



Facilitating links between research & practice

Evaluating Interventions for Children with SLCN:  
Methods & Findings  
November 2012

UCL Division of Psychology and Language Sciences

The Centre for Speech and Language Intervention Research (CSLIR) focuses research in speech and language disorders, with an emphasis on the practical implementation of research.

Members come from the UK and abroad, work in HEIs, Health Services & Schools.

Interests span developmental and acquired communication difficulties.

# The aims of the CSLTR are to:

- Foster collaborative research in the field of speech and language pathology and therapy 
- Disseminate current research information and encourage implementation in clinical practice 
- Foster partnerships in order to build research capacity across speech and language therