

## Research Report

# Supporting children with speech, language and communication needs: an overview of the results of the better communication research programme

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### What this paper adds

Children and young people with speech, language and communication needs raise considerable challenges for professionals in terms of both the identification and nature of their needs and the provision of effective intervention. Drawing on 19 reports emanating from the Better Communication Research Programme, the current paper provides an evidence base to support the development of clinical and educational frameworks to meet the children's needs. Areas in need of future research and evaluation are identified.

### Introduction

This paper provides an overview of the results of the Better Communication Research Programme (BCRP, 2009–12).<sup>1</sup> The BCRP was commissioned as part of the Better Communication Action Plan, the UK government's response to the Bercow review (Bercow 2008) of services in England for children and young people with speech, language and communication needs (SLCN) (Department for Children, Schools and Families (DCSF) 2008). The Bercow review had recommended a programme of research 'to enhance the evidence base and inform delivery of better outcomes for children and young people' (p. 50). SLCN are high prevalence problems (Meschi *et al.* 2012), but there is a general lack of awareness of the nature of these difficulties in educational contexts and their different manifestations, the systemic factors that impact on identification, the impact of SLCN on progression and achievement across the school years, and effective interventions.

The specific aims of the programme were to improve the evidence base available to commissioners, policy-makers, practitioners, and parents in developing services for children and young people with SLCN. To address

these wide-ranging aims, projects were designed to address both the full range of SLCN and more focused specific areas of difficulty, e.g. stammering (Hayhow *et al.* 2012). A framework of activities was devised and specific research themes identified. These drew on the results of the Bercow review and its associated research study (Lindsay *et al.* 2010), and on previous published studies related to educational provision and practice (Dockrell *et al.* 2007, Leyden *et al.* 2011) but also informed by wider research. Research impacting on the support needs of subgroups of SLCN such as specific language impairment (SLI) (Botting and Conti-Ramsden 2008, Conti-Ramsden and Botting 1999, Conti-Ramsden *et al.* 2009, Durkin *et al.* 2009, Tomblin and Zhang 2006, Tomblin *et al.* 1997, 2003) and those with autism spectrum disorders (ASD) (Kjelgaard and Tager-Flusberg 2001, Lindgren *et al.* 2009, Mawhood *et al.* 2000) were reviewed. In addition we considered the views of different stakeholders, including the parent and pupil voice (Carroll and Dockrell 2010, Palikara *et al.* 2009). Support for language learning needs considered both systematic reviews of interventions (Boyle *et al.* 2010, Law *et al.* 2003/09) and effective pedagogy to enhance oral language skills (Mercer *et al.* 2009, Mercer

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2010). The overall approach was underpinned by a tiered approach to supporting the needs of pupils and their families (Gascoigne 2006); see also the Response to Intervention model (Fuchs and Fuchs 2006).

This paper reports on the major themes that arose out of our work: understanding SLCN; profiles of need and provision; the perspectives of children with SLCN and their parents; the relationship between SLCN and behavioural, emotional and social difficulties (BESD); and effectiveness, costings and cost-effectiveness of interventions for children with SLCN (for further information, see Lindsay *et al.* 2012). In each case we draw on findings from several BCRP projects and identify the recommendations which followed from the research programme.

### **Understanding speech–language and communication needs: profiles of need and provision**

In this section evidence is drawn together from four of the BCRP projects designed to extend understanding of the needs of and support provided for pupils with SLCN in educational contexts. The extant Special Educational Needs Code of Practice has a category of need ‘Communication and Interaction’ that is further subdivided into SLCN and ASD (Department for Education and Skills (DfES) 2001). To ensure that the research programme captured the different patterns of need reflected in educational systems, a number of the projects compared directly children in these two categories of need.

In line with frameworks used by education services, this theme within the BCRP studies aimed to contribute to our understanding of (1) what constitutes quality first teaching for language and communication, i.e. environments where highly focused everyday personalized and interactive teaching takes place; and (2) the factors that impact on the identification of SLCN contrasted with factors associated with those children who are identified with ASD. As in the past, confusion with terminology remains an issue for children categorized as having SLCN. There have been changes over time in the labels used to describe language and communication difficulties (Bishop 1992) and concurrent use of different terms by speech and language therapists (SLTs) to refer to the same group of children have also been reported (Dockrell *et al.* 2006). The BCRP research programme found that the term ‘speech, language and communication needs’ (SLCN) was used in different ways by different professional groups. This different use of the term was both confusing and served as a barrier for dialogue between different professionals within health and education settings, with parents

and the research community. Use of the term SLCN in the Bercow review (Bercow 2008) was broad, encompassing all children with a difficulty in language and communication. By contrast the Department for Education (DfE) SEN Code of Practice (DfES 2001) limits the term SLCN as a primary special educational need separate from other primary needs, such as hearing impairment and severe learning difficulties. This more restricted use of SLCN is used in the DfE’s school census to collect national statistics of prevalence of primary SEN. We found that teachers and local authority (LA) officers typically used this more restricted definition, whereas SLTs typically followed the Bercow review and used the broader categorization (Roulstone *et al.* 2012b). Such differences will result in confusion over children’s needs and the planning of services with education and health.

### *Language learning environments*

The importance of fostering good oral language skills in educational contexts is well established. Oral language skills are the cornerstone of literacy skills, both reading and writing (National Institute of Child Health and Human Development 2000, Shanahan 2006); moreover certain kinds of talking such as discussing, collaborating and problem solving help children with academic subjects (Resnick *et al.* 2010). Establishing ‘quality first’ language learning environments can provide both support for literacy (Snowling *et al.* 2011) and enhance learning (Mercer *et al.* 2009). Fostering good communication skills in classrooms can be challenging. Practitioners need to understand the ways in which children develop their receptive and expressive language skills, be able to monitor classroom interactions and respond by altering the classroom context to support the development of oracy skills. SLTs and specialist teachers can play a key role in developing these skills (McCartney and Ellis 2013).

