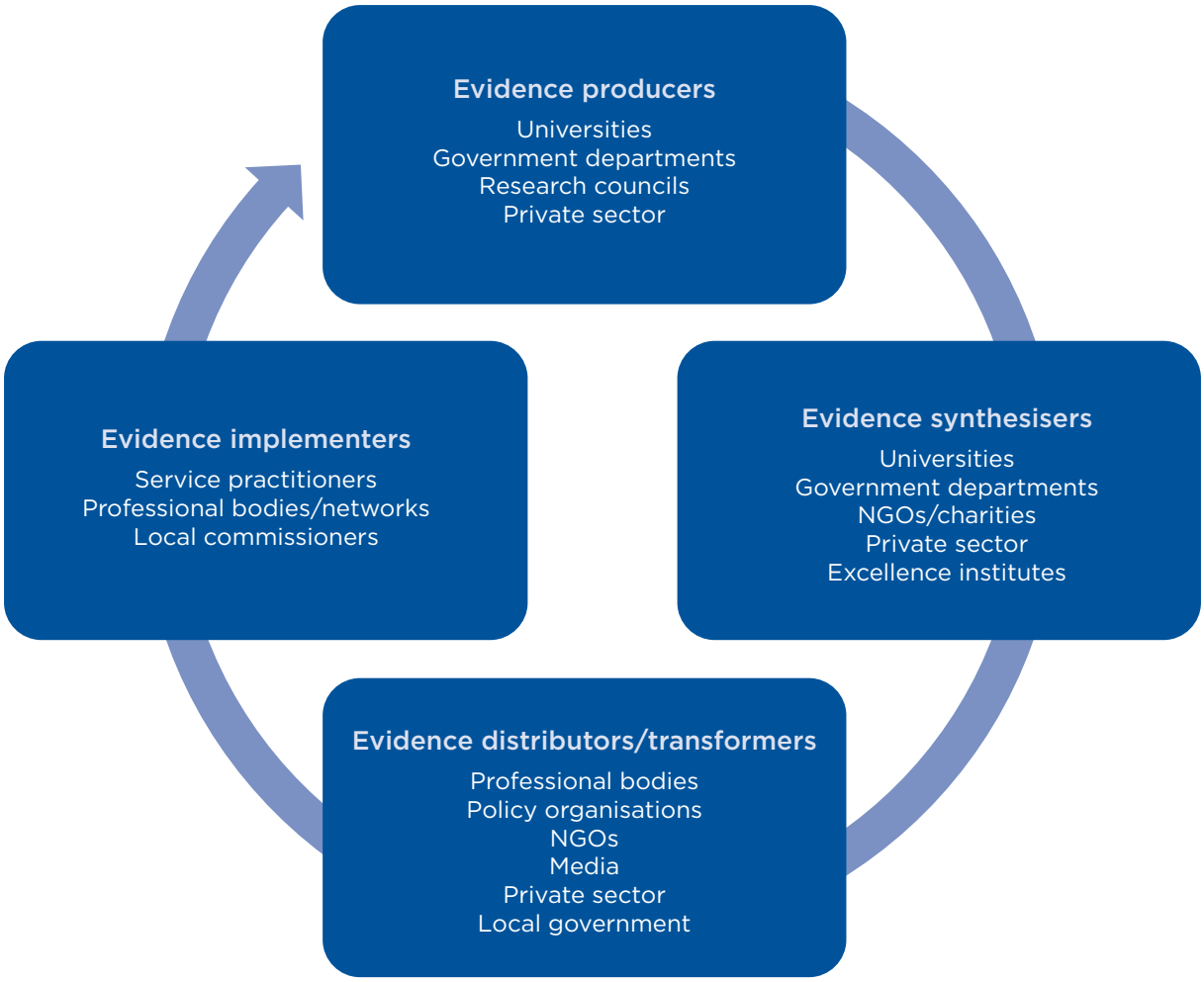
The evidence chain – a connected ecosystem

If we break down the overall process of knowledge mobilisation, we see that it is a relatively complex chain of activities, requiring distinct processes of research production, synthesis, distribution, transformation and implementation all working together (see Figure 1). Therefore, if we are to create effective evidence ecosystems in social practice it is crucial we consider these elements as a whole (Shepherd, 2007a). It is, after all, no use producing world-class research if that research is not accessible for busy professionals. Likewise, increased capacity within frontline services to use research is wasted if there is not a regular throughput of appropriate research in the first place. Indeed, one of the salient features of the medical model is the degree of coherence and integration between the different elements of its evidence-using system – sometimes termed a 'bench to bedside' approach.

Although governments do not necessarily need to provide any of the individual functions supporting research use, they do have a major role in managing the overall system and ensuring that the necessary agents and infrastructure are in place. To reiterate a point made above, this coherence is potentially much more difficult if public services are decentralised and fragmented.

In the next few sections we consider the different elements of the evidence chain and what can be done to better meet the needs of social practice professionals at each of these stages.

Figure 1. **Elements of an evidence ecosystem** (adapted from Shepherd, 2007a)



BOX 2. REDUCING GLASS RELATED INJURIES IN CITY CENTRES – A CRYSTAL CLEAR EXAMPLE OF AN EVIDENCE ECOSYSTEM IN ACTION

Attacks involving glassware from pint glasses and bottles are particularly nasty, with 75 per cent of all injuries being to the face and the majority resulting in significant scarring (Shepherd, 2007b). Faced with this scenario, researchers in the 1990s began exploring ways of ameliorating the problem, by investigating the use of toughened glasses in bars and clubs that would be less likely to injure. One the most influential studies was a community based randomised controlled trial, conducted in public houses across Wales and the Midlands, where bars were randomly stocked with either toughened or non-toughened one pint glasses (Warburton and Shepherd, 2000). The results of the trial were marked, showing a significant reduction in injuries from using more impact-resistant glasses (a 60 per cent higher injury rate with un-toughened glass).

Subsequently, this study, and other research, was synthesised and disseminated through a variety of channels, including academic papers, an evidence briefing note from the NHS, press releases and media campaigns. At the same time, discussions took place with the glassware industry on ways of regulating the production of toughened glass, which collectively prompted a shift to the use of toughened glassware within the UK alcohol retail industry towards the end of the 20th century.

Encouragingly, successive British Crime Surveys before and after this introduction showed a drop of an estimated 80,000 incidents involving the use of glass and bottles as weapons across the UK. Unfortunately, this trend has slipped over recent years – most likely due to a prevalence of poorly toughened glasses and bottles. With recent trials showing that plastic glasses can reduce the risks of injury further, a number of towns and city centres are now going 'glass free' at the weekends (Shepherd, 2007b).

This example shows how high quality research can lead to a direct change in practice, by ensuring equal effort and resources are also placed on communicating, disseminating and implementing the findings. It also shows that these efforts need to be sustained to ensure that the evidence continues to be applied properly, over time.

