Introduction

The phrase ‘evidence-based practice’ has increasingly become part of the lexicon in the community services sector, and it is now widely recognised that evidence-based practice has a significant role to play in achieving better outcomes for clients. Additionally, both in Australia and abroad, government and other funding agencies increasingly require at least a proportion of the services delivered by an organisation to be evidence-informed. However, as with many phrases that find themselves in common usage, its meaning is becoming increasingly unclear.

This paper intends to provide a broad survey of the evidence-based ‘landscape’, examining evidence-based programs, evidence-informed practice, the standards of evidence, implementation science and other considerations. It is intended to serve as a foundation for a Life Without Barriers (LWB) evidence-based strategy and as such is descriptive rather than prescriptive in nature.

The audience for this paper is Board members, senior management and anyone else at LWB with an interest in evidence-based practice.

Context and Definitions

The term ‘evidence-based practice’ has been in common use in the medical field since the early 1990s. It was initially used to refer explicitly to a five step process to inform the development of medical interventions (Sackett and Rosenberg, 1995). Since then, the scope of evidence-based practice has widened to include a variety of fields, including social and community services. This expansion has simultaneously refined and expanded the definitions of evidence-based practice to include a variety of conceptual frameworks and standards.

Terminology varies widely in discussions of evidence-based practice, and there is no single, clear set of definitions. The terms evidence-based program, evidence-based practice and evidence-informed practice are regularly used interchangeably, sometimes in the same sentence (see CFCA, 2013). There is also ongoing discussion among experts about the increasing ambiguity around the use of the term ‘evidence-based’ and concern that in many cases, it is used to mean very little at all (cf: Elliott, 2016). However, for the purposes of this paper there are two clearly distinct concepts in the evidence-based practice discussion which require lexical delineation.

As such, for the purposes of this paper, the term evidence-based program will be used to refer to the adoption and implementation of a specific program, with a clear evidence base (the standards for which are defined below), program logic and evaluation protocol. The term evidence-informed practice will be used as a term that encapsulates the interplay between evidence, research, practice wisdom, client preferences and other considerations. Both concepts will be explored in more detail below.

Evidence-Based Programs

For a program to be classified as evidence-based in the strict sense, it must meet several criteria. These are perhaps most succinctly expressed by What Works Wisconsin, part of the industry leading What Works network, in the following:
Evidence-informed Strategy – Research Paper

- Evaluation research demonstrates that the program produces the expected positive results
- The results can be attributed to the program itself, rather than to other extraneous factors or events
- The evaluation is peer-reviewed by experts in the field
- The program is endorsed by a federal agency or respected research organisation and included in their list of effective programs.

(Cooney et al, 2007)

The criteria set about above are largely self-explanatory and widely accepted (CEBC, 2016; Breckon, 2015). The various standards of evidence – what counts as sufficient evaluation research – will be examined more closely in the sections that follow.

The final criterion may, however, require further clarification in an Australian context. In the US and the UK, there are several agencies and research organisations that provide endorsement for programs or practices that have been found to be effective or promising. Many also have an effectiveness continuum – for example, the CEBC rates practice on a scale from ‘Well-Supported’ by evidence to ‘Concerning’ practices that may cause adverse client outcomes (CEBC, 2015). An extensive list of these agencies and research organisations is presented in the resources section at the end of this paper.

Fundamentally, the adoption of evidence-based programs is about ensuring what is done for and with clients actually works. In doing so, however, there are some significant barriers to overcome, more on which later.

Standards of Evidence

In the context of evidence-based programs, there are three principal accepted standards of evidence: Randomised Controlled Trials, Quasi-Experimental Studies and Systematic Reviews (Breckon, 2015; Nutley, Powell and Davies, 2013). These are discussed below.

Randomised Controlled Trials

With few exceptions, the randomised controlled trial (RCT) is considered to be the ‘gold-standard’ of evidence in the scientific community. Australia’s peak health and medical research body, the National Health and Medical Research Council, places it as the second highest level for evidence in scientific research, superseded only by a systematic review of all relevant RCTs (NHMRC, 1999).

At its most simple, an RCT on human subjects takes a representative trial population and separates them into two groups: one that receives an intervention, treatment or program and one that does not. The group that does not receive the intervention is referred to as the ‘control’ group. These groups should in every other way be as similar as possible, and for the most part, the more people involved, the more reliable the results are.