Effective ‘quality first’ teaching for language requires both effective classroom management and teaching followed by targeted or specialist support of oral language skills when required (Fuchs and Fuchs 2006, 2009). This needs to be done in conjunction with setting developmentally appropriate objectives targeted for oral language and regular monitoring, as required by the pupils (Snowling *et al.* 2011). Once effective classrooms for oral language are in place, schools are in a stronger position to become effective oral language learning environments and to identify pupils with more pronounced language learning needs. Yet there are few evidence informed tools that educational staff can use to examine the language learning environment in their classrooms. One of the BCRP projects focused on developing such a tool for use in reception and Key Stage 1 (ages 5–7

years) (Dockrell *et al.* 2012b). The tool was created, on the basis of a detailed review of the research literature of factors that support the development of language, communication skills, piloted and subjected to a feasibility study in over 100 classrooms. The development of the communication supporting classrooms tool illustrated that providing effective language learning environments was indeed challenging. Structured language learning environments were evident in many settings, but opportunities to develop and scaffold oral language skills were less common.

Working with the SLT services in one LA it was demonstrated how SLTs could use the data from local classrooms to develop and enhance their in-service training. The Communication Supporting Classroom Observation Tools is now available from the Communication Trust.<sup>2</sup> Children who fail to progress at the expected rate in effective settings will require further evidence informed targeted or specialist support, which is timely and monitored. As discussed below, specialist support and interventions need to be based on principles that have been shown to be effective (Law *et al.* 2012a).

### *Identification of SLCN*

In England national databases comprise data on all children attending state schools, about 6.4 million pupils: the national pupil database (NPD) and the School Census. These afforded an opportunity of contrasting prevalence rates between pupils with ASD and those with SLCN. A pupil's level of special educational need is identified at one of three levels of severity: whether additional support is provided through a statement of SEN following a statutory assessment which must include medical, psychological and educational advice following assessments by appropriate practitioners, including SLTs in the case of children with SLCN and community paediatricians or psychiatrists in the case of children with ASD; or at the lower levels of need at School Action (SA), where provision is made from the school's resources; or School Action Plus (SAP), where the school draws on external guidance and support (e.g. a SLT, community mental health team or educational psychologist). Where provision is made through a statement or at SAP, the school census requires the school to record the pupil's primary type of SEN from 12 categories, including SLCN or ASD.

Speech, language and communication difficulties impact on a child's progression as a result of the interaction of within children factors and contextual factors; furthermore, the nature of these factors and their interaction can vary over time, more often a combination of both (Lindsay and Wedell 1982). Analyses of national datasets provided an important insight into the ways in which different socio-demographic factors im-

part on the identification and progression of children with SLCN or ASD within the education system and provides a basis for service planning and development.

There was a strong social gradient for SLCN, with the odds of a child being identified as having SLCN being 2.3 times greater for pupils entitled to free school meals (FSM) and living in more deprived neighbourhoods. For ASD the socio-economic gradient was less strong but still important (the odds were 1.63 greater for pupils entitled to FSM).

Gender was also a risk factor for both SLCN and ASD, with boys overrepresented relative to girls 2.5:1 for SLCN and over 6:1 for ASD. Birth season effects were strong for SLCN but not ASD: pupils who were summer born (May–August) and therefore the youngest within the year group were 1.65 times more likely to have identified SLCN than autumn born (September–December) pupils. Being identified as having English as an additional language (EAL) was strongly associated with being designated as having SLCN, but not ASD. We also explored the relationship with ethnicity as earlier research had indicated varying interactions between difference categories of SEN with different ethnic groups (Strand and Lindsay 2009). Ethnic over- and under-representation for both SLCN and ASD was pronounced. The odds of a pupil of Asian heritage having been identified with a primary need of ASD were half those of a White British pupil, whereas the odds of a child in one of the Black African or Caribbean groups being identified with SLCN were almost twice as high as a White British pupil (Strand and Lindsay 2012).

There was also considerable variation between LAs in ethnic disproportionality, that is the odds of a child in a particular ethnic group being identified as having SLCN or ASD relative to white British children. For SLCN 36 of the 150 English LAs showed substantial underrepresentation of Black pupils for SLCN whereas 56 LAs showed substantial overrepresentation. By contrast, there was much less variation across LAs in the underrepresentation of pupils of Asian background with ASD: a total of 115 LAs showed substantial underrepresentation of Asian pupils and only five showed substantial overrepresentation. These findings suggest that it is not only the characteristics of the individual child but rather that local perspectives and policies can also influence identification (Lindsay 2011, Meschi *et al.* 2010).

The prevalence of SLCN varies both by age of child and level of need. The prevalence rate for pupils with SLCN at SAP reduced substantially from 2.6% in Year 1 to 0.6% in Year 7, and continued to reduce to 0.35% at Year 11 (Strand and Lindsay 2012) (figure 1). This might suggest that SLCN at SAP is a transitory need for many younger children and is either overcome or recedes (or at least is seen by schools to recede) as the child becomes

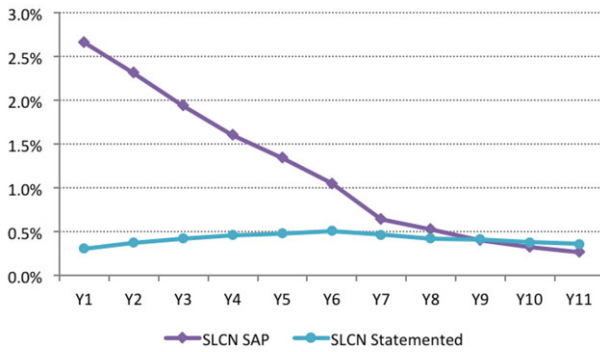


Figure 1. Prevalence of SLCN across year groups.