Evidence production – generating useful evidence for practice

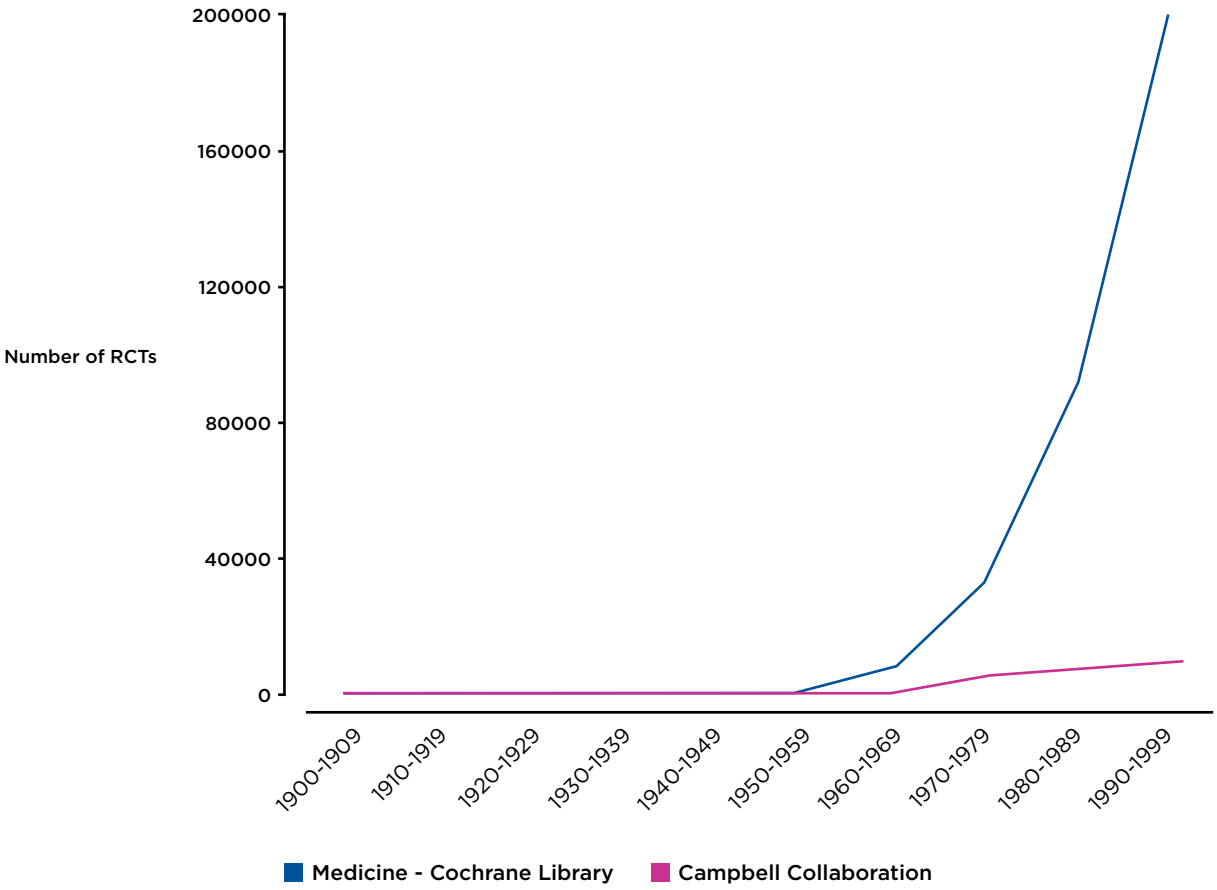
The starting point for an evidence–using culture is, clearly, the production of useful evidence in the first place. As Jonathan Shepherd pointed out at the Alliance for Useful Evidence event on what works for frontline practitioners in October 2012, "there is no point investing in an excellence institute if evidence production is not itself taken care of".[4]

The issue of 'What counts as good evidence?' is contentious, and is something that has dominated discussions in the past, particularly within academia (part of the problem perhaps?!). As others have noted, it is unhelpful to position some research methods as being inherently 'better' than others – i.e. hierarchies of evidence – rather, that what counts as high quality evidence should depend on what is being asked and for what purpose (Nutley et al., 2012).

It is perhaps more useful to start from the position of practitioners' needs, and work backwards to consider how research can be generated that is 'fit for purpose'. If practitioners are interested in how or why a particular approach works, or exploring new innovations, then a broad range of evidence will be useful, including observations, case studies, surveys and other qualitative research. If the question is about measuring effectiveness or impact, then the key evidence is likely to come from quantitative studies, and in particular, experimental trials. This is especially relevant to the fields of social policy and practice, where the complex social issues being studied mean a variety of different research methodologies is essential (Sharples, 2010).

Nevertheless, despite this pluralistic attitude to evidence, a common theme that emerges when speaking to practitioners is the relative shortage of rigorous evidence about 'what works', 'in what contexts' and, increasingly, 'at what cost'[5] (see Figure 2). This has led to growing calls for more Randomised Controlled Trials[6] (RCTs) in social policy and practice, not just from practitioners, but increasingly from academia, policy and media settings (Shepherd, 2003; Chalmers, 2005, Haynes et al., 2012). Whilst more trials should certainly be welcomed, it is important that they are not seen as a research panacea, but rather as a valuable tool to be used at appropriate points within the developmental timeline of an intervention or strategy. See Box 3 – Project Oracle and the 'evidence pipeline'.

Figure 2. **Differences in the number of randomised experiments in social science, education and criminology (Campbell Collaboration) compared to medicine over the last 30 years (Cochrane Library)** (Shepherd, 2007a)



The issue of relevance is not just about methodology though – a key consideration for evidence–informed practice is also about producing research that is directly informed by the questions and interests of service professionals. There is, after all, no point producing great research if it is out of tune with the reality of day–to–day practice.

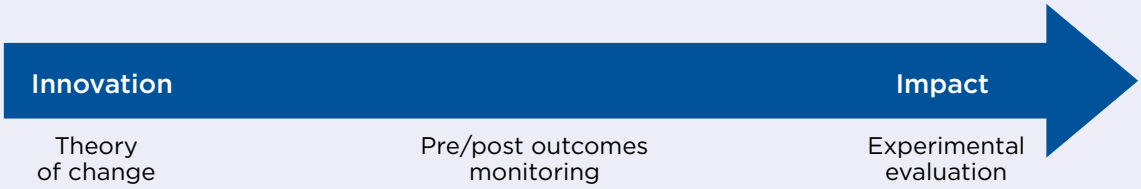
One of the stark differences between medical and social science research is the degree of separation between its researchers and practitioners. The main drivers for evidence production in healthcare are its medical schools, which are not only sources of primary research, but are also at the heart of training, education and frontline provision. As a result, research and researchers are naturally in a position to be informed by the cues and prompts coming from day–to–day practice. Compare this to criminal justice, where social scientists are seen too often – unfairly or otherwise – as non–operational commentators who are out of touch with the realities of real world practice, and as such lack credibility in police and probation services (Shepherd, 2007a).

Significant gains could be obtained simply by ensuring researchers were more embedded in frontline services, doing research that is informed by their practical experiences. It is strange, after all, that most teachers, nurses and police officers stop practising once they move into academia, sometimes losing contact with schools and colleges altogether. Of course, it's a two–way street, and by engaging with practice, researchers are better placed to keep track of the language and context of practice and, thus, are more able to communicate and translate their work.

At the same time, further opportunities for practitioners to get involved in research should also be welcomed, whether this be collaborating with universities and programme developers on research and development projects, or in conducting practitioner research and enquiry of their own. Engagement with research has been shown to be linked to positive outcomes, and having an opportunity to participate in research is likely to create a more naturally research-facing profession (Bell et al., 2010).

BOX 3. PROJECT ORACLE AND THE 'EVIDENCE PIPELINE'

Project Oracle is a programme that emerged in late 2008 to 'understand and share what really works in improving outcomes for young Londoners', recognising the severity of the issues of youth crime and violence across the city. The aim of Project Oracle is to develop an ever-changing evidence base of London-centred interventions that focus on prevention and early intervention (Ilic and Bediako, 2011). Unlike similar initiatives that apply standards of evidence to find 'what works', Project Oracle is not based on a pass-fail system, but rather a sequential process that takes developers on a journey from promising innovations through to large-scale proven interventions. Project Oracle uses five different levels of evidence, developed by the Dartington Social Research Unit, that are appropriate for the different stages in the lifetime of an intervention. They are underpinned by research methods that are relevant for the point of development and the resources available at that stage, beginning with a sound theoretical model and ending with a detailed cost-benefit analysis based on multiple RCT evaluations.



