

Can we differentiate ASDs from SLI and does it matter?

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ASD

- Behaviourally defined **pervasive** disorder arrived at by clinical decision making
- Diagnosis using standardised
 - Interviews (ADI, 3Di, DISCO)
 - Formal assessments IQ, Language
 - Observation procedures (ADOS, PEP-R)
 - Questionnaires (SCQ, SRS, CARS)

SLI

- Behaviourally defined
- **specific** disorder arrived at by clinical decision making
- Diagnosis using standardised assessments of language and IQ
- Observation and informal assessments
- Necessary exclusion of global delay, neurological impairment, physical disability, deafness or autistic spectrum disorder

Clinical markers

past tense and 3rd person tasks, nonword repetition, pragmatics, gesture, inference

Bartak et al 75, Cantwell et al 78, Roberts 04, Whitehouse et al 08, Loucas et al 08

ASD + LI

- Language regression is autism specific (Pickles et al 09)
- Preschool
 - Difficulties at all levels of language
 - Lack of normal balance of better receptive than expressive skills (Hudry 2010)
- School age:
 - Higher order language difficulties
 - Significant problems in comprehension
 - Problems with discourse
 - Poor functional communication

LI

- Preschool
 - Difficulties at all levels of language
- School age:
 - Structural language mixed receptive/expressive
 - Comprehension better than expression
 - Phonology

Outcomes

ASD

- Very dependent on degree of learning disability
 - that 55% of people with ASD have intellectual disability Baird et al. (2006)
- Level of language competence and age of acquisition is predictive of better prognosis
- Around 75% of children with ASDs will be verbal (Howlin et al 2000 Mahwood et al 2000)
- Broader spectrum diagnosis better outcomes than core autism
- Factors such as anxiety and behavioural difficulties can affect outcomes

SLI

- 60% of expressive language delays in pre-schoolers spontaneously resolve
- 87% of children with receptive language impairments have continuing problems (Bishop & Edmundson 87)
- If language problems persist beyond 5.6yrs –
- **social** and literacy problems
Bishop & Adams 1990
Glogowska et al 2006
- At 11 yrs only 58% children in language unit met criteria for SLI
 - **5% scored highly for ASD**
 - 28% poor performance IQ
 - 8% resolved difficulties (Conti-Ramsden & Botting 2001)

Autism



SLI

- Evidence of *diagnostic substitution*
- Using current assessment procedures and depending on criteria adopted for ASD-diagnosis:
 - between 40-95% of PLI individuals met ASD criteria
 - between 0-33% of SLI individuals met ASD criteria
- Not just a matter of developing autism later in life ADI (questions relating to age 4.5yrs)
- Retrospective evaluation of studies of LI will have included children who would nowadays be regarded as cases of ASD

Does differential diagnosis matter?