Note: SAP, School Action Plus.

older. The relationship between SLCN and having English as an Additional Language (EAL) supports this hypothesis for children at SAP: as their English Language learning needs are met, these children are no longer considered to have SLCN. However, figure 1 also shows that the percentage of children with statements where SLCN is the primary need remained fairly stable from Year 1 to Year 11, approximately 0.5%, although it is important to realize that the stability is in terms of prevalence (number of children at any one time) and does not necessarily imply continuity of SLCN in the same children over time (Meschi *et al.* 2010).

An alternative explanation for the decrease in SLCN prevalence at SAP is that the pupils continue to have SEN but that those needs change or that as the educational system places greater demands on the development of curricular skills, e.g. literacy or numeracy, problems in these areas become evident. It had been suggested by practitioners that at transfer to secondary school at the end of Key Stage 2 (11 years) pupils with SLCN increasingly find secondary education difficult, leading to frustration and an increase in behavioural difficulties, as a result of which the pupil's primary SEN are re-categorized as BESD rather than SLCN. However, the reduction in the percentage of pupils with SLCN mainly *precedes* secondary transfer. Figure 2 shows a very different pattern for ASD compared with that for SLCN. First, the expected pattern of higher percentages of children at SAP than with a statement was found for SLCN but not ASD. Second, the prevalence over the age range was relatively stable for ASD compared with a substantial reduction between Years 1 and 7 (6–12 years) for SLCN. This raises important questions, for example, these very different patterns might reflect true differences in the nature of developmental trajectories. Alternatively, they might reflect different practices by SLTs, community paediatricians, and/or educational or clinical psychologists, or different local policies at LA and health trust level in assessment and identification.

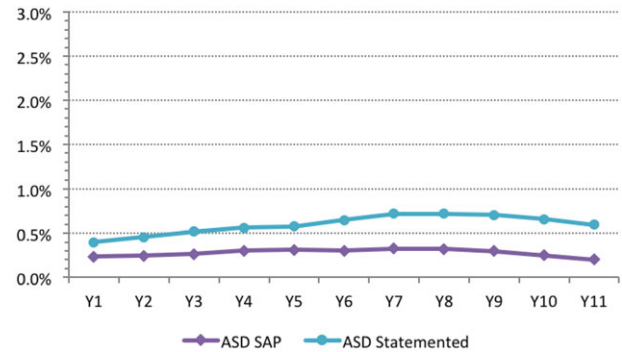


Figure 2. Prevalence of ASD across year groups.

Note: SAP, School Action Plus.

We further considered the transition of pupils from SLCN and ASD to other categories of special educational need. In this study we drew on data from pupils over the period between the end of Year 6 (age 11, end of Key Stage 2) and Year 9 (age 14, end of Key Stage 3). There was relatively little movement over this period for pupils who did not have SEN in year 6 (Meschi *et al.* 2012). By contrast there was substantial movement out of the SLCN and ASD categories. In fact only 17.8% of pupils with School Action Plus SLCN at the end of Key Stage 2 remained in this category at the end of Key Stage 3.

The question arises, therefore, into which category do those that 'switch' move, and in particular is the move mainly into BESD, possibly indicating a higher level of BESD associated with the transition to secondary schooling? for pupils with SLCN at SAP at the end of Key Stage 2, by far the most common movement is to a lower level of SEN to School Action or no SEN (62.3%). The movement to BESD is only the third most common move by the end of Key Stage 3, at just 7.4%. By comparison, the main movements out of SLCN at SAP by the end of Key Stage 3 are to moderate learning difficulties (MLD; 14.8%) and specific learning difficulties (SpLD, 9.1%). Only 2.5% of those with SLCN at SAP at the end of Key Stage 2 move to ASD. for pupils with a *statement* of SLCN at the end of Key Stage 2 over half (54.0%) continue with a statement of SLCN at the end of Key Stage 3. Only 9.5% of those that switch categories move to BESD, compared with MLD (42.2%) followed by ASD (15.5%) and SpLD (14.6%).

Hence, the national data indicated that pupils that switch from SLCN between the end of Key Stage 2 and end of Key Stage 3 (i.e. after they have moved to secondary education) were *not* primarily moving because they are considered to have needs associated with BESD. They were over three times more likely to move into MLD or SpLD than into BESD. The move to SpLD is

not surprising. There has been consistent evidence that pupils with language difficulties experience problems with literacy including reading decoding, reading comprehension, spelling and writing (Botting *et al.* 2006, Connelly *et al.* 2012, Catts *et al.* 2008, Dockrell *et al.* 2009).

As expected, given the research evidence that both SLCN and ASD are associated with low achievement in the national attainment tests (Conti-Ramsden *et al.* 2009, Dockrell *et al.* 2011), pupils with SLCN were lower achieving compared with those with ASD. This may explain, to some extent, the movement to MLD of pupils whose primary need was earlier identified as SLCN.

