Implementing evidence-based practice: the challenge of delivering what works for people with learning disabilities at risk of behaviours that challenge

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Abstract

Purpose – *There is an apparent disconnect between the understanding of best practice and service delivery in the support of people with learning disabilities at risk of behaviours that challenge. We suggest, is a problem of implementation. The purpose of this paper is to explore reasons why this might be the case: a failure to recognise the collective works of successive generations of research and practice; and a failure to address the macro-systems involved and systems changes needed to support implementation.*

Design/methodology/approach – *This paper reviews the consensus that exists in respect of best practice. Drawing upon ideas from implementation science the paper highlights the complexities involved in the implementation of all evidence-based practices and uses this as a framework to propose ways in which an infrastructure that facilitates the delivery of services in the learning disabilities field might be built.*

Findings – *This paper highlights core recommended practices that have been consistent over time and across sources and identifies the systems involved in the implementation process. This paper demonstrates that many of the necessary building blocks of implementation already exist and suggests areas that are yet to be addressed. Critically, the paper highlights the importance of, and the part that all systems need to play in the process.*

Originality/value – *In the absence of any generalised implementation frameworks of evidence-based practice in the learning disabilities field, the paper suggests that the findings may provide the basis for understanding how the gap that exists between best practice and service delivery in the support of people with a learning disability at risk of behaviours that challenge might be closed.*

Keywords *Adult social care, Learning disabilities, Challenging behaviour, Positive behaviour support, Implementation, Evidence-based practice*

Paper type *Conceptual paper*

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Background

An estimated 2.16% of adults and 2.5% of children in the UK have a learning disability (LD), approximately 1.5 million people (Mencap, 2020). This may be a small number in terms of the overall population requiring care, but people with LD are at a higher risk than others of developing behaviour that challenges. These behaviours, by definition, have a significant impact on well-being and life quality (Hastings *et al.*, 2013) for the person and their family. In turn, they represent a particular challenge to services and organisations, whose goal is to ensure people with LD have the same quality of life and opportunities as anyone else (NHS England, Local Government Association and Association of Directors of Adult Social Services, 2015).

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Current guidance is based on decades of evolving research, policy, stakeholder resources, LD charters and academic papers detailing the best ways of supporting people with LD at risk of behaviours that challenge and their families (i.e. The "Mansell Reports", Department of Health, 1993, 2007; Gore *et al.*, 2013; NICE, 2015, 2018; Royal College of Psychiatrists, 2007/2016). In short, a collective body of work spanning over four decades has highlighted "what works". Yet for many people with LD and their families, a "good life" is not a reality, at least not routinely or uniformly or at scale. The uncovering of systematic neglect and ill-treatment of people with LD at Winterbourne View Hospital in 2011, and again at Whorlton Hall in 2019, are stark reminders of this. Failings of support are not limited to the care for adults with LD. In February 2020, the Challenging Behaviour Foundation (CBF) and Positive and Active Behaviour Support Scotland (PABSS) published a report based on data from over 700 families on the impact on children with LD of restraint, seclusion and other restrictive interventions in schools across the UK including physical injury and mental trauma (CBF, 2020).

The apparent disconnect between understanding best practice and service delivery in the field is, we suggest, a problem of implementation. In this paper, we consider why that may be the case and propose some directions forward. Our first argument is that the lessons from the collective works of each generation are not fully recognised; or, if recognised, are not given sufficient time to be implemented. This is, in part, semantic. Stakeholder groups often have a shared language whereby terms used may not have the same meaning as when used by others; indeed, even within stakeholder groups, such differences exist. Even the term "learning disability" is confusing. It is used in the UK to describe people with an administratively defined intellectual disability at risk of behaviour that challenges; but can also be used to describe other groups, including people with autism who may not be at risk of behaviours that challenge and for whom the guidance noted above is not necessarily applicable. Policy and guidance often use midlevel terms rather than academic concepts to try and increase accessibility and, perhaps, acceptability and can, therefore, create the conditions for some ambiguity in exactly what is meant. More so, descriptions of processes and definitions have evolved over time and sometimes the terminology used to describe similar concepts has changed. Developing new and innovative approaches is of course key to continued progress in the field but there is a risk that because of a perceived need on the part of policymakers to respond decisively to "crises" such as those highlighted above, new solutions are sought in favour of building upon an existing evidence base. Despite these possibilities, some of the messages, and the theories on which these have been based, have been constant and do appear to underline key strategy areas. We respond to this by highlighting *core* recommended practices that have been consistent over time and across sources. Many of these practices are found in current definitions of Positive Behavioural Support (PBS) in the UK.