Important for research

Implications for prognosis

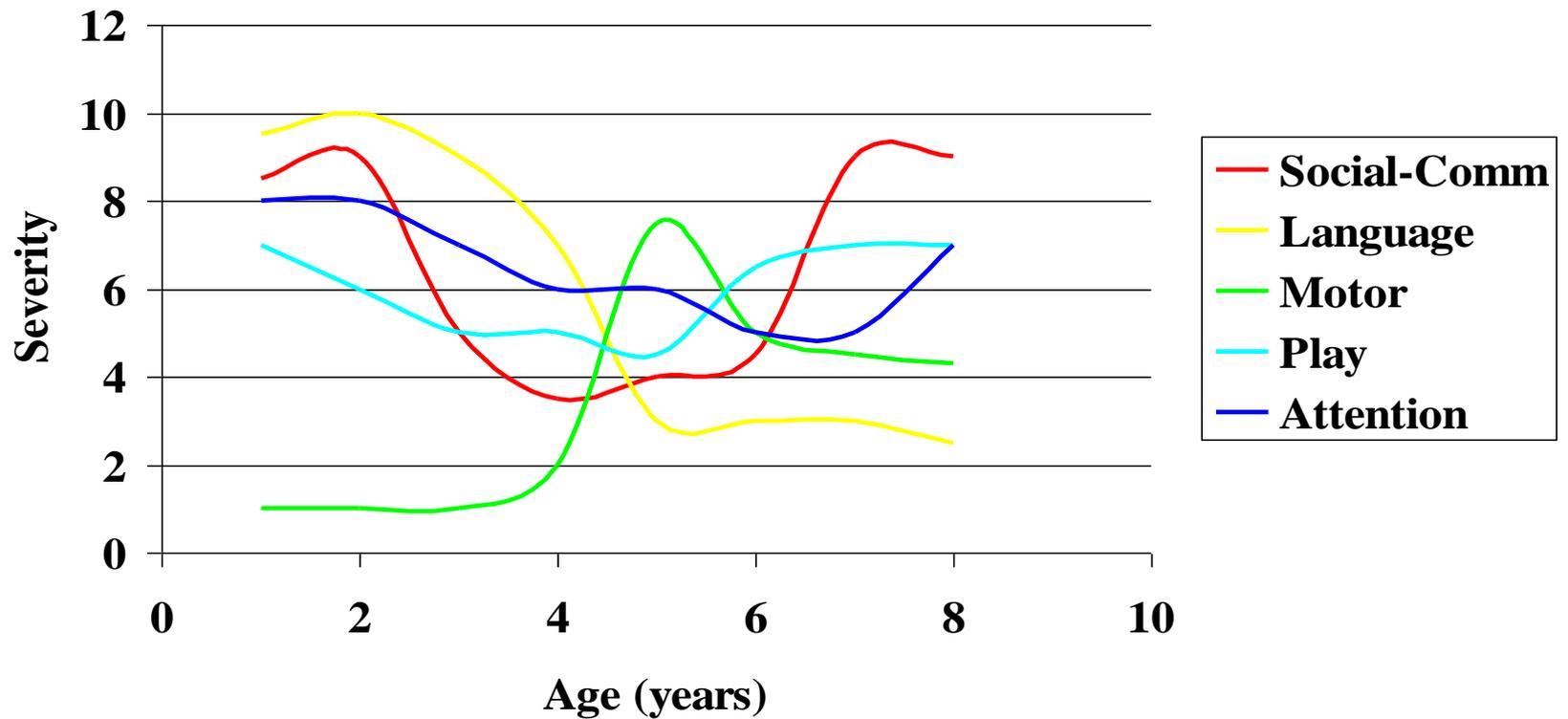
Implications for treatment response

What could it be?

General delay	Specific language disorder	Specific learning difficulties
Autism	Asperger syndrome	Separation Anxiety
ADHD	Conduct disorder	Developmental Coordination Disorder

Natural Progression of Autistic disorder

Dr Hilary Cass



Can we identify who to treat?

- Research into phonological development
 - atypical phonological processes predict more severe/persistent problem
 - children who made many atypical errors at 2 years were diagnosed as phonologically disordered at 3 years (McIntosh, B; Dodd, BJ.2008; Dodd, B; McIntosh, B.2010)
- Can we do the same with language and broader communication impairments?
 - Pervasive underachievement distinguishes disorder from normal low achievers (Dyck & Piek 2010),
 - 4-year-old children with language impairment showed a constellation of developmental disadvantages (Prior et al 2011)
 - Children with a history of Late Language Emergence were not significantly different from the TD group on a standardized narrative test or other measures of language (age) (Domsch et al 2012)

What evidence is there that early intervention is preventative?

Communication and autism symptom outcomes

Study	Design	Comm Dyadic	Comm Generic	Autism symptoms
Kasari et al. (2008)	T in nursery Daily for 6 weeks	Yes	Direct = Yes	Not reported
Dawson et al. (2010)	Intensive T and P for 24 months	Not reported	Direct = Yes Report = Yes	No
Kasari et al. (2010)	24 P sessions in 8 weeks; FU 12 m	Yes	Not reported	Not reported
Green et al. (2010)	Fortnightly then monthly P input 12m	Yes	Direct = No Report = Yes	No
Landa et al. (2011)	Daily nursery T input and P weekly 6m	?	No	Not reported
Carter et al. (2011)	3.5m parent-training	No	No	Not reported

What evidence is there that early intervention is preventative?

- Autism interventions
 - PECS Howlin et al 2007
 - Usage increased significantly immediately post training
 - Benefits not maintained once training ceased
 - EIBI Magiati et al 2007
 - Home-based EIBI (ABA) and autism-specific nursery provision produced comparable outcomes after two years of intervention
- SLI interventions
 - Law Cable and Domsch 2011 Review
 - focused stimulation and modelling of single words can lead to improvements in the language of children with late language emergence
 - Poor quality of studies often case studies
 - Henning et al 2010
 - no significant differences between children who had received intervention in preschool and controls
 - short-term positive effects in preschool did not enhance socially disadvantaged children's language and literacy achievement in the long term