#### *Language learning needs for children with language impairment and ASD*

National datasets are subject to a range of limitations: children's needs will be identified using different criteria and assessment tools, local resources influence the identification of primary need and parental voice may impact on decisions. To elucidate further the differences between SLCN and ASD we examined the developmental trajectories over three school years of two groups of pupils, those with objectively defined language impairment (LI) and those with ASD attending mainstream schools, using a cross-sequential design. The overlap and differences between these two groups (Conti-Ramsden *et al.* 2006, Williams *et al.* 2008) raise significant challenges for professionals (Dockrell *et al.* 2006). Data were needed to distinguish the similarities and differences between the special educational needs of children with LI and those with ASD in terms of learning needs in mainstream settings, as well as to establish the effects of their differing needs on both educational and psychosocial outcomes.

Recruitment to the sample was drawn from a screening of five LAs in the South East of England. To ensure comparability and representativeness there were three criteria which LAs needed to meet to participate in the study: national averages for the proportion of students with recorded SEN, the proportion of students with SLCN or ASD as their primary difficulty and were at or above the national average for performance of students on combined English and Maths national curriculum tests at age 11. At the time of the study compulsory education in England was divided into four Key Stages: Key Stage 1 ages 5–7, Key Stage 2 ages 8–11, Key Stage 3 ages 11–14, and Key Stage 4 ages 14–16. At the end of each Key Stage 2 pupils were assessed on standard measures of English and Maths and national data were collated for these tests.

Across LAs, 210 mainstream schools were approached, 74 of which agreed to take part in the study.

A total of 157 school-aged participants (mean age = 10;2; SD = 2;2) with LI ( $n = 93$ ; males 68, females 25) or ASD ( $n = 64$ ; males 57, females 7) participated in all phases of the study; see Dockrell *et al.* (2012b) for further details of selection procedure and attrition rate.

Pupils with LI and those with ASD showed poorer performance on verbal than nonverbal measures of cognitive ability and in both receptive language and expressive language compared with norms, although pupils with ASD typically showed better structural language skills (e.g. vocabulary and grammar) than those with LI. In contrast pupils with ASD had greater difficulties with the social use of language, although these problems were also evident for some pupils with LI. The data indicated that it was the characteristics of the individual pupils that were impacting on their specific learning needs, including literacy and national curriculum subjects, not classification as either LI or ASD. However, the additional support provided by schools and speech therapy services was influenced by classification: children with ASD received disproportionately more support than those with LI with similar levels of need (see Dockrell *et al.* 2012b for further details).

An examination of pedagogical practices for these two groups of pupils indicated that there was little evidence of the use of specialist packages for language or literacy in educational contexts. By contrast teachers reported particular strategies for teaching and learning which were used to differentially support pupils' learning needs. Teachers reported modifying the content of the curriculum for pupils with poorer performance on oral language measures whereas structural modifications to teaching and learning were reported more often for pupils with greater difficulties with social communication. It was, however, difficult to capture these reported differences in the classrooms. Observations of pupils in their literacy lessons did not find evidence for these reported differences in approaches to teaching. By contrast the differences observed in the classrooms reflected the reduced lower levels of support from learning support assistants (LSAs) provided to pupils with SLCN compared with pupils with ASD. The majority of pupils with SLCN spent their time, without additional support, with their mainstream peers in the regular literacy/English lessons observed ( $N = 162$ ).

#### *Perspectives of children who have SLCN and their parents*

Parents and children had contributed their perspectives to the Bercow review (Bercow 2008). In that review, they had indicated the central importance of language in children's lives; the need for timely and careful diagnosis, well-signposted services and specialist resources;

for partnership working; and all within a context where SLCN were recognized (Roulstone and Ayre 2008). We considered it important to maintain a strong parent and child voice within the research programme. Parents' and children's perspectives were investigated in two strands of work, the preferred outcomes studies (Roulstone *et al.* 2012a) and the prospective longitudinal study of children with LI and with ASD (Dockrell *et al.* 2012b). The preferred outcomes study consisted of a series of five related projects that explored parents' and children's perspectives on the outcomes that they valued. The projects included qualitative studies using focus groups and workshops, an on-line survey and a systematic review of quality of life measures. The prospective study, conducted in mainstream schools, included a telephone interview with the parents of participating children. This survey addressed questions about how the child's needs had been identified, the support they had received during the early years, current schooling and the parents' hopes and aspirations for their child (also Lindsay and Dockrell 2004).

#### *It's not all bad*

An important message from both parents and children was that there was much to be positive about. Approximately two-thirds of parents responding to the telephone survey reported that they were satisfied with support that their child received and with their child's progress. Parents in the workshops were pleased to be asked about positive achievements in their children rather than a more typical focus on problem areas. The children themselves could talk about good as well as bad aspects of their lives. But their enthusiasm was greatest when discussing the positives and there was no shortage of topics that they wanted to talk about—family, pets, friends, hobbies, school and sports achievements, and the fun they have. Discussion about their SLCN emerged only when prompted by the researchers.

A brief examination of literature describing SLCN identifies a range of difficulties experienced by the children and young people with both inter- and intra-individual variation. As longitudinal studies report their results, the long term nature of their difficulties has become increasingly apparent (Johnson *et al.* 1999, Snowling *et al.* 2006). More recently, the potential link with youth offending has become prominent, particularly in the political arena (Hughes *et al.* 2012). This is perhaps to be expected as we attempt to understand the nature of the children's needs and difficulties and to advocate for resources. However, for parents the growing list of difficulties and negative associations and outcomes sometimes feels quite alarming.

We might regard the positive perspectives of the children and the parents as evidence of a lack of insight into or acceptance of a child's condition. However, to ignore their positive perceptions and experiences may mean that we fail to capitalize on aspects of the child's lives that could raise motivation and enthusiasm for interventions. Further, these positive experiences and perceptions may be the very things that contribute to a child's resilience to all the negative aspects of their lives.