Framing research and development (R&D) in this way recognises that programmes and practices do not become evidence-based overnight. It means you are able to capture not just those approaches with a body of supporting evidence, but also those that are not yet proven, but show signs of success. Crucially, it provides innovators with the necessary space and time to refine and adapt their approaches in the early stages of development, at a point where a large-scale trial may yet show little sign of impact. Dartington Social Research Unit and Project Oracle are breaking new ground in considering how we move innovations up the 'evidence pipeline', not just by doing the right research, but by doing the right research at the right time. Diagram from Little and Sodha, (2012).

Evidence synthesis – pulling together evidence for practice

In 1998, a research paper was published in the leading medical journal, *The Lancet,* which presented apparent evidence of the link between the Measles Mumps and Rubella (MMR) vaccine and autism, striking one of the major public health scares of the last 30 years (Wakefield et al., 1998). Widespread media coverage of this single study at the time led to a dramatic drop in the rates of vaccination across the UK, a subsequent increase in the incidence of measles and mumps, and with this, a rise in the number of deaths and

injuries associated with these diseases (Pepys, 2007). All this, despite a wealth of opposing evidence showing no proven link between the vaccine and autistic spectrum disorders (Demicheli et al., 2012).

In 2010, following a series of damaging revelations around the credibility of the research, *The Lancet* retracted the research paper, and the lead author, Andrew Wakefield, was struck off the medical register. The author of *Bad Science,* Ben Goldacre, went on to describe the incident as one of the "three all–time classic bogus science stories" in British newspapers, with *Time* magazine dubbing Wakefield as one of the 'great science frauds' of modern history (Goldacre, 2009).

This stark example shows clearly the potential for single studies to mislead, even at the level of peer–reviewed research in esteemed medical journals. If you look hard enough across social practice it is usually possible to find research of at least some kind to support most practices and interventions. With this mass of research comes the temptation to 'cherry pick' evidence to back a particular perspective, rather than considering the evidence base objectively as a whole (unfortunately, common amongst our politicians as much as anyone).

Instead of considering individual pieces of research in isolation, it is therefore important to look across similar studies to identify themes and trends that emerge in the data. By doing so, we gain much greater confidence in the overall findings. This next stage in our evidence chain – evidence synthesis – has been covered elsewhere in a number of recent reports for Nesta (Puttick, 2012; Little and Sodha, 2012). In particular, Sandra Nutley and colleagues' excellent paper, *What counts as useful evidence?,* covers the issues and debates around pulling together forms of evidence in detail (Nutley et al., 2012).

Part of their discussion focuses on the role of systematic reviews in synthesising evidence. In short, systematic reviews (and their quantitative cousins, meta–analyses) are types of review that apply a defined set of processes to review evidence in a way that is accountable, replicable and updatable. They often look at huge numbers of studies to identify relevant evidence on a particular theme. For example, a recent review looking at the cost effectiveness of parenting programmes considered over 16,000 individual research studies during the initial stages of the study (Furlong et al., 2012).

Although they are certainly powerful tools for synthesising evidence, systematic reviews are not without criticism, principally that they place an overemphasis on 'what works' information (e.g. RCTs) and, hence, that they can potentially overlook important evidence. For example, in the review mentioned above on parenting interventions, only 13 of those 16,000 initial studies met the qualifying criteria to be included in the main review, with nine of those evaluations focusing on just one specific programme, Incredible Years (see Box 5). Whilst this level of selectivity was necessary in this case to enable a robust analysis of cost–effectiveness, it is a valid question to consider whether other important evidence might have been missed in the process.

Despite these methodological debates, there is room for optimism around synthesising evidence. Groups like the Social Care Institute of Excellence (SCIE), Social Research Unit and the Evidence for Policy and Practice Information and Co–ordinating Centre (EPPI Centre) are making good ground in blending different types of evidence – theory, quantitative, qualitative, practitioner knowledge – in a way that can hopefully provide inclusive, but still reliable, overviews of the evidence. This broader outlook, combined with a growing recognition of the 'evidence journey' that innovations take (see Box 3), should ultimately better serve the needs of professionals.

The job of synthesising research is also at the heart of the new 'What Works Network' of evidence centres launched in March 2013 (Cabinet Office, 2013). Four new independent institutions will 'publish synthesis reports and share findings in an accessible way with practitioners, commissioners and policymakers' (Cabinet Office, 2013). Local practitioners and public service providers are a key audience for the What Works Centres. In crime reduction, for example, a target sector will be the new Police and Crime Commissioners, as well as the Chief Constables and police officers (Cabinet Office, 2013).

Table 1. **Examples of systematic reviews and clearinghouses in the UK**

Cochrane collaboration – www.cochrane.org
Campbell collaboration – www.campbellcollaboration.org
Evidence for Policy and Practice Information Centre (EPPI Centre) – www.eppi.ioe.ac.uk
Social Care Institute for Excellence (SCIE) – www.scie.org.uk
Best Evidence Encyclopaedia – www.bestevidence.org.uk
Blueprints for Europe – www.dartington.org.uk/projects/blueprints-for-success

An important limitation of research reviews for practitioners is that they are still a relatively raw form of information, requiring a degree of interpretation and distillation to draw out implications for practice. So, whilst systematic reviews might pose useful questions and trigger ideas about local need, they often lack the necessary practical details to get approaches working in practice. As Michael Little and Sonia Sodha point out in their recent Nesta paper:

> *"... It will be rare indeed that the information [systematic reviews] can be used as a prescription. Even when it indicates a clear course of action, it will be necessary to engage with the data, to go and talk to those who have developed prevention-based programmes that have an evidence base behind them, and to other people who have tried implementing them. And in some cases, there may not be enough evidence to give a clear steer."*
> **Little and Sodha, 2012**

In other words, high quality reviews are necessary but not sufficient for practice: they need interpreting for guidance and converting into meaningful materials. This leads us on to the next stage in our evidence ecosystem – evidence transformation.

Evidence distribution/transformation – communicating evidence for practice

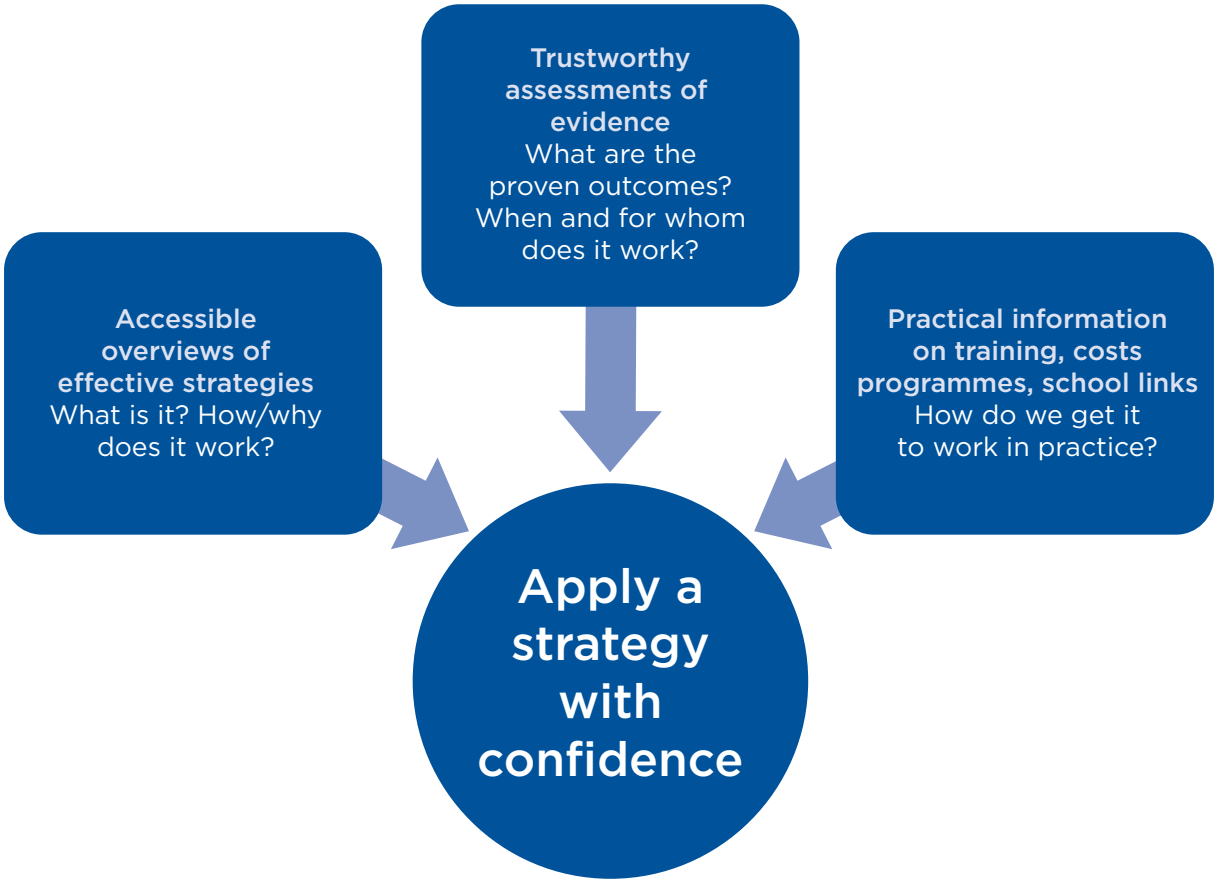
When social practice professionals are asked about the challenges they face in accessing and using research, three barriers crop up almost without fail. Firstly, a shortage of time to engage with research; secondly, an overload of information to process; and thirdly, insufficient contextualised information for practice.