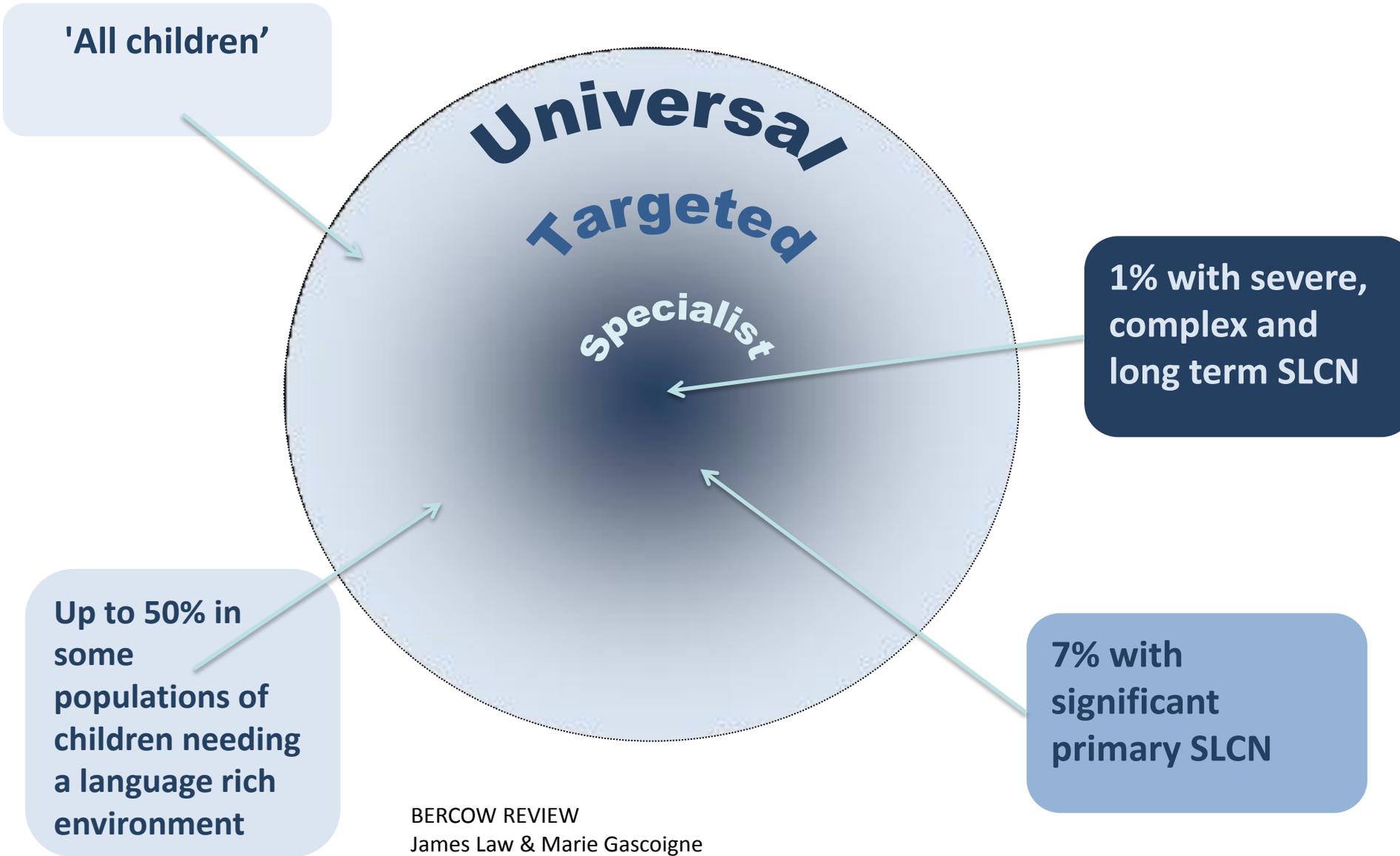
Are later interventions any better?

- A multi-centre RCT with children aged 6–11 years tested (Boyle et al 2011)
 - Children with expressive but not receptive language problems improved.
 - Mode of delivery i.e. SLT or SLT assistant and individual or group did not make a difference
- Results were not replicated in a cohort study (McCartney et al 2011)
 - Less language-learning activity was recorded and delivered
 - Implications for ‘consultancy’ speech and language therapist service delivery models in mainstream schools
- Parent–Child Interaction Therapy Allen & Marshall 2011
 - 8–10-year-old children
 - PCIT can achieve its treatment goals with 8–10-year-olds who have expressive language impairments

Later interventions continued

- SLT for children with primary speech and language impairment? Broomfield & Dodd 2011
 - ~ 6 h of speech and language therapy in a 6-month period more effective than no treatment
 - Wide age range up to 12 years
 - Speech disorders made most progress with treatment and least without it.
 - Comp and expression improved in both groups and with relatively little intervention but not to age expected norms.
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- Semantic therapy for word-finding difficulties Ebbels et al 2012
 - Children aged 9;11–15;11
 - Four hours of therapy on discrete semantic categories
 - Significant gains on a general standardized test of word finding in children with severe language difficulties

Speech, language and communication support across the range of children with SLCN



Quotes

- Don't spend too much time assessing, just get them into therapy
- We cannot provide intensive treatment for any children
- We cannot provide ongoing interventions
- We do not see children over 5yrs of age

Current clinical situation?

- Screen referrals with partial assessments
 - One or two subtests of same or different tests – no cognitive assessments
 - Informal observation
 - Parental concern
- Treatment decisions
 - Allocation to one of a limited number of services
 - Phonology groups
 - Parent child intervention advice and groups
 - Early educational provision
 - Generic or specific to diagnosis?
 - Specific interventions e.g. PECS

Can we provide tailored intervention based on differential diagnoses and predicted response to treatments?

Is early intervention at the expense of older children with more significant impairments?