Once the intervention, treatment or program has run its course, the results for the group that received it are assessed to see which, if any, outcomes were achieved. These are then compared to the results of the control group to see whether the outcomes can be attributed to the
intervention, treatment or program and not to chance or other environmental factors. The figure below provides a clear demonstration of how this system would work for an RCT of an intervention for unemployed jobseekers.

(Source: Haynes, Service, Goldacre and Torgerson, 2012)

From this diagram it is reasonable to conclude that job-seekers who received the intervention were twice as likely to find work as those who did not. Extrapolating from this, it can be said that for any unemployed person seeking work, the intervention increases the chance of finding work by 50% and (assuming there aren’t programs with better conversion rates around) is therefore a success. Peer review and successful replication of this RCT would be sufficient to consider the intervention an evidence-based practice.

This is, of course, a simplified version of how an RCT should work – things become far more complicated when actual people are involved. As an example, none of the original population group in the diagram above dropped out of the trial which is a common problem for RCTs in the community service space due in part to the specific circumstances of the participants likely to be involved (CFCA, 2013).

Another complication is that one of the strengths of the RCT in producing scientific knowledge – its tightly controlled experimental conditions – can be a weakness when it comes to translating an intervention into practice. As one might expect, the conditions in the service delivery environment are likely to be very different to those in an experimental environment. This is referred to as the gap between internal validity and external validity – while the results of the RCT might be internally scientifically sound, it may not be reasonable to apply these to external or ‘real world’ service environments and participants (CFCA, 2013).
An internally related issue for the community services space is that the outcomes observed from an RCT conducted in, say, Glasgow or New York, may not be the same as in Melbourne or Manila even if all other conditions of the RCT are replicated. This is due to the fact that there are a variety of social, cultural and other factors at play in the delivery of community services that may not affect the physical sciences (Nutley, Powell and Davies, 2013).

There are also questions around the ethics of using RCTs in the community services context, given that these are usually directed toward more vulnerable members of the community. The ethical considerations are complex and many, but simply put, there is significant doubt as to whether it is ethical to provide no intervention at all or treatment as usual for people in these situations, and particularly when an intervention is known or assumed to be effective. (Cooney et al, 2007) Conversely, it’s unethical and unfeasible to subject participants to something known or assumed to be harmful (Nutley, Powell and Davies 2013)

A compounding issue is that there is not yet enough evidence in the form of RCTs for community service organisations to rely on these solely. It is of little surprise, then, that many of the agencies and think-tanks in the field of evidence-based program implementation warn against relying solely on RCTs as a source of evidence. (Nutley, Powell and Davies, 2013; CFCA 2013; Breckon, 2015)

Quasi-experimental studies

One approach to addressing the issues around RCTs described above is quasi-experimental study design. There are many different kinds of quasi-experimental study design, and most are in principle almost identical to RCTs as they have been described above. The key difference, however, is that there is no random assignation of a control group – rather, already separate groups are assessed comparatively (Harris et al, 2006).

That is, rather than taking a representative population sample and splitting participants into two groups at random, divisions that already exist are utilised to perform a comparative analysis. An example of this would be examining the differences in outcomes between clients on an unavoidable waiting list for a service and those who have made into the program.

A quasi-experimental design helps avoid some of the ethical issues around withholding treatment described above. It can also be useful for instances where randomisation is not possible, such as when performing a study on a large population.

The key drawback of these kinds of quasi-experimental studies is that they cannot always be said to demonstrate that the intervention has caused the outcomes observed. As trial groups are not selected at random, there is the possibility that extraneous factors not related the intervention influenced the result. As such, they cannot be said to have the internal validity of RCTs and generally speaking, most adjudicators would not consider them alone to be sufficient to call a program evidence-based (Breckon, 2015; Cooney et al, 2007). However, multiple well-designed quasi-experimental studies with strong comparison groups that demonstrate positive effects may be sufficient in some cases (Blueprints, 2016; Breckon, 2015).