Our second argument is that the implementation of evidence-based practices in any field involves complex systems; requiring macro and systems-level changes across all sectors to ensure delivery. Guidance targeting specific stakeholders or contexts, and conceptual frameworks such as understanding behaviours that challenge (Hastings *et al.*, 2013), the organisational and social contexts involved in LD support (Allen *et al.*, 2013) and workforce development and training (Denne *et al.*, 2015) have, to an extent, recognised this. To date, however, with a few notable exceptions in the US (e.g. The Institute on Community Integration, the University of Minnesota) there has been limited research and practical guidance to help address systems change and, perhaps, not surprisingly, there appears to have been a sporadic success across the UK health, education and social care sectors to develop the necessary infrastructure to deliver evidence-based support to people with LD. In the second part of this paper, we draw upon learning from implementation science to highlight the systems-level changes involved in the delivery of evidence-based practice. We use this to identify gaps in the current LD support infrastructure and some of the challenges associated with achieving change across systems.

Lessons from collective works: "what we know about supporting people with learning disability at risk of behaviours that challenge"

The broad consensus across clinical guidance, policy and resources regarding effective support for people with LD that is associated with good quality of life outcomes has been marked by two key themes. Firstly, a recognition that people with LD are at increased risk of behaviour that challenges and that this is both socially constructed and the product of individual and environmental factors interacting together (Hastings *et al.*, 2013). Secondly, that impoverished quality of life and quality of support is associated with the risk of developing behaviours that challenge and that increases in these areas provide both the means and outcome focus for support and intervention.

Core principles of good support for people at risk of behaviours that challenge first articulated during the 1970s (Tyne and Williams, 1979; Wolfensberger and Glenn, 1975) were a response to a global trend towards deinstitutionalisation and the growth of the human rights movement. English deinstitutionalisation and Wales' All Wales Strategy (1983) were both inspired and informed by a body of international research and the cumulative impact of a small number of important UK-based research-demonstration projects [1]. Each of these projects was consistent with, and/or informed by, values and analysis expressed in the dissemination of normalisation theory (Wolfensberger, 1971) and the early use of teaching and behaviour change procedures derived from the science of behaviour analysis (Baer *et al.*, 1968). In 1993, the Department of Health published definitive guidance on services for people with LD whose behaviour challenges services (The Mansell Report). An updated edition in 2007 reiterated the same key messages.

A key test for deinstitutionalisation was the ability of services to support people with complex needs, in their own communities. The key characteristics of what might be called capable environments (McGill *et al.*, 2014) include positive social interactions in which carers interact frequently in ways that the person enjoys and understands; support for a person's communication needs; support for a person's participation in meaningful activity and to make informed choices; the provision of predictable and consistent social environments and personalised routines in settings that are physically adapted to the needs of the individual; support of the person's physical and mental health and personal care needs; the promotion of independent functioning including the development of new skills; the maintenance of relationships with families and friends; and the provision of small scale typical homes in the community as the most appropriate physical environments. The notion of active support – giving people the chance to be fully involved in their lives and receive the right range and level of support to be successful (Jones *et al.*, 1999; Toogood *et al.*, 2016) is key to sustaining a capable environment.

As the publication of the DoH guidance in 2007 other key documents have followed providing guidance for a range of stakeholders. There is considerable overlap across these resources and guidelines in terms of defining what works. Table 1 summarises the key recommended practices to illustrate this consensus.

Much of the guidance for supporting individuals with LD (including those with more complex needs) and at risk of behaviours that challenge, recognises the value of the practices and features of capable environments, delivered within a framework of Positive Behavioural Support (PBS). Some explicitly refer to the use of PBS, others implicitly by including many of the key features associated with current definitions of PBS (Gore *et al.*, 2013). It is important to note that definitions of PBS have evolved over the past five decades and continue to do so. The definition of PBS proposed by Gore *et al.* (2013) for the delivery of services within a UK context, for example, incorporates the ideas of capable environments and active support – a distinctive contribution to the field.