#### *Quality of life*

Focusing on children's and parents' positive expressions of their experience is in no way meant to underestimate or to downplay the negative impact of SLCN. Negative associations with SLCN were indeed apparent in the lives of children and families who contributed to the BCRP. Children who participated in the prospective study completed a health-related quality of life (HRQoL) questionnaire, KIDSCREEN (Ravens-Sieberer *et al.* 2005). Their responses showed that the children with ASD scored more than 1 SD below the mean on all quality of life domains covered in the 'KIDSCREEN' survey. Children with LI showed a more positive profile, but had scores more than 1 SD below the mean for 'moods and emotions' and for 'social exclusion and bullying' (also Arkkila *et al.* 2011).

These findings were also reflected in the qualitative data collected in the children's workshops: children talked of their frustration, anger and sadness with themselves and their abilities as well as with the people around them. Both parents and children described instances when the children had been teased and bullied and the difficulties that some had in making and sustaining friendships. Although the majority of all parents in the telephone survey felt that their children got on well with their peers, an important 13% had a more negative perspective; this was particularly the case for parents of children with ASD where only one third reported positive views (see also Kasari *et al.* 2011).

This accords with the general pattern seen in the literature, that children with SLCN are reported to be particularly vulnerable to bullying (Byers *et al.* 2012). Given the negative links between bullying and children's mental health (Gini and Pozzoli 2009); there is clearly a particular need to establish mechanisms for children with SLCN to voice their perspectives and concerns. However, it is by no means inevitable that a child with SLCN will be bullied. Some researchers have found that bullying occurs no more frequently for children with SLCN than in the typically developing population attending the same schools (Lindsay *et al.* 2008, Savage 2005). Varying definitions and methodologies probably account for some of the discrepancies between studies. Nonetheless, not all children with SLCN will be bullied



or excluded. There is therefore a need to consider the notion of resilience and the need to consider what factors make some children with SLCN less vulnerable to bullying. Identifying important features, within the child themselves or in how their context is managed, will be important in promoting successful social inclusion. Furthermore, identifying interventions that will support children and young people to deal with their negative moods and emotions may help them to become resilient teenagers and adults.

### *Room for improvement*

The BCRP did not specifically ask parents and children for their views on changes that they would like to see in services. This had been a major part of the consultation process within the Bercow review. However, both parents and children could identify things that could be better; one strong theme that emerged from these discussions focused on the knowledge, behaviour and attitudes of people around the child and family.

Both parents and children were, on the one hand, positive about support they had received. On the other hand, both also talked of things that could be improved. Children for example, wanted people to listen more, not interrupt, not shout, not tease, be irritating or distract them from their work. Parents expressed a certain weariness that they had to continually explain their child to others. This included professionals, family and friends as well as the general public. They were looking for improvements in knowledge and awareness of SLCN. As one parent commented: ‘You’re constantly having to frame and re-frame, and adjust and readjust and it’s very difficult to do that with people who don’t necessarily want to listen.’ The national year of communication that was recommended by the Bercow review (Bercow 2008), took place in England in 2011 whilst the BCRP was still in progress. A number of initiatives associated with that campaign and also some of the training now available specifically targets the knowledge and awareness of practitioners about SLCN (Bishop *et al.* 2012). It would be useful to evaluate such initiatives and training from the perspectives of parents and children themselves, for example to examine whether or not children perceive increased social inclusion and if parents perceive increased acceptance of their children or changes in awareness of SLCN. Two evaluation mechanisms in development as part of the BCRP might be useful in this context. The checklist for assessing ‘communication supporting classrooms’, discussed above whilst not assessing context from the parent or child perspective, can usefully audit the communication context of a child’s classroom before and after training.<sup>3</sup> A questionnaire for children to complete regarding their perceptions of

the attitudes and behaviours of adults and peers towards them is also in development.

### *Functionally relevant outcomes*

The commission set out by the DfE required a programme of research that provided evidence for the delivery of ‘better outcomes’ and any exploration or evaluation of services needs to be explicit about the outcomes that are being measured. Research that has investigated the efficacy and effectiveness of interventions for children with SLCN typically measures outcomes that focus on aspects of the child’s expressive and receptive language, such as vocabulary, sentence length and complexity (Law *et al.* 2003/09); there has also been an interest in changes in the child’s behaviour (Girolametto *et al.* 1996, Glogowska *et al.* 2000) and some studies, that have focused on parent involvement and training have measured parents’ stress and anxiety levels (Robertson and Weismer 1999).

The BCRP set out to address the missing perspectives on outcomes, those of the parents and children themselves. Within focus groups and workshops, the project asked parents and children about current and past achievements with the assumption that, if we can understand what achievements were valued by parents and children, then these would indicate potential outcomes that would be valued. In terms of the parents’ views, the centrality of communication as the basis for other achievements was a common finding: parents talked about wanting to see changes in their children’s talking or listening or attention so that they could achieve other important life goals; the chance of being successful in other life domains rested on their child being able to improve their communication. Other life goals including academic and personal achievements (such as in sport, singing, hobbies), staying safe and earning a living and being a confident consumer were all subsumed within a higher order theme of independence. There was also an emphasis on making friends and on peer acceptance than could be grouped under a theme of social inclusion. In the survey data, it was possible to detect differences in emphasis for parents whose children had differing presenting SLCN. So for example, some parents appear to value academic achievements less than other outcomes; others focused more on social outcomes and coping with change.

Following the identification of outcomes that parents and children valued, we conducted a systematic review of quality of life measures, which used a parent or child self-reporting process, to identify those that addressed the outcomes of interest to parents and children (Roulstone *et al.* 2012a). The psychometric robustness of the 19 identified measures was also reviewed. There

were a number of measures that cover areas of quality of life that align with those raised by the parents and children participating in BCRP, although none provided a comprehensive cover of all the outcomes of interest. Furthermore, these self-report measures of quality of life did not cover aspects such as independence, staying safe, coping with change and the related communication skills.