‘Stepped wedge’ design is another form of quasi-experimental study. This approach is also similar to the RCT, however, rather than completely denying the control group an intervention, the intervention is instead deployed at different intervals, with one group receiving it at the beginning and it being ‘stepped out’ to one or more additional groups over time (Brown and Lilford, 2006).
This too addresses some of the ethical concerns around the RCT, however, there are issues around reporting and the fact that time itself may be a factor in the results that render it subject to the same causal questions as the kinds of quasi-experimental studies described above. (Breckon, 2015)

**Systematic Reviews**

Systematic reviews are studies in which the results of multiple pieces of original research – usually RCTs – are analysed or synthesised, with the end result being a summary of all relevant research findings. This is particularly useful for compiling an evidence base and can mitigate the possibility of relying on a single piece of original research that may have an anomalous or otherwise unreliable outcome.

The key characteristics of a systematic review are that it:

- Has a clearly stated set of objectives with pre-defined eligibility criteria for studies
- Has an explicit, reproducible methodology
- Uses a systematic search that attempts to identify all studies that meet the eligibility criteria
- Includes a formal assessment of the validity of the findings of the included studies
- Produces a systematic presentation, and synthesis, of the characteristics and findings of the included studies.

(HM Treasury, 2011, reproduced in Breckon, 2015)

There is a clear distinction between a systematic review and the less rigorous ‘literature review’. While literature reviews also seek to summarise the research findings in a given area, their lack of methodological rigour and consequent inability for others to reproduce the review render them subject to the selection bias of the reviewer (otherwise known as ‘cherry-picking’) (NESTA 2013).

Reproducibility via explicitness and transparency in methodology and inclusion criteria is a hallmark of a properly-conducted systematic review (SCIE, 2003).
The significant advantage of systematic reviews over single research experiments is of course that they take a broad view of the best available research and analyse the results to provide a wider and more accurate picture of what works. The disadvantage, and this is particularly the case in the community services space, is that they rely on an already existing array of primary experimental research, particularly RCTs. While this is improving, there are still significant gaps in the evidence base, especially in the Australian context (AIHW, 2013). Any evidence-based practice strategy should include a commitment to expand the evidence base and disseminate findings to address this.

**Other Types of Evidence**

There is suggestion that some other forms of evidence can be beneficial. Qualitative research and cross-sectional surveys are examples of these (Petticrew and Roberts, 2007, reproduced in Breckon, 2015). For existing practice, there’s little doubt that these can be vital tools of evaluation to help further build a practice-focused evidence base. They are, however, not likely to be sufficient alone for deciding whether a program is classified as evidence based, and fall well below the mark in most hierarchies of evidence (NESTA, 2013).

This does not, however, mean that programs backed by these levels of evidence are not useful or do not have the potential to be effective. As discussed previously, the evidence base for community service programs remains limited, so relying solely on ‘gold standard’ evaluations is not always an option. Additionally, there are complications around some of the more rigorous standards of evidence that mean they are not always a neat fit for the community service sector.

As such, many organisations dedicated to the promotion of evidence-based practice and programs employ a continuum or rating scale that includes programs that do not meet the more rigid criteria listed above. One example of this is the California Evidence-Based Clearing House for Child Welfare’s [Scientific Rating Scale](https://www.evidencebasedclearinghouse.org/science/rating-scale). This uses a range of criteria that ranks programs in the following order:

1. Well-Supported by Research Evidence
2. Supported by Research Evidence
3. Promising Research Evidence
4. Evidence Fails to Demonstrate Effect
5. Concerning Practice

These still, however, tend to rely heavily on rigorously conducted experiments (CEBC4CW, 2016)

**Implementation Science**

Put simply, implementation science is the study of the means and methods by which to translate research and evidence into organisational policy and practice (NIH, 2016). It is a broad and rapidly expanding field and a comprehensive summary is beyond the scope of this paper – there are, however, some important issues to identify as part the development of an evidence-based strategy.
Program Fidelity

Program fidelity refers to how closely the delivery of a program adheres to the principles and protocols of the original program’s design. To achieve program fidelity, the organisation responsible for delivering the program must match the conditions in which it was designed – and the underlying theory – as closely as possible.

This is a significant challenge in the community service sector given the enormous divergence between locations, clients and needs and the fact that many EBPs are designed to be implemented exactly as designed with little room for adaptation to local needs (What Works Wisconsin; 2013). It may be that one of the criteria for selecting an EBP should be whether or not it has room for adaptation without compromising outcomes.