As we have discussed, the process of 'research use' is predicated on the availability of high quality research and reviews that have direct relevance for practice. Nevertheless, as the barriers above suggest, academic research rarely gets used in its original form: a process of knowledge transformation needs to occur to interpret the findings for the context of users.

In addition to understanding the rationale underpinning an approach, practitioners are looking for evidence about impact, clear implications for practice, as well as rich, logistical information on implementation to be able to take the evidence and apply it in real world contexts (e.g. training, materials, costs, management). See Figure 3.

In addition to transforming research for practical contexts, academic papers are often very long, use academic language and contain complex methodology and analyses that are rarely of interest to practitioners (I've been involved in writing a couple of reviews that I doubt anyone has read in full!). So, as well as being practical, research-based materials also need to be effectively summarised, clearly written in appropriate language, and tailored to the audience (teacher, governor, school leader etc.). This itself is a significant task, requiring dedicated time, resources and skills that are not always available, or valued, in the research community.

Figure 3. **Practitioners are looking for a range of different types of information on evidence-based approaches**



Some social scientists have been slow off the mark in translating their research for practitioner audiences, although encouragingly this is changing, with a growing recognition of the distinction between producing and mobilising knowledge. The upcoming assessment of research in UK universities – the Research Excellence Framework – will place a greater emphasis on the impact of research on the economy, society, public policy, culture and the quality of life. As such, there is a concerted effort at present from both universities and funding bodies to consider the use of their research away from the ivory towers.

The activities that transform and disseminate research for practitioner audiences are varied and widespread, and importantly, include significant efforts from outside the academic community. Three types of research–based outputs are worth mentioning in particular:

I. Evidence–based outputs (books, websites, magazines, digests, reports etc.)

Written materials, either in print or online, are an important source of research information for practitioners, as, in general, busy practising professionals are unlikely to read academically–published articles. Consequently, significant effort has been placed on summarising research in accessible articles, books, websites and digests, and making these available to practitioners. Examples in social care include *Prevention Action* magazine; in education, the Institute for Effective Education's *Better: Evidence–based Education* magazine and *Best Evidence in Brief* digest; in policing, established online forums for evidence, such as the Knowledge Bank on POLKA (Police OnLine Knowledge Area).[7]

Communicating research in this way is a relatively straightforward means of disseminating evidence, relying on repackaging research knowledge and 'pushing' it out to the profession. Whilst research–based products certainly help in whetting appetites around exploring the use of evidence, they are unlikely in themselves to result in large–scale shifts in practice (Nutley et al., 2007). Research into knowledge mobilisation suggests that impacts are more likely when resources are supported through interactions and discussions with practitioners about evidence and its use in their particular contexts (see below on Evidence Engagement).

II. Guidance materials from excellence institutes and other bridging bodies

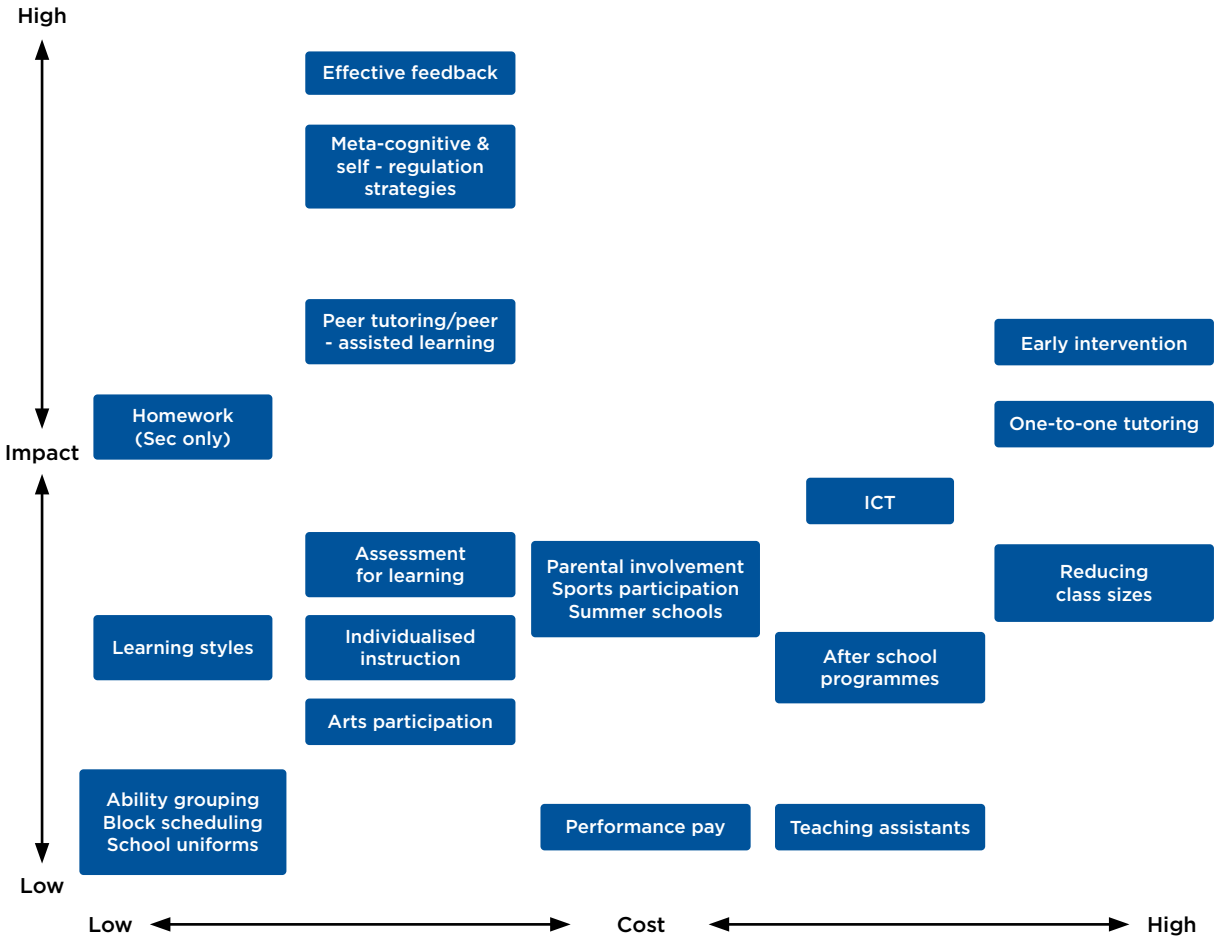
In addition to conducting reviews of evidence, the UK's excellence institutes, SCIE and NICE, also do a significant amount of work in distilling that unprocessed information into practical guidance and supporting materials, and disseminating that information across the diverse social care sector.[8] In this sense, excellence institutes cross the boundaries between different elements of the evidence ecosystem, bringing together functions around evidence synthesis, transformation and mobilisation within single organisations. In criminal justice and policing, the recently disbanded National Police Improvement Agency (functions moved to the College of Policing) has provided evidence–based guidance for practice, along with organisations such as the Universities Police Science Institute in Cardiff. Their 'Sixty Second Briefing' on Signal Crimes provides a nice crisp example of an evidence–based digest for police practitioners, based on a body of underlying research (Innes, 2008).