Table 1 Summary of recommended practices and selected quotations from the documents/guidance they feature in

Key recommended practices	*Selected quotations*
Approaches are led by values of social equality, inclusion, cultural and environmental improvement and a person-centred promotion of human rights	"People who present behavioural challenges can and should be supported in living close to home, integrated within the community, engaged in activities that promote optimum quality of life and with the support that ensures protection of their human rights" (Royal College of Psychiatrists,2007/2016) pp. 4 "People will be supported to exercise their universal human rights to be healthy, full and valued members of their community with respect for their culture, ethnic origin, religion, age, gender, sexuality and disability" (Learning Disability Professional Senate, 2014) pp. 5
A focus on the individual and person-centred interventions	"Successful services provide individualised pathways of care, based on a thorough understanding of the individual and their experience. It should be person-centred" (Joint Commissioning Panel for Mental Health, 2013) pg. 3 "Instead of commissioning services for groups, support is designed for one person at a time, based on a whole-life care plan that focusses on what matters to the person and their family" (Transforming Care and Commissioning Steering Group, 2014) pp. 33
Supports are designed to address the person, their needs (physical and mental well-being) desires and ambitions, their environment and the interaction between the two	"Challenging behaviour is socially constructed; it is the product of individual and environmental factors interacting together" and "where individuals with problems are cared for in environments which do not respond well to their needs, challenging behaviour is likely to develop" (Department of Health, 1983/2007) pp. 7 "Address the key areas of a person's life, health and well-being which are most concern . . . recognizing individual needs, hopes, desires and capacities" and "see 'behaviour that challenges and complex support needs in context', thereby responding to individuals by first removing stressors and building on capacity assets, rather than pathologising problems with individuals that require restrictive or 'removal' treatment responses" (Learning Disability Professional Senate, 2015) (pp. 7 and 11)
The importance of working with families	"Active listening to the needs of the family will lead to the provision of appropriate and timely support, information and training" (Challenging Behaviour National Strategy Group, 2009) "It is essential to work closely with families" (Royal College of Psychiatrists,2007/2016) pp. 4
The need for comprehensive assessment including: Functional assessment of behaviour Underlying medical and organic factors Psychological/psychiatric assessment	"When assessing behaviour that challenges shown by children, young people and adults with a learning disability follow a phased approach, aiming to gain a functional understanding of why the behaviour occurs" and "as part of the initial assessment of behaviour that challenges . . . any physical or mental health problems . . . developmental history, including neurodevelopmental problems" (NICE, 2015) pg. 27 "Functional, contextual and skills-based assessment . . . aims to ensure that the support outlined for each person is based on a thorough understanding of that person's needs, preferences, abilities, communication style, the function for them of any behaviour that challenges" (PBS Academy, 2015) pg. 16
Early intervention and proactive support over the lifespan	"Early screening and clear, smooth diagnostic pathways for children and young people suspected of having a learning disability and/or autism" (NHS England and Local Government Association, 2014) pg. 12 "Ensure that specialist services for behaviour that challenges are available to everyone with a learning disability and behaviour that challenges, based on an assessment of each person's need and risk and taking into account the benefit of early intervention" (NICE, 2018) pp. 24

(*continued*)