Although there is still a dearth of instruments which provide self- or parent-reports of functional communication skill, there are a number of measures which would provide useful additions to evaluation in both research and clinical contexts. The outcome themes of interest to parents and to children in the BCRP can be used to generate profiles that can help us to know whether or not the interventions on offer deliver outcomes that are valued by parents and children. Not only that, but a consideration of these outcomes can be used to stimulate new interventions that better target these outcomes, enabling services to develop a more outcome-based focus instead of the current tendency to focus only on needs-based services.

### **Relationship between speech, language and communication needs and behavioural, emotional and social difficulties**

The relationship between SLCN and BESD was also examined in the prospective study and further analyses of clinical and population studies. It is evident from the views of the parents and young people and the current research literature that this is an area of significant concern. The prospective study (Dockrell *et al.* 2012b) revealed that children with LI and those with ASD had substantially higher levels of BESD, compared with the general population, as measured by the Strengths and Difficulties Questionnaire (SDQ) Total Difficulties score (Goodman 1997), as rated by their teachers: 31.7% LI and 41.5% ASD above the 90th centile. Higher prevalence was also found in our study of pupils with SLCN attending mainstream secondary schools (also Joffe and Black 2012) and our study of a clinical sample of children with ASD (Lindsay *et al.* 2011). However, there were differences between the constituent SDQ domains, as previously found for children with SLI (Lindsay and Dockrell 2012, Lindsay *et al.* 2007, St Clair *et al.* 2011). There were also differences between children with LI and ASD. Both groups of children had significantly raised levels of emotional and behavioural difficulties on SDQ subscales compared with the norm: for example, over a third of children with LI and over two thirds of children with ASD had high levels of peer problems, compared with the 10% expected from norms but there were only two significant between group differences: the ASD

group scored higher than the LI group on the Peer problems scale, and lower on the Prosocial scale. By contrast, children from a clinical sample had very high levels of peer problems and prosocial difficulties (Lindsay *et al.* 2011).

In summary, the BCRP replicated earlier findings that children and young people with LI or ASD have a higher risk of BESD and reduced health related quality of life (HRQoL) in general. However, the BCRP has extended the evidence base by its comparison of children with LI or ASD from the same large sample of mainstream schools. We have demonstrated that there are important similarities as well as differences between the LI and ASD groups and also with respect to different BESD and HRQoL constituent domains. The main areas of risk for BESD are peer problems and emotional symptoms, especially for children with ASD. Furthermore, these levels of risk remained relatively stable over a 12-month period when rated by teachers, although over the longer term, different BESD domains demonstrate different trajectories (Lindsay and Dockrell 2012, St Clair *et al.* 2011). The highest HRQoL risk for both groups was lack of social acceptance and being bullied.

### **Effectiveness, costing and cost-effectiveness of interventions for children with SLCN**

Throughout the BCRP we have focused on collating existing and generating new evidence underpinning the way that children are profiled and how their performance changes over time. Nowhere is this more important than in drawing together what we know about *interventions*, by which we mean a specific set of procedures that are introduced to meet the needs of a particular child which are above and beyond what the child would otherwise receive, whether or not they are effective. One strand of the BCRP focused on both effectiveness and cost-effectiveness of available interventions and it is to this that we turn in this section.

#### *Assessing effectiveness*

Assessing the effectiveness and cost-effectiveness of interventions for children with SLCN is important because we know that SLCN can lead to a variety of negative consequences for the children concerned through adolescence and into the world of employment (Law *et al.* 2009). Furthermore, this may be especially important in an increasingly white collar, communication focused world. Intervention has the potential to help the children concerned communicate more effectively. In the short- to medium-term this is most likely to affect the child, their family and their teachers but this could have societal implications in the longer term (Allen 2011).



One of the defining features of evidence-based practice is that we need to combine what the evidence tells us with what the practitioner and the parent judges to be appropriate, feasible and acceptable. To do this we developed a set of criteria to judge whether the evidence behind an intervention was strong, moderate or indicative. We then summarized the key interventions identified in the Cochrane review of Speech and Language Therapy for children with speech and language delay/disorder, all of which had been relatively well developed (Law *et al.* 2003/09). We also carried out an on-line survey of SLTs in the UK., asking respondents to identify their most commonly used intervention packages. We then looked for the evidence underpinning these interventions and, where appropriate, included them in the BCRP report *‘What Works’: Interventions for Children and Young People with Speech, Language and Communication Needs* (Law *et al.* 2012a). We identified 57 interventions either currently in use or published in the research literature. We also identified three other interventions which at the time were called ‘Up and coming’<sup>4</sup> because they were under development and there was insufficient evidence to judge their value. Of the 57 that we have identified, three (5%) were found to have the strong level of evidence, 32 (56%) had moderate evidence and 22 (39%) had indicative evidence. Most interventions focused on work with preschool and primary school children. Seventeen (30%) of the interventions were specifically relevant for improving a child’s speech, 22 (39%) targeted language, and the remainder were aimed at a combination of speech, language, communication, and complex needs. The *What Works* report was then adapted by The Communication Trust into an interactive website for all practitioners working with children with SLCN.<sup>5</sup> The webpage is updated as further evidence is accrued and evaluated which demonstrates the effectiveness of interventions. This process is overseen by a monitoring committee to ensure that the studies meet the appropriate research criteria.