As with criminal justice, education has no overarching excellence institute operating across the different elements of the evidence ecosystem and pulling together research–based guidance for practice, despite numerous calls to establish such a body (Puttick 2012, Andrews and Morris, 2005). Nevertheless, non–governmental bodies such as the recently formed Education Endowment Foundation (EEF) are filling some of the gaps in providing accessible guidance materials for educators.[9]

One interesting advance from the EEF has been the development of the Pupil Premium Toolkit, an overview of research evidence underpinning a range of common teaching and learning strategies, presented in an accessible, *Which?* style format (Higgins et al., 2011)(see Figure 4). This resource has been accessed widely by schools across the country and is turning out, arguably, to be one of the most influential sources of research information for educational professionals produced in the UK. What has really grabbed the attention of teaching professionals has been the way it moves beyond just identifying 'what works' to also consider 'what works best' and 'what works cheapest'.

It has thrown up some counter–intuitive, and at times controversial, findings, such as the relative cost–ineffectiveness of teaching assistants and of reducing class sizes. Nevertheless, whilst the Pupil Premium Toolkit is useful in mapping productive space for schools to explore in terms of school improvement, in its current form it still leaves decision makers short in terms of how to get those evidence–based strategies into action.

Figure 4. **Material from the Pupil Premium Toolkit, showing the cost–effectiveness of some common teaching and learning strategies** (Higgins et al., 2011; McCulloch, 2011)



III. Clearinghouses of evidence–based programmes

Clearinghouses are different from systematic reviews in that they provide information on specific programmes and interventions, rather than focusing on questions or general strategies (e.g. do social and emotional learning programmes impact on behavioural outcomes?). Traditionally, clearinghouses of evidence–based programmes have been common in the US, where there is more of a programme–based model to public service provision. Nevertheless, over the last ten years there has been a rise in the number of clearinghouses in the UK, detailing evidence–based programmes in areas such as child health and development, youth justice, education and others.

Typically, a clearinghouse will review the evidence for a wide range of interventions by applying common 'evidence standards' and then providing information about those programmes that meet the necessary criteria (e.g. 'proven' or 'promising'). In addition to presenting information about the impact of an intervention, practical details are often included about what outcomes the programme seeks to improve, whom it benefits, in what contexts, as well as details on training, materials and costs.

Whilst clearinghouses have an advantage in providing practical support to applying evidence–based approaches, they often suffer from a shortage of rigorously evaluated interventions that meet the necessary standards of evidence, ultimately resulting in rather sparse catalogues (and accusations of being too exclusive). Again, progressive approaches like Project Oracle should be welcomed in this respect (see Box 3), as by recognising the developmental journey that interventions need to take, they improve the chances of a more regular throughput of evidence–based interventions. Nevertheless, for this process to progress, it is crucial there is increased government and funding council support for more widespread evaluations.

Evidence engagement – discussing evidence for practice

Perhaps one of the most significant shifts over the last ten years in relation to practitioners' use of research has been the realisation that simply passively disseminating research – 'packaging and posting' – is unlikely to have a significant impact on people's behaviours (Nutley et al., 2007, Levin 2011).

Like so many aspects of work, research use is emerging as a largely social process, with interaction and relationships being key factors in determining how evidence gets used and applied in practical settings. Having the opportunity to discuss research helps practitioners gain a deeper understanding and sense of ownership of the findings, and in doing so, enables evidence to be integrated more relevantly and sensitively in professional settings (Cooper, 2010). In this respect, it is unsurprising that network–based approaches, which support direct engagement and dialogue between researchers and users, are proving to be particularly effective (Nutley et al., 2007).

As such, our notion of knowledge mobilisation in social practice requires extending beyond just communicating research, to looking at how it is effectively engaged and applied to practice. Yet whose role is it to focus on this process: the 'development' side of R&D? Traditionally, a large proportion of the evidence for social practice has come through the work of a wide range of intermediaries – third party brokers that bridge the gaps between the creation of research knowledge and its use in practice settings.

These intermediaries are varied, widely placed and loosely characterised, including external bodies such as the media, think tanks and lobby groups, through to practice–facing brokers such as professional organisations, private companies and local government. Indeed, there is no shortage of research brokers in the UK and part of the challenge is mapping and organising these activities in a more coherent manner (Campbell and Levin, 2012). Crucially, despite the importance of intermediary brokers in linking research to practice, there are surprisingly few empirical studies examining their roles and impact – an irony not lost on critics of evidence–based reform.

Traditionally – and some would argue rightly – universities have so far played a relatively small part in this intermediary brokerage capacity, instead focusing on producing and publishing research, rather than directly engaging with research users. Where universities have made efforts to share their work, they have focused more on communication and dissemination rather than interacting with prospective research users. Nevertheless, this may be a wasted opportunity. As part of her research on the role of knowledge intermediaries in education, Amanda Cooper highlights five common characteristics of effective facilitators of research use: i) an understanding of research methodology; ii) a broad overview of the literature; iii) a track record within academia and practice; iv) sound interpersonal skills; v) an ability to translate complex information into meaningful materials for users (Cooper, 2010). Whilst clearly not all academics possess these skills, or are interested in working outside of research, it points to a wider role for researchers in engaging directly with practitioner audiences to help them understand and apply research findings (both their own and others'). This could range from new 'Researcher in Residence' programmes, through to expanding initiatives such as the Economic and Social Research Council's (ESRC) knowledge exchange opportunities. What they all have in common is that they promote greater interaction between research producers, users and intermediaries, which, as research is showing, is where we are likely to get most 'bang for our buck'.

BOX 4. THE EDUCATION MEDIA CENTRE – CAPTURING THE ROLE OF THE MEDIA IN LINKING RESEARCH TO PRACTICE

The national press and media are often an overlooked influence in the evidence ecosystem, given they that play a such important role in communicating evidence and informing both the public debate and professional practice. At the 'Evidence for the Frontline' event in October, Jonathan Shepherd illustrated this point neatly in reference to the formerly controversial practice of removing healthy wisdom teeth. In the early 1990s, media exposure of research into this procedure stimulated widespread public debate at the time ('Millions wasted on wisdom teeth', *The Independent,* 5 September 1993), which subsequently played a major role in engaging dentists and researchers in the issue. Eventually, NICE released guidelines recommending the discontinuation of this practice.