Table 1

Key recommended practices	*Selected quotations*
The presentation of interventions as a clear, comprehensive behaviour support plan that focusses on environmental change and improvements in quality of life as a primary prevention strategy to guide mediator implementation	"The use of behaviour support plans which have been informed by an assessment of these factors to ensure that aspects of the person's environment that they find challenging are identified and addressed, that quality of life is enhanced . . ." (Social Care, Local Government and Care Partnership Directorate, 2014) pp. 20 "Develop a written behaviour support plan for children, young people and adults with a learning disability and behaviour that challenges that are based on a shared understanding about the function of the behaviour" (NICE, 2015) pp. 32
A multi-professional approach to the delivery of support and including all stakeholders promoting co-production at every stage	"Assessment of more complex behaviours should always be multi-disciplinary. The resulting formulation should be likewise with one, a single account of why the behaviours are occurring being produced (as opposed to individual, uncollated professional opinions)" (PBS Academy, 2015) pp. 11 "People with a learning disability and/or autism should be able to access specialist health and social care support in the community – via integrated specialist multi-disciplinary health and social care teams, with that support available on an intensive 24/7 basis when necessary" (NHS England, Local Government Association and Association of Directors of Adult Social Services, 2015) pp. 25
Continuous evaluation of the effectiveness of interventions	"Timely and regular review and audit of services and care plans to ensure they are safe, meeting needs and delivering outcomes" (NHS England & Local Government Association, 2014) pp. 18 "Commissioners should evaluate the outcomes of the service models they are providing, checking for evidence of effectiveness, safety and user satisfaction" (Joint Commissioning Panel for Mental Health, 2013) pp. 3
The use of restrictive practices or interventions are contraindicated	"The focus of the work of community intellectual disability teams must, therefore, be on planned, proactive and responsive risk management, ongoing positive-behaviour support for these individuals and the reduction of restrictive interventions" (Royal College of Psychiatrists,2007/2016) pp. 4 "This guidance forms a key part of the Coalition Government's commitment set out in closing the gap: essential priorities for change in mental health to end the use of restrictive interventions across all health and adult social care" (Social Care, Local Government and Care Partnership Directorate, 2014) pp. 10
The importance of safeguarding	"Children, young people and adults have the right not to be hurt or damaged or humiliated in any way by interventions. Support and services must strive to achieve this" (Challenging Behaviour National Strategy Group, 2009) "People with a learning disability and/or autism have the right to the same opportunities as anyone else . . . and to get the support they need to be healthy, safe and an active part of society" (NHS England, Local Government Association and Association of Directors of Adult Social Services, 2015) pp. 22
A recognition that people with a learning disability are best supported in "ordinary" or typical homes and other environments within their own communities	"Commissioners should stop using services which are too large to provide individualised support; serve people too far from their homes; and do not provide people with a good quality life in the home or as part of the local community, in favour of developing more individualised, local solutions which provide a good quality of life" (Department of Health, 1983/2007) pp. 1 "We need to see people with a learning disability and/or autism as citizens with rights, who should expect to lead active lives in the community and live in their own homes just as other citizens expect to" (NHS England, Local Government Association and Association of Directors of Adult Social Services, 2015) pp. 5

The systems challenge?

Establishing consensus around "what works" in respect to support people at risk of behaviours that challenge is a major accomplishment for the LD field. Delivering that consensus consistently and at scale represents a further challenge and one in which, evidence suggests, we have collectively been less successful. Like other approaches, PBS has not been easy to implement at scale and has not always resulted in strong outcomes across services. In its report "The State of Care on Mental Health Services 2014–2017" the Care Quality Commission acknowledges the need for "the embedding of positive behaviour support across the health and care sectors" (CQC, September 2020, pg. 56) but notes that this is not routinely happening in services that provide specialised provision for those who show behaviours described as challenging. Supporting people with LD includes every aspect of their lives: physical and mental well-being, where they live, how they are supported financially, relationships, social activities, work and leisure. Implementing the key practices highlighted above involves stakeholders in policy, procurement, service provision (multiple professions and frontline), funding, advocacy, workforce development (including stafftraining) and research across health, social and education systems. In the UK this is additionally complicated by differences across the four nations. Delivering good support is clearly not just about training or telling people what to do. It requires the coordination and cooperation of multiple system elements in complex organisational structures. To date, with a few notable exceptions such as Freeman's work in the US with systems change intellectual disability services (Rotholz *et al.*, 2018) and Bigby's research in Australia looking at the relationship between organisational factors and quality of life outcomes (Bigby and Beadle-Brown, 2018), there has been insufficient attention paid to the detail of how this might be achieved.

Works that have considered systems change have tended to focus on achieving change within whole organisations or the changes needed across systems to achieve a specific outcome. Taking an example of each shows interesting parallels. In their review of the social and organisational factors that impact upon PBS intervention, Allen *et al.* (2013) suggested that there may be lessons to be learned from the implementation of PBS in the US where a whole-system approach is used to address behavioural issues in mainstream schools. Successful implementation occurs through organisational cultural change implemented through effective leadership; the involvement of all stakeholders, a focus on the development of capable environments and structures that support this, clear crisis management strategies, monitoring of staff well-being and training, reflective practice and data-driven quality assurance.

Denne *et al.* (2015) proposed a model of workforce development for PBS also highlighted the importance of organisation-wide cultural change. The focus in this model is on skills development achieved through training that maps onto core competencies and a national qualifications framework, requiring, therefore, an investment in systems or sectors outside of individual organisations. Organisational change in the model is supported by practice leadership including in-situ coaching and supervision to develop and embed PBS skills, and ongoing problem-solving and feedback to staff. Like Allen *et al.* (2013) the Denne model suggests that investing in staff well-being and establishing an infrastructure to support this is critical. As with all PBS-based guidance, monitoring outcomes and data-based decision-making were also recognised to underpin practice.