Program fidelity is one of the key indicators of whether or not an evidence-based program will succeed or fail for real world clients (Durlak, Dupre; 2008). Dr Michael Little, Creative Director of the influential Dartington Social Research Unit observes that ‘to be effective, evidence-based programs have to be delivered with fidelity. This area of science is still developing but most people agree that delivering half a proven model does not reap half of the effects; it will typically reap none’ (Little, 2010).

Organisational Capacity

One of the emerging messages from implementation science is the issue of organisational capacity – or lack thereof – as a common barrier to successful evidence-based program implementation. For example, community services organisations are often large, complex institutions with many moving parts, political allegiances and methods of working, and can also be resistant to change (Little, 2010). Many organisations lack the highly qualified staff required to oversee the implementation of evidence-based programs, or if they are part of an organisation may not be in a position to take on such a role (NESTA, 2013).

There is a growing field of implementation science devoted to expanding the capability of organisations to take on evidence-based programs. These include the ‘Research Effectiveness – Adoption Implementation Maintenance (RE-AIM) framework (Virginia Tech, 2016), the National Implementation Research Network (Frank Porter Graham Child Development Institute, 2016) and the Exploration, Preparation, Implementation, Sustainment (EPIS) Framework (Aarons, Hurlburt and Horwitz, 2011), all of which provide frameworks for ‘preparing the ground’ for implementation within organisations rather than proposing modifications to programs themselves. Crucially, these and other frameworks focus on ongoing program sustainability after implementation as well as the implementation itself.

Scalability

Related to the above is the issue of taking programs to scale – taking a program from a small base and implementing it across a large organisation to reach a majority of clients. This is a challenge for all large organisations – not just the community services sector – and one with no immediate solution. In fact, it has been observed that there is typically an inverse relationship between the quality of outcomes for evidence-based programs and scale at which they are delivered (Little,
Evidence-informed practice is distinct from the uptake and implementation of evidence-based programs in several ways. Where the adoption and implementation of evidence-based programs relies on rigorous implementation standards with little room for deviation from tightly defined program models as described above, evidence-informed practice takes the best research evidence available and integrates it into a broader mode of practice. This approach leaves room for creativity in the adaptation and deployment of service delivery systems. A simple definition of evidence-informed practice in this sense is that decisions about service delivery are ‘informed or guided, rather than influenced solely, by evidence (CFCA, 2013).

The Organisation for Social Work Policy Development adds to this definition that evidence-informed practice ‘combines well-researched interventions with clinical experience and ethics, and client preferences and culture to guide and inform the delivery of treatments and services’ (Social Work Policy Institute, 2016). That is, evidence-informed practice is not intended to be harshly prescriptive and should always take into account practitioner wisdom, delivery context and the wishes of the client or clients involved. This is an important consideration, and one widely accepted in the research literature (CEBC, 2013; NESTA, 2015).

The California Evidence-Based Clearing House neatly illustrates this concept in the diagram below.

![CEBC's Definition of EBP for Child Welfare](image-url)
Very simply put, the delivery of evidence-based programs can be understood as one component of evidence-informed practice.

There are some significant advantages to this understanding of evidence-informed practice. It allows a degree of agility and innovation in service delivery which may not be possible in the more prescribed implementation processes of evidence-based programs. It also helps ameliorate the requirement for standards of evidence that may be out of reach in the community services space. The capacity to draw on the extensive practice wisdom of senior organisational staff is another benefit that cannot be overstated, both from the perspective of enhancing service delivery and for ensuring a harmonious integration of evidence-based services.

Unsurprisingly, there are also some challenges associated with this approach, and some of these will be discussed in the sections below. The primary risk is that the absence of or deviation from a tightly-defined evidence-based program with a rigorous implementation model – leaving room to manoeuvre in the way that services are delivered – may lead to services not having the benefits that they should, or even potentially adverse outcomes. Effectively, this can leave organisations back at square one, no better off than if they did not rely on evidence at all (Nutley, Powell and Davies, 2014). This argument carries particular weight in the current climate, where ‘evidence-based practice’ has in some circles become little more than a buzzword (Eliot, 2016).

Organisational Capacity

In ways similar to the organisational capacity issues for evidence-based programs found in implementation science, an evidence-based practice approach is reliant on organisations having the capacity to enact, and monitor, evidence-based service delivery without necessarily being reliant on the prescriptiveness of evidence-based programs. This requires a good amount of organisation-wide congruity in policies and processes. A related consideration is that in a large organisation, a lack of prescriptiveness around practice expectations can lead to duplication and pockets of the organisation ‘doing their own thing’.

Another issue in this context is that often, community service organisations have several competing priorities, and that evidence-based practice and client outcomes may not always be high among them. Little’s influential genealogy of child protection systems, for example, identifies several other prerogatives that may be in place, such as keeping ‘undesirables’ out of view, maintaining the flow of funding, running a successful business model and not embarrassing the powers that be (Little, 2010). These attitudes can be deeply ingrained in community service organisations and prove difficult to overcome, but must be recognised before progress can be made in increasing organisational capacity (Little, 2010).

Building a ‘Learning’ Culture

Staff supervision by managers and others with an understanding of evidence-informed practice is considered a key feature of enhancing organisational capacity for evidence-informed practice (NESTA, 2014). One aspect of this supervision is ensuring that staff understand why they do what they do. There are several ways of achieving this, including training for supervisors that satisfies the dual purpose of helping them understand the underlying theory behind the services they deliver and how to communicate this to their staff.
Conversely, an environment in which staff want to be better at their jobs and are provided with the material support and encouragement to achieve this is a critical component of organisational capacity building. This taken in combination with quality supervision and learning opportunities is often referred to in the literature as a ‘learning culture’ within an organisation (NESTA, 2016). The benefits of this are multiple, simultaneously achieving a better standard of service delivery, a more highly skilled workforce and an organisation with increased capacity for further development.

A related benefit of building a learning culture around evidence-informed practice and programs is the mitigation of stress and trauma for frontline staff. Due to the nature of the work, secondary traumatic stress (STS) – the emotional duress that results from hearing about or witnessing the firsthand traumatic experiences of others (National Child Traumatic Stress Network, 2011) – is a well-established risk in the community services space, with some research indicating it may effect not just frontline workers to all members of an organisation. Symptoms are compared to Post Traumatic Stress Disorder (NCTSN, 2011).

The adverse effect of these symptoms on employee wellbeing and retention (and, by extension, on our clients) are well documented, and contribute significantly to the high staff turnover and lack of continuity in community service provider sector (NSCTSN, 2011). However, as well as limiting exposure to other’s trauma and increasing physical safety, recent research in the US has demonstrated that supporting staff to increase their capacity and competency and employing evidence-informed practices helps to mitigate STS (Craig and Sprang, 2010 reproduced in NCTSN 2016).

**Program Logic**

A program logic statement is a representation of the relationship between inputs, processes and outcomes in relation to a particular program. It also attempts to provide an insight into the theoretical underpinnings of a program (Kellogg, 2006). While a program logic statement can be amended over time as a practice or program matures, it provides a useful reference point for the outputs and outcomes expected of a program. As such, it helps maintain a relationship between theory at one end, whether it works in practice at the other, and what aspects of service delivery can or should be changed to improve outcomes.

**Outcomes Measurement**

As discussed above, evidence-based programs tend to feature explicitly stated outcomes and the means by which to measure them. This should serve as a guide for an evidence-informed practice approach as well, and is linked closely to the development of a program logic statement. An organisation that refers to its practice as evidence-informed must have outcome measurement processes in place that extend beyond word of mouth or the opinions of staff (Nutley, Powell and Davies, 2013). These can include using research evidence to develop sets of criteria that are known to be linked to positive outcomes and developing data-driven processes to measure them, or utilising qualitative surveys among clients to obtain client feedback.

**Evaluation**

Ongoing evaluation plays a critical role in ensuring that the standards of evidence-informed practice are upheld, particularly where the broader definition is adopted (Cooney et al, 2007).
Having some level of monitoring and measurement processes in place helps safeguard against practice not achieving what it sets out to achieve, and against the organisation providing only lip service to the term ‘evidence-informed practice’.