It is examples like these that have been the inspiration behind the development of the UK's first Education Media Centre (due to launch Summer 2013), an independent brokerage body that will provide journalists with an objective perspective on the state of the evidence base in education, in response to current research, news, and policy developments. The Education Media Centre will have no political or research agenda of its own, except to act as an impartial and objective go–between for the very different worlds of media and academic research. The centre will offer a range of services including live evidence briefings, rapid press releases, 'matchmaking' services to identify relevant researchers, and media training for academics. Ultimately, the aim is to raise the quality and availability of evidence that decision makers, teachers and the general public receive through the media.

Evidence implementation – using evidence for practice

For over 150 years, medical professionals have known that handwashing in hospitals is essential to reduce infections, yet, despite being about as cost-effective a procedure as possible, healthcare workers' failure to clean their hands remains a major cause of death in the US, as well as costing tens of billions of dollars each year (Klevens et al., 2007). The problem is not that we don't know what good handwashing procedures are – that's easy – the challenge is getting hospitals to implement these procedures day-in, day-out, across the entire workforce.

If we look at the example of restorative justice in the criminal justice system, we see a similar picture.[10] The evidence in support of restorative justice is clear cut. An extensive body of robust research shows it is one of the most effective and cheapest ways of reducing reoffending and increasing victim satisfaction, yet, as Alex Murray, a Superintendent in the West Midlands police force, points out, restorative justice is "perhaps the most over-evidenced and under-practised tactic" in the criminal justice system (Sherman and Strang, 2007). The fact remains that restorative justice is a difficult and emotionally intense process to apply, and although a lot of people talk about it, it is not embedded at scale across the criminal justice system.

The message from these examples is that if we are serious about developing evidence-informed practice, as much effort and resources needs to be placed on how the evidence is applied as on what the evidence says; what Steve Higgins has termed the Bananarama principle – "It's not what you do it's the way that you do it!"

So how might we support the application of evidence? In 2003, a researcher in Baltimore, faced with the challenge around implementation of handwashing, devised a checklist for handwashing to be used by surgical teams in intensive care units, which led to infection rates dropping from 11 per cent to zero for one type of operation. When a group of Michigan hospitals then trialled these checklists at scale, it cut their infection rates by 66 per cent, saving 1,500 lives and nearly £90 million in just a year and a half (Provonost 2006). The crucial step taken in this case was to package the well-established principles and practices around handwashing into a discrete intervention, containing guidance on who should be doing what, where and when.

It is in this context that evidence-based programmes and interventions have particular value. Whilst evidence relating to particular strategies, say co-operative learning or restorative justice, is certainly useful in terms of guiding practice, it can often fall short in terms of how to apply that evidence in real world contexts. The advantage of evidence-based programmes and interventions is that they can act as vehicles to get evidence-based practices working, in a replicable manner. This builds on research which shows that successful professional development is more likely when it is structured, well defined and supported, rather than leaving professionals to learn about principles of good practice and weave them into their daily routines (Slavin et al., 2011).

Evidence-based interventions are certainly not without their critiques, ranging from professional objections, such as suppressing innovation and 'de-professionalising' practice, through to ideological critiques, such as promoting a market-based approach to public services. These critiques are outside the scope of this report, although they are addressed in detail in Nick Axford and Louise Morpeth's excellent paper, appraising the use of evidence-based programmes in children's services (Axford and Morpeth, 2013).

One of the important themes emerging from these discussions is that simply picking an evidence-based intervention isn't necessarily a guarantee of improved outcomes. Thought and consideration also have to be given as to whether the environment in which an evidence-based programme is being embedded is ready to adopt it, sometimes termed 'programme readiness'. Are there procedures in place to recruit the right participants? Is there suitable infrastructure to support delivery and training? Can the intervention be sustained over time?

At the same time, programme developers need to consider whether their interventions are 'system ready'. Is there sufficient capacity to support implementation of the intervention at scale? Are there tools in place to assess whether the programme is being used as intended? Is there a clear idea of which elements of the programme are core, and which can be adapted to local contexts?

Fortunately, as these questions are being answered we are gaining a much more sophisticated picture of how to embed evidence-based programmes appropriately within public services (Davies et al., 2012). Box 5 looks at the example of Incredible Years, an evidence-based parenting programme that has impacted positively on the lives of thousands of families around the world.

The bottom line on evidence-based programmes is that they should not be seen as a panacea, rather as useful tools in helping professionals apply evidence-based practices. As Michael Little, from Dartington Social Research Unit has highlighted, the use of evidence-based programmes should not preclude the development of evidence-based policies, practices, and processes, all of which are needed concurrently to improve social care provision (Little and Sodha, 2012). Indeed, a challenge ahead – but also opportunity – is to connect these elements more coherently, so that guidance around evidence-based practices is linked clearly to practical interventions that can help get that evidence into action.

BOX 5. INCREDIBLE YEARS – A GRADE 'A' EVIDENCE-BASED PROGRAMME

The Incredible Years series of interventions was developed in the 1970s by Carolyn Webster-Stratton in the US, to reduce conduct problems and enhance child social and emotional well-being. The series comprises interlinked programmes for parents, children and teachers, which can be implemented independently or simultaneously. Incredible Years is a 'model' programme, in that it has an extensive evidence base established through a number of rigorous randomised controlled trials. Positive evaluation results have been found across countries as widespread as Ireland, Norway and Jamaica, demonstrating the robustness and transportability of the programmes to new places and cultures. Part of this flexibility and impact has been attributed to the programme's sensitivity in addressing cultural issues.

The Incredible Years programmes' strong support infrastructure and materials enable replicability of results and implementation, making the programme 'system ready' i.e. practically equipped to be inserted into a 'system' such as a local authority. However, choosing an evidence-based programme with tools necessary for scale up is only part of the solution. Becoming a receptive system takes a lot of hard work, dedication and preparation, as the programme developer outlines below:

> *"Choosing an evidence-based intervention is the foundation, but there are additional necessary tools that adept agencies/organisations must wield to successfully construct an intervention program. Select carefully trained clinicians and ensure they receive co-ordinated and accredited training, coaching, and*

supervision. Construct adequate scaffolding for the program by providing a supportive infrastructure, adequate resources and managerial support. Conduct regular process and outcome evaluations, assuring fidelity of program delivery. Building this stable scaffolding for your program will result in higher levels of clinician fidelity and longer term sustainability."
Carolyn Webster-Stratton

Building capacity in professional settings

So far, our discussion around research use has centred on the responsibility of researchers and mediators to 'reach forward' to practice and transfer their knowledge, but to what extent do professionals also need to 'reach backwards' towards research in order to meet these efforts?

Most social practice settings in the UK – police stations, local authorities, schools, Sure Start centres – lack sufficient capacity and infrastructure to find, share, understand and use evidence appropriately. So, if we are serious about developing research-facing sectors, a concerted effort is needed to build the necessary time, skills and resources within practice to support research use at scale.

This is certainly possible, with the right will. Across the UK there are some excellent examples where professional communities have actively brought in external research findings and expertise to directly improve the quality of practice. In 2008, Cornwall Council enlisted the help of ESRC-funded researchers from Plymouth University to improve training for their social care workforce. Together they developed a new training programme and e-learning package on human rights for social care workers, which now approximately 3,000 staff receive every year.[11] In Wales, the South Wales Fire Service has collaborated with academics from Cardiff University and the local community to develop an intervention that has dramatically reduced the incidence of deliberately started grass fires (Meagher, 2013). In York, the Institute for Effective Education is currently working with the local council to identify a range of evidence-based approaches that can help raise outcomes for pupils from poorer backgrounds across the city.

A common characteristic across all these examples has been that the desire to engage with research has been driven by a practical need – to improve performance, save money, train staff more effectively – rather than external incentives. While incentives to engage with research can certainly help (financial incentives, professional certification, career development etc.) I believe the primary motivation to engage with research needs to be the intrinsic will to advance professional standards.