Both of these papers provide practical suggestions of ways of embedding good practice (within the framework of PBS) across whole organisations. They fall short, however, of identifying the macro-systems changes needed both across and within sectors to embed PBS into lifelong support for people with LD. Furthermore, there is an important gap in the literature around understanding exactly how competing contingencies within systems may pose barriers to dissemination and how these may be overcome. Both examples above for instance discuss the importance of investing in staff. There are few who will argue with this.

However, investment implies a financial commitment; organisations also have financial responsibility and are more likely to be influenced by legislative and inspection processes. A major question then is how can we identify the macro-system changes that are needed and what are the challenges involved in aligning contingencies towards a common goal? Ideas from implementation and evolution sciences may provide some direction.

A model from implementation science?

Implementation science is concerned with the translation of findings from basic research in clinical settings into practice that is effective, sustainable, offer consumer choice and leads to meaningful outcomes (Novins *et al.*, 2013). In a systematic review of the implementation of evidence-based practice, Fixsen *et al.* (2005) looked at 1,054 sources in the literature around implementation. Drawing upon these, Fixsen *et al.* (2005) propose a model of implementation arguing that it is successful when:

- Practitioners can competently deliver core implementation components defined as "the most essential and indispensable components of an intervention practice or programme" (Fixsen *et al.*, 2005, pg. 24) that ensure replication at scale and in different contexts;
- Organisations provide the necessary infrastructure for training, supervision and outcome evaluation;
- Communities and customers are fully involved in the selection and evaluation of interventions and practices; and
- Regional and national policies and legislation create a favourable environment for implementation. These four components are interrelated and necessarily involve multiple systems.

An analysis of the current provision of services for people with LD at risk of behaviours that challenge the above framework is encouraging (Table 2). Key elements across all four elements of the model have already been achieved. Significantly, *core implementation components* include the publicly available PBS Competence Framework and the PBS Academy Standards documents. As outlined above, there is a consensus of best practice in national guidelines and policy documents so that a favourable *wider policy context* has, in part, been achieved. This wider policy context includes the paradigm shift that has taken place over the past 50 years with respect to societal views of the best ways to support people with LD at risk of behaviours that challenge. Support and advocacy groups such as the Challenging Behaviour Foundation and Mencap are helping to develop *enabling and informed communities* by providing resources and tools needed to be able to make an informed decision, as well as raising awareness of LD with the general public and there is evidence to suggest that the systems and infrastructure development identified as key *organisational factors* are helping individual service providers and communities of practice embed a culture of practices within a PBS framework such as practice leadership. For example, Northumbria University, NHS England North East and North Cumbria and the North East and Cumbria LD Network have set up an innovative project as part of the Department of Health and Social Care Transforming Care programme, to adopt a system-wide workforce development programme. Drawing upon the Denne *et al.* (2015) model the focus is both on individual training and developing the infrastructure in organisations for PBS to be enabled in practice. The first cohort of students graduated at the end of 2019 and the programme is currently being evaluated. The findings could provide a blueprint for other transforming care partnerships across the UK. This is an encouraging example of multiple systems working to a common goal, but even this falls short of the macro systems changes needed for the widespread dissemination of PBS.

Table 2 Infrastructure recommendations in the implementation of evidence-based practice in the support of people with learning disabilities at risk of behaviours that challenge