### *Cost-effectiveness*

It is one thing to identify that an intervention potentially works, another to say that it has the potential to bring economic benefits. As part of the BCRP we examined a number of different aspects of costs and cost-effectiveness. A formal review of available cost-effectiveness studies was carried out using high quality methodological standards (Law *et al.* 2012a), specifically a checklist more commonly applied in adult health care economic evaluations (Drummond and Jefferson 1996). One of the key issues identified in the five included studies was the importance of the ‘perspective’ adopted. Some studies included the costs to health or

education agencies of providing the intervention, other papers considered the parental costs for transport or loss of earnings etc. Only one took a ‘societal’ perspective, aiming to capture costs to all sectors of society (Law *et al.* 2006). The studies provided varying levels of detail on the key elements that the ‘checklist’ recommends. Few provided sufficient details about their cost estimations to allow us to draw comparisons across interventions. Only two papers attempted to bring together costs and effectiveness data. The studies point to the importance of home-based and indirect interventions, although the emphasis on the valuable role parents can play in their children’s development of speech, language and communication was less well supported by consideration of how best to include the impacts on parents in the cost calculation. Predictably, the narrower the cost perspective the more likely that interventions were to appear less costly and/or more cost-effective.

### *Estimating unit costs*

In order to properly carry out economic analysis, units of costs must be established, i.e. all fixed and variable costs involved in providing a service. These are commonly underestimated, perhaps considering only salaries rather than the full cost of providing a particular intervention. We reviewed journal articles in which a cost for an intervention to address SLCN had been reported and identified four challenges to accuracy. These related to the level of detail about input from therapists, the participants’ attendance, the scope of SLT activities, and parents’ time and activities. We illustrated with existing studies how different assumptions about these elements could have a marked effect on the unit cost. We showed how nationally applicable unit cost data for SLTs can be used as a reference point, but without sufficient descriptive data about delivery and receipt of the intervention, accuracy is compromised (Beecham *et al.* 2012).

### *Dosage*

When practitioners are considering interventions they often ask questions about dosage. If an intervention is supported by the evidence for a specific group of children, how much of it do we need to have that effect and is that compatible with the services that are available? The issue of ‘dosage’ also has important cost implications as well as for how SLT services are organized. For example, too many SLT sessions—more sessions than are required to generate the optimum positive change in targeted speech, language and communication abilities—will waste scarce resources. However, too few sessions might mean that the development of a child’s skills and abilities are not fully developed, or that positive benefits from the intervention may not be maintained as the

child grows up. What is the rationale behind this length of time? Is the effect doubled by doubling the time? Is there any effect if half that level of input is provided? The evidence about dosage remains somewhat quiet on these issues because, while there is considerable variability in the dosage provided, only very rarely has the same intervention been compared at different dosages. Intervention lengths vary considerably, suggesting a lack of broad consensus as to how much intervention children need.

It has been suggested that dosage should be captured along five dimensions: four quantitative, namely *dose*, *dose frequency*, *total intervention duration*, and *cumulative intervention intensity* and one qualitative, *dose form*, a qualitative description of therapy techniques in a given intervention program (Warren *et al.* 2007). We sought to examine the relationship between two of these: the length per session and the length of the intervention study effect size, again drawing on our previous work (Law *et al.* 2003/09). Three parameters varied considerably: the range in length per session (5–240 min), the overall length of the intervention (3–34 weeks), and indeed the effect sizes themselves (–0.85 to 2.37) (Zeng *et al.* 2012). We looked at interventions targeting phonology, syntax and vocabulary, finding that there were significant differences in session length and cumulative intensity for phonology and vocabulary interventions. Overall there were significant negative associations between the amount of input per week and the effect size of the intervention, with greater effect sizes reported from interventions that were more spread out. Intensity itself appears not to be the solution. The association between overall length of the intervention and the effect size is suggestive of a dose response relationship—the more the child receives the better the outcome—but these findings were not statistically significant. This may be unsurprising given that the number of studies included was relatively small and it does mean that the findings need to be interpreted with caution.

## Discussion

The BCRP was commissioned as part of the government's action plan in response to the Bercow review of provision for children and young people with SLCN in England (Bercow 2008). It comprised ten main research projects some of which comprised more than one sub-project, a total of 19 projects in all. The focus of the BCRP was research that was at the interface of policy and practice, and whose findings would be of direct relevance to both. The present paper has presented findings from four main themes of the BCRP, each of which was addressed by one or more of the projects. In this section we discuss the overall findings of the BCRP with

respect to the nature of SLCN; and the implications for practice, policy and research;

### *The nature of SLCN*

Children and young people with SLCN comprise a substantial proportion (15.7%) of those with SEN (Strand and Lindsay 2012), and for over 50% of children with a statement with SLCN as a primary need problems are still present in adolescence. The BCRP has clearly demonstrated both the complexity of the concept of SLCN and the difficulties presented in its use in practice. First there is the use of SLCN *either* as a broad category encompassing all children and young people with speech, language communication whether they be their primary need or secondary to another primary need, e.g. hearing impairment (e.g. Bercow review, SLTs); *or* as specified as the primary need (DfE, school census, teachers). Furthermore, we have presented comprehensive evidence of the important interactions between SLCN (in the restricted sense) and a range of demographic factors including age, gender, ethnicity, and EAL. We have demonstrated that there is substantial overlap between the characteristics of children with LI and those with ASD and provided further supporting evidence of the complex relationship between language difficulties and BESD, in children and young people with either LI or ASD in the same mainstream school settings.

The BCRP has also highlighted the importance of local policies and practices in addition to individual children's characteristics. Identification of ASD, for example, is substantially influenced by ethnicity and this phenomenon itself varies between LAs. Identification of SLCN as a primary SEN is substantially related to child's age, having EAL, and coming from a socially disadvantaged background. There also appear to be differences with clinical samples, who often reflect more complex patterns of need than pupils in mainstream settings (Lindsay *et al.* 2011). This emphasizes the importance of considering sample characteristics and the need for caution when generalizing between samples.