For example, it has been suggested that groups like Ofsted, Her Majesty's Inspectorate of Constabulary, or other external bodies could play a more involved role in holding practitioners to account for their use of evidence in informing decision making. If history is a precedent, there is a danger however, that this scenario could end up with evidence-informed practice being seen as part of a compliance culture, driven by government, rather than a positive process led by professionals. Recent research on GPs suggests that informal networks or local guidance may be more significant than guidelines from NICE in adopting new drugs based on the latest evidence (Thomas et al., 2013). Professionals who are ahead of the curve in applying evidence and innovation may do so because of more intrinsic or local characteristics, not edicts from 'on high'. It is preferable, therefore, that professional bodies, such as the new College of Policing, or a proposed College of Teachers, play a co-ordinating role in supporting evidence-informed practice, led by practitioners and at arm's length from government (see Box 6).

Activities that could help in terms of capacity building include:

- Initial training and ongoing professional development to equip professionals with the relevant skills to understand their research needs, find relevant resources and apply evidence to practice.
- Recognition for leadership that supports research use within professional settings – allocating time, providing support, modelling research use processes with staff etc.
- Commitment by organisations to collectively use research knowledge to inform practice, as well as support for individual research users.
- Embedding research in the daily work of organisations – in staff meetings, as part of decision making, evaluating interventions and in discussions across professional learning communities.
- Professional networks that can support knowledge mobilisation and share expertise between organisations.
- Formal recognition by professional membership bodies of the status and importance of engaging with research.

BOX 6. THE NEW COLLEGE OF POLICING – MAKING POLICING A MORE EVIDENCE–INFORMED PROFESSION

The College of Policing is a new professional body, launched in February 2013, that "aims to use knowledge of what works well to raise standards across policing". Operating at arm's length from government, the College is part of a new national network of What Works Centres that are responsible for reviewing evidence to inform policy and service delivery across six areas – criminology, education, ageing, early intervention, healthcare and local economic growth. In policing, this will involve conducting new research and analysis to build the evidence base in priority areas such as predictive crime mapping and leadership development.

Whilst this is an important development in itself, perhaps the most exciting aspect of the College of Policing is the opportunity it creates to link research evidence directly to improvements in professional standards. In addition to its research role, the College has a powerful remit to set standards for the police service in terms of training, career development, skills and qualifications. It will have a major role in the training and development of police officers and staff, allowing them to gain greater recognition and reward for accredited levels of expertise, drawing directly on evidence of best practice.

The overall vision of the College of Policing is to provide a means by which everyone working in policing can have a stronger say in charting the future of the policing profession, driven by evidence. Pulling together aspects of research, training and standard setting under one roof in this way is ambitious, with success relying on how well it can engage a profession that has not always been forthcoming to engage with research. If it succeeds, the College of Policing will provide a powerful model that can be replicated in other areas of social practice.

Conclusion – a glimpse of the future....

So, this brings us back to the start of our evidence ecosystem and to the point of research production once more. If the system is working well the cycle continues again, with a new round of innovations being captured by research; these individual studies synthesised through systematic reviews; reviews transformed into useful materials and guidance; skilled intermediaries on hand to help practitioners engage with the evidence; and a variety of 'system ready' programmes available to help apply the evidence at scale.

I finish this report on an optimistic note, with a recent example of an evidence ecosystem in action. In 2010, the organisation I work for, the Institute for Effective Education, published an article by a leading education researcher, Professor Deborah Myhill, in a magazine for practitioners called *Better: Evidence–based Education.* The article, written in educator–friendly language, highlighted an innovative approach to teaching grammar writing in secondary schools, which had been developed by Professor Myhill and her team at Exeter University. Funding from the ESRC had been secured to create a practical intervention, based on the research, and there were promising signs from a mixed–methods evaluation (including an RCT) to suggest that this programme could have a powerful impact on writing outcomes.

At the same time, myself and colleagues at the Institute for Effective Education were developing a brokerage service for schools, where we provided tailored support for senior management teams in accessing research evidence and help in implementing evidence–based approaches. By acting as a formal facilitator – the 'eyes and ears back into research' as one teacher put it – the objective was to provide relevant information and advice that was in line with a school's specific context. During the pilot, the schools highlighted grammar and writing as an area they would like to focus on. Spotting the match, we signposted them to Deborah's work and set up an initial conversation. A productive partnership developed, with researchers working within schools to further develop the intervention, and at the same time providing professional development opportunities for staff.

This example encapsulates many of the ideas and recommendations in this paper – it includes high quality initial research, translation of research into meaningful materials for practice, network–based brokerage, research partnerships in professional settings and evidence–based professional development. Perhaps most importantly, it shows the power of drawing these elements together as part of a functioning evidence ecosystem.

Creating evidence ecosystems across the different fields of social practice in this way requires co–ordinated efforts from a wide range of stakeholders – researchers, practitioners, policymakers and intermediaries – working in unison. Nevertheless, whilst collaboration is important, it is imperative that professionals drive these developments. Yes, policymakers have a responsibility to ensure there is a coherent overall system, and indeed, researchers have a duty to produce high quality research, yet it is frontline professionals who are best placed to act as the guardians of improvements in standards, and should be at the heart of evidence–informed practice.

BOX 7. RECOMMENDATIONS

Research/intermediaries

Research and development (R&D) should be framed in terms of an 'evidence pipeline', which takes developers on a journey from promising innovations through to large scale proven models. This process should be underpinned by research methods that are relevant for the point of development and the resources available at that stage.

Whilst more experimental trials (e.g. RCTs) should be welcomed, they should be seen as valuable tools within the developmental timeline of an intervention or strategy, rather than a research panacea.

Schemes such as the ESRC's knowledge exchange opportunities should be expanded, enabling social science researchers to be embedded in frontline services. Likewise, opportunities for practitioners to get involved in Development and Research (D&R) partnerships with universities should be encouraged.

Knowledge mobilisation activities should be extended from beyond simply communicating research, to considering how it is effectively engaged and applied to practice. A range of brokerage activities, which support interactions between researchers, practitioners and intermediaries, should be funded and evaluated.

Practice

A concerted effort is needed to build the necessary time, skills and resources within practice to support research use at scale. Examples of activities that would help include:

- Wider training and ongoing professional development opportunities to equip professionals with the skills to understand, find, share and use research.
- Recognition for leadership that supports research use within professional settings.
- Commitment by organisations to collectively use research knowledge to inform practice.
- Professional networks that can support knowledge mobilisation and share expertise between organisations.
- Professional bodies, such as a proposed College of Teachers, should be empowered to play a co-ordinating role in supporting evidence-informed practice and setting professional standards, led by practitioners and at arm's length from government. There should be strong attachments to university departments and opportunities for cross-over between academics and practitioners.

Policy

Government needs to ensure there is co-ordination across different elements of evidence ecosystems, including different research databases, programme clearinghouses, dissemination and brokerage activities, as well as capacity building efforts within practice. This is crucial as sectors become increasingly decentralised.

To address inconsistencies in the implementation of evidence-based approaches (e.g. restorative justice, formative assessment), as much effort at the policy level needs to be placed on how the evidence is applied as on what the evidence says. Enterprises such as the Education Endowment Foundation should be expanded and replicated to ensure a regular throughput of proven innovations to help get the evidence working in practice.

REFERENCES

Andrews, R. and Morris, A. (2005) 'Report of the working group on a National Evidence Centre for Education.' London: NERF.

Axford, N. and Morpeth, L. (2013) Evidence-based programs in children's services: a critical appraisal. 'Children and Youth Services Review.' 35(1), 268–277.

Bell, M., Cordingley, P., Isham, C. and Davis, R. (2010) 'Report of Professional Practitioner Use of Research Review: Practitioner engagement in and/or with research.' Coventry: CUREE, GTCE, LSIS & NTRP.

Cabinet Office (2013) 'What Works: Evidence Centres for Social Policy.' London: Cabinet Office.