Examples of elements in place that can be built upon	*Elements that are needed*	*Examples of organisations that need to be involved*
Core implementation components		
PBS competence framework (PBS academy) PBS Alliance Work Force Development Framework (2020) PBS Academy standards: for training individual practitioners Skills for Care PBS training peer accreditation scheme PBS training that maps onto the regulated qualifications framework (MSc Courses, PBS BTEC courses)	The development of a national system of training qualifications in PBS that map onto the PBS Academy standards for training and for individual practitioners LD and PBS training modules that map onto the PBS Academy training standards built into teacher training, LD nursing training and clinical psychology courses A system of certification/professional recognition for PBS practitioners	Skills for health Skills for care OFQUAL British psychological society Providers of teacher training, LD nursing training, clinical psychology courses PBS academy PBS alliance Health Education England NHS England All training providers (universities, BILD, etc)
Organisational factors (not just provider organisations but any organisation involved in the procurement, provision or evaluation of services*)		
Learning disabilities and behaviour that challenges: service design and delivery (Nice, 2018) PBS Academy standards: for service providers individual practitioners PBS communities of practice: The North East and Cumbria PBS community of practice Surrey PBS network Avon and Wiltshire PBS network PBS Alliance: a partnership of organisations focussed on improving the quality of life of people whose behaviour may challenge services and those providing support Denne *et al.* (2015) model of workforce development and training Northumbria University PBS training	Alignment of HR strategies across organisations to promote the development of a high quality workforce and associated infrastructure: professional development, pay scales, career paths, recruitment and retention, continued investment in staff development (see below) Commitment to practicing leadership	National association of special schools Housing authorities Provider organisations Local authorities and other commissioning agencies
Informed and enabling communities CBF produced resources for families PBS academy resource "what good looks like" PBS academy resources for stakeholders that map onto the PBS competence framework PBS alliance resources produced by and for PBS communities Restraint reduction network resources	Formal recognition of the role of family cares Service specifications: Policies and operational procedures that promote PBS Commissioners and strategic heads understand PBS Contractual arrangements that require PBS A system of accreditation/certification to give consumers confidence in the quality of services they may be procuring	Third sector organisations representing the LD community and their families (e.g. CBF) Advocacy services for people with an LD and their families
Wider policy context		
Existing guidance is comprehensive Recognition by the current government of the need to join up thinking on health and social care through the creation of the department of health and social care Transforming care commitment to reducing hospital beds and providing care within the community	"Professionalisation" of the social care sector with recognised and varied pathways to entry for LD specialism (see PBS academy standards for Individual practitioners) Alignment of guidance across health, social care and education Investment in early intervention and support pathways across the lifespan Alignment of CQC and OFSTED inspection processes and best practice	All of the above and Local government association Association of directors of adult social services Council for disabled children Care quality commission (CQC) OFSTED NHS trust development authority

Table 2 also highlights areas for further development across all four areas identified by Fixsen *et al.* (2005), and this, we hope and anticipate might provide some future directions for the field to consider. It focusses on the processes related to implementation rather than evidence that implementation is taking place. This is deliberate because it is important to note the interrelationship between those processes and key implementation factors: the professionalism of the social care sector at a wider policy level, for example, requires an investment into the development of a national system of training qualifications at the core implementation level; at an organisational level there needs to be a commitment to providing staff training and continuous development in keeping with developments in the wider policy arena; and at an informed community level, quality assurance schemes (including self-regulation, external certification or accreditation) in respect of training and professional recognition will give consumers confidence and choice in respect of services that they procure.

The challenges of changing behaviour across systems to achieve a common goal

The Fixsen *et al.* (2005) implementation model describes how multiple systems play complementary and necessary roles in the delivery of evidence-based practice but does not provide any guidance for how to achieve co-ordination across these system elements towards agreed outcomes. System elements work within different legislative and regulatory frameworks; they have varied and sometimes conflicting goals and priorities. Introducing systems change *within* organisations and sectors is difficult, achieving systems change *across* systems and at scale, is even harder. However, it is not impossible.

It is beyond the scope of this paper to explore the processes involved in achieving the behaviour change needed across systems to complete implementation. Instead, we suggest where such solutions may be found. Evolution science uses an understanding of how life changes as it adapts to its local environment via the process of natural selection. Although not a new idea, it is beginning to describe models that suggest the principles of natural selection apply at every level of natural systems, from single cells, individual organisations, nested systems, human megacities and entire cultures. When the conditions are set up to select for certain outcomes, natural organic systems respond accordingly. The current change in the behaviour and attitudes of individuals, organisations, policies and international cultures in response to the COVID-19 pandemic is a stark example of this.

Conclusions

What the historical context and analysis above suggest is that many of the necessary system elements required to deliver evidence-based support for people with LD at risk of behaviours that challenge already exist. It also makes clear that necessary elements are not sufficient: the disconnect between best practice and service delivery is not because of a lack of understanding of what is needed; rather it is because of gaps in the supporting infrastructure and a lack of alignment across systems to a common cause. This must be addressed otherwise service delivery will continue to fall short in their support of people with LD and their families. What we suggest is required is first recognition on the part of all stakeholders and organisations across all sectors of the role that they play in implementation, and second an understanding of the ways in which their respective system elements interact and align at the macro-system level, supported by thinking from evolution science. The conditions in which LD services operate are set by our policymakers and it is to them that we turn to begin this process.

Note

1. Pioneering work was done by Jack Tizard in Wessex in the 1960s and Albert Kushlic in the 1970s. Work in the 1980s includes HCERT's Andover Project, the Nimrod Project, the Hester Adrian Research Centre, the Sheffield Project, the Norah Fry Institute, and SETRHA's Special development Team (SDT) and MIETS.

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