With that said, it is often well beyond the capacity of community service organisations to carry out the kind of rigorous experimental evaluations described above. However, simpler measures – such as qualitative feedback surveys and non-control group outcomes assessment – may be feasible. Partnering with institutions with well-developed research capacity, such as universities or consultants, may also be beneficial. The Alliance for Useful Evidence has provided a useful illustration of factors that should be taken into account when planning evaluation activities, reproduced below.
Developing the Evidence Base

In addition to testing the effectiveness of practice and programs within an organisation, the evaluation of existing service delivery has the capacity to develop the broader evidence base. Given the abovementioned paucity of evidence, particularly in the Australian context, this presents a significant and worthwhile opportunity to make a contribution to evidence-based practice both within and beyond an organisation. The diagram below neatly displays the steps that can be taken to increase the evidence-base for a given practice or program.

![Diagram showing evidence-based practice steps]

These steps should of course be understood with reference to the discussion of the issues around evidence standards above, as well as the brief discussion of the evaluation ethics that follows.

Evaluation Ethics

In the community services sector, as a guiding principle, any research or evaluation undertaken should provide a demonstrable benefit to the participants involved or, at the very least, those in similar circumstances (Nutley, Powell and Davies, 2013). From an ethical standpoint, a community...
services organisation should avoid allowing its clients to become research subjects where no benefit can be demonstrated. Further, all human experiments should be approved by an appropriate ethics committee – universities and research organisations have these, and it would be unwise to attempt to replicate them or their processes.

However, one key aspect that bears noting here is that all participants in research must provide informed consent. At the bare minimum, consent can only be considered informed where the participant has been provided with a ‘plain-language’ information sheet that provides the following:

- The purpose of the research or evaluation
- What they will be asked to provide, or do
- Who will have access to their data
- What will be done with the results
- Their right to withdraw and have their data deleted at any time without adverse consequences
- How their privacy will be protected
- A point of contact for complaints, clarifications and any other information they may require

Particularly important in the context of community service organisations, any additional barriers to obtaining informed consent must be taken into account. This includes for children, the developmentally disabled or mentally ill (CFCA, 2013).

Conclusion

This paper has attempted to provide a broad survey of some of the issues and debates in the evidence-based context for the purpose of providing a foundation for an LWB evidence-based strategy. As has been discussed, there are a variety of issues that need to be considered and addressed in the development of such a strategy, including

- The considerable debate around what ‘evidence-based’ means, with concern that for many it is simply a buzzword with no impact on practice
- The paucity of the evidence base for practices and programs in the community service space, particularly in an Australian context
- The difficulties associated with translating good research evidence into best practice
- The potential financial and other resource burdens of evidence-informed practice and programs
- The need to develop organisational capacity and build a learning culture for an evidence-informed approach to be successfully adopted, and the importance of ongoing evaluation
- The need to recognise and address the competing priorities in community services organisations

Perhaps most importantly, this paper demonstrates that there are implementation and sustainability challenges associated with both evidence-based programs and evidence-informed
practices. We need processes that will help determine whether a particular program is sustainable or even possible to implement and whether certain practices will actually achieve the intended goal: to improve client outcomes via the use of evidence. We must also avoid being overly prescriptive and failing to leverage the extensive practice wisdom available at LWB.

This is where the hard work of the strategy will reside – and it is likely that this will require collaborative partnership with universities, governments and other organisations to achieve a practice environment that engages with the best available research evidence yet remains sufficiently grounded in experience to improve outcomes for all of our clients.

There is little doubt, however, that a strategy to achieve this is required.

References


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Resources

Alliance for Useful Evidence

Annie E Casey Foundation – US not-for-profit organisation with an interest in data measurement and evidence based practice

Behavioural Insights Team – UK Government organisation dedicated to the application of behavioural sciences

Blueprints for Healthy Youth Development – sector-leading organisation with extensive list of evidence-based programs

California Evidence-Based Clearinghouse for Child Welfare

Child Family Community Australia practice resources

Dartington Social Research Unit

National Institute for Health Implementation Science Information and Resources

National Implementation Research Network

NESTA – UK charity organisation dedicated to innovation, research and evidence-based practice

Reach Effectiveness Adoption Implementation Maintenance (RE-AIM) Framework

Social Care Institute for Excellence

Social Policy and Practice – database for evidence and research in health and social care

What Works Network

What Works Wisconsin