Campbell, C. and Levin, B. (2012) 'Developing knowledge mobilisation to challenge educational disadvantage and inform effective practices in England.' London: Education Endowment Foundation.

Chalmers, I. (2005) If evidence-informed policy works in practice, does it matter if it doesn't work in theory? 'Evidence and Policy.' 1(2): 227–42.

Chowdry, H. and Sibieta, L. (2010) 'Introducing a pupil premium: IFS researchers' response to government consultation on school funding arrangements.' London: Institute for Fiscal Studies. Available at: http://www.ifs.org.uk/bns/bn111.pdf

Cooper, A. (2010) 'Knowledge Brokers: A Promising Knowledge Mobilization Strategy to Increase Research Use in Education.' Paper presented at the Annual Meeting for American Education Research Association, Denver, Colorado.

Cunningham, R. and Lewis, K. (2012) Teacher Voice Omnibus 2012 Survey – The use of the Pupil Premium. London: Sutton Trust. http://www.suttontrust.com/news/news/pupil-premium-limited-impact-on-poorer-pupils-teacher-survey/

Davies, F.A., McDonald, L. and Axford, A. (2012) 'Technique Is Not Enough – a framework for ensuring that evidence-based parenting programmes are socially inclusive.' Leicester: British Psychological Society.

Demicheli,V., Rivetti, A., Debalini, M.G. and Di Pietrantonj, C. (2012) Vaccines for measles, mumps and rubella in children. 'Cochrane Database of Systematic Reviews.' 2: CD004407.

Goldacre, B. (2009) 'Bad Science.' London: Fourth Estate. p. 283.

Furlong, M., McGilloway, S., Bywater, T., Hutchings, J., Smith, S.M. and Donnelly, M. (2012) Behavioural and cognitive-behavioural group-based parenting programmes for early-onset conduct problems in children aged 3 to 12 years. 'Campbell Systematic Reviews.' 2012:12.

Haynes, L., Service, O., Goldacre, B. and Torgerson, D. (2012) Test, Learn, Adapt: Developing Public Policy with Randomised Controlled Trials.' London: Cabinet Office.

Higgins, S., Kokotsaki, D. and Coe, R. (2011) 'Toolkit of Strategies to Improve Learning – Summary for Schools Spending the Pupil Premium.' Durham: CEM Centre.

Ilic, M. and Bediako, S. (2011) 'Project Oracle – Understanding and sharing what really works.' London: NESTA. Available at: http://www.nesta.org.uk/library/documents/EssayBookWeb.pdf

Innes, M. (2008) 'The Signal Crimes Perspective – A Sixty Second Briefing.' Cardiff: Universities' Police Science Institute.

Klevens, R. M. et al., (2007) Estimating Health Care-Associated Infections and Deaths in U.S. Hospitals, 2002. 'Public Health Reports.' 122(2):160–166.

Little, M. and Sodha, S. (2012) 'Prevention and early intervention in children's services.' London: Nesta. Available at: http://www.nesta.org.uk/library/documents/Nesta_prevention_early_intervention_v11.pdf

Levin, B. (2011) Mobilising research knowledge in education. 'London Review of Education.' 9(1): 15–26.

Meagher, L. (2013) 'Research Impact on Practice: Case Study Analysis.' Report submitted to Economic and Social Research Council. Available at: http://www.esrc.ac.uk/impacts-and-findings/impact-assessment/development-studies.aspx

McCulloch, J. (2011) 'Primary Policy Watch – the pupil premium 'toolkit'.' London: Pearson.

Nutley, S.M., Walter, I.C. and Davies, H.T.O. (2007) Using Evidence: How Research Can Inform Public Services. Bristol: Policy Press.

Nutley, S., Powell, A. and Davies, H. (2012) 'What counts as good evidence?' London: Alliance for Useful Evidence. Available at: http://www.nesta.org.uk/library/documents/A4UEprovocationpaper2.pdf

Pepys, M.B. (2007) Science and serendipity. 'Clinical Medicine Journal.' 7(6): 562–78.

Puttick, R. (2012) 'Why we need to create a 'NICE for social policy'.' London: Nesta. Available at: http://www.nesta.org.uk/library/documents/NICE.pdf

Pronovost, P., Needham, D., Berenholtz, S., Sinopoli, D., Chu, H., Cosgrove, S., Sexton, B., Hyzy, R., Welsh, R., Roth, G., Bander, J., Kepros, J. and Goeschel, C. (2006) An intervention to decrease catheter-related bloodstream infections in the ICU. 'New England Journal of Medicine.' 355(26):2725–32.

Sharples, J.M. (2010) 'Coalition for Evidence-Based Education Position Paper – Spring 2010.' York: Institute for Effective Education.

Shepherd, J.P. (2003) Explaining Feast or Famine in Randomized Field Trials: Medical Science and Criminology Compared. 'Evaluation Review.' 27(3): 290–315.

Shepherd, J.P. (2007a) The production and management of evidence for public service reform. Evidence and Policy.' 3(2): 231–251.

Shepherd, J.P. (2007b) Preventing violence – caring for victims. 'The Surgeon.' 5(2): 114–121.

Sherman, L. and Strang, H. (2007) 'Restorative Justice: The Evidence.' London: Smith Institute.

Slavin, R., Lake, C., Davis, S. and Madden, N. (2011) Effective Programmes for Struggling Readers: A Best-evidence synthesis. 'Educational Research Review.' 6: 1–26.

Wakefield, A.J., Murch, S.H., Anthony, A., Linnell, J., Casson, D.M., Malik, M., Berelowitz, M., Dhillon, A.P., Thomson, M.A., Harvey, P., Valentine, A., Davies, S.E., Walker-Smith, J.A. (1998) Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. 'The Lancet.' 351(9103): 637–41.

Warburton, A.L. and Shepherd, J.P. (2000) Effectiveness of toughened glassware in terms of reducing injury in bars: a randomised controlled trial. 'Injury Prevention.' 6: 36–40.

ENDNOTES

1. Alliance for Useful Evidence seminar 'Evidence for the Frontline; What Works for Practioners?' 23 October 2012 at Nesta, London. Event video available at: http://www.alliance4usefulevidence.org/event/fdsa/
2. Coalition for Evidence-Based Education seminar 'Using Evidence in Practice.' 9 November 2009, at the Institute of Education London. Education Endowment Foundation event, 'Evidence in Action.' 26 November 2012,at the Royal Society London.
3. Science and Technology Select Committee (2009) 'Evidence Check 1: Early Literacy Interventions.' Second Report of Session 2009-10 on Friday 18 December 2009. London: The Stationery Office.
4. Alliance for Useful Evidence seminar, 'Evidence for the Frontline; What Works for Practioners?' 23 October 2012 at Nesta London. Event video available at: http://www.alliance4usefulevidence.org/event/fdsa/
5. Coalition for Evidence-Based Education seminar, 'Using Evidence in Practice.' 9 November 2009, at the Institute of Education, London.
6. A randomised controlled trial involves randomly allocating recipients of an intervention to either a programme or treatment group (who receive the intervention) and a control group (who do not). Outcomes for the two groups are then compared. The value of experimental trials are that they are able to demonstrate causality between a particular approach and a measurable outcome: method x has a direct impact on outcome y.
7. See: http://www.college.police.uk/en/16173.htm
8. The Social Care Institute of Excellence is the most relevant to the social care sector in this respect, although increasingly the National Institute for Health and Care Excellence is looking at issues that cross the boundary between health and social care. See Box 4.
9. Education Endowment Foundation, see: http://educationendowmentfoundation.org.uk
10. Restorative justice involves mediating discussions between victims and criminals.
11. A video interview is available on the ESRC website: http://www.esrc.ac.uk/news-and-events/press-releases/24690/research-improves-social-care-training-in-cornwall.aspx

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June 2013