### *Implications for practice*

These findings indicate the importance of identifying individual children's needs. This is not to deny the particular usefulness of diagnoses as indicators. For example, we show that although children with LI and children with ASD both have peer problems and difficulties with prosocial behaviour, children with ASD are at much greater risk than children with LI. By corollary, the pattern of differences between groups of children may vary over time (Dockrell *et al.* 2012c). Rather, our findings stress the limitations of the diagnostic approach as the

primary method for determining interventions and support packages.

The use of the three level model of Universal, Targeted and Specialist interventions/provision which reflects the Response to Intervention model developed in the U.S. is a particularly useful way to reflect the variation within the population of children with language learning needs. The development of oral language is important for all children and effective classrooms require good quality language environments. Our Communication Supporting Classrooms Observation Tool is an evidence-based support for staff to review their own classroom practices and address areas of relative weakness. Our development of this tool showed that it was both a reliable and a valid measure and popular with teachers as a means of aiding self-improvement (Dockrell *et al.* 2012a). Furthermore, SLTs showed its usefulness for continuing professional development initiatives, as a means of supporting collaborative activity by teachers and SLTs.

Our *What Works for SLCN?* database of interventions provides practitioners with a comprehensive, evidence-based resource that indicates the level of evidence for the effectiveness of interventions, and we also provide guidance on estimating cost-effectiveness (Law *et al.* 2012a, b). The evidence base underpinning interventions for SLCN has broadened and deepened over recent years and there are some specific examples of interventions which show promise. Similarly there are a small number of economic evaluations. Yet there remains much that we don't know about the effectiveness and cost-effectiveness of interventions for children with SLCN. The work in the BCRP lays down a foundation for increasing the uptake of evidence-based principles, lays out what we know and highlights what we do not. It does not so much answer the 'does it work' question but points in a direction for practitioners providing evidence-based services within the health and education systems in the UK and the research community looking to carry out efficacy and effectiveness research.

In addition to the publication of all 19 BCRP reports the DfE is funding the Communication Trust during 2013/15 to disseminate the BCRP findings and to embed them in practice. Both the Communication Supporting Classroom Observation Tool and an interactive version of the *What Works for SLCN?* database are available on The Communication Trust's website.<sup>6</sup> A monitoring group has been set up by the Communication Trust in collaboration with the Royal College of Speech and Language Therapists (RCSLT) to receive and review new evidence on effectiveness of interventions for SLCN which will ensure the database is responsive to the developing evidence base. Further work is also underway to develop further support and guidance for practitioners in order that the outcomes identified by

parents (Roulstone *et al.* 2012a) are also built into assessment procedures.

### *Implications for policy*

The evidence from the BCRP is also being used directly to inform the development of Government policy. Initiatives are being led by the Communication Trust and the RCSLT, supported by ourselves. The Children and Families Bill is proceeding through UK Parliament during 2013, with the intention that it becomes law in 2014. A revision to the SEN Code of Practice has been drafted to provide guidance once the legislation is enacted (Department for Education (DfE) 2013). The Children and Families Bill incorporates the Government's proposals for a major revision to the SEN legislation in England. The pre-legislative scrutiny of the draft Bill by the House of Commons Select Committee, debates in Parliament, the work of the Parliamentary group focusing on the needs of children and young people with SLCN and the Minister responsible for the passage of the Bill through Parliament, Edward Timpson MP, have all drawn on the evidence from the BCRP.<sup>7</sup> In addition, a separate review by the All Party Parliamentary Group on Speech and Language Difficulties (2013) of the link between SLCN and social disadvantage also drew extensively on the research.

### *Implications for research*

Throughout this paper we have highlighted where there are gaps in our current understanding and a need for further research. Overall implications for research point to the need for a better understanding of how the children and young people's needs impact on teaching and learning and the development of effective interventions to address the range of challenges that are experienced. An awareness of both what is happening in the classroom, and in targeted interventions is required. This requires the development of research informed criteria of which oracy skills are expected at different development phases and establishing reliable measures for measuring actual and potential gains where dosage is explicitly addressed. Finally research is needed to examine the reasons for differential policies and practices at local level in order to improve equitable, evidence-based practice which will meet the needs of children and young people with a range of SLCN.

### **Conclusions**

The Bercow review (Bercow 2008) was a major landmark in raising of the profile of the needs of children and young people with SLCN. The BCRP has provided extensive evidence with direct and indirect implications for

both practice and policy development. Unusually, the government, through the DfE, is now funding (2013–15) the dissemination and embedding of our research into practice and also making our findings available to inform the development of national policy. The journey from undertaking research to inform the Bercow review, to undertaking a major research programme, to providing evidence and working with the voluntary and community sector provides an important example of the development of evidence-based practice and policy.

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### Notes

1. Full details of the whole research programme are available in 19 reports: <http://www.education.gov.uk/researchandstatistics/research/better>.
2. See <https://www.thecommunicationtrust.org.uk/>.
3. Available at <http://www.thecommunicationtrust.org.uk/>.
4. 'Up and coming' has been removed from the final database.
5. Available at <http://www.thecommunicationtrust.org.uk/schools/what-works/>.
6. See <https://www.thecommunicationtrust.org.uk/>.
7. For example, The Westminster Hall debate on speech, language and communication education, 19 June 2013 (available at: <http://www.theyworkforyou.com/whall/?id=2013-06-19a.223.0&cs=Speech%2C+language+and+communication+needs#g236.1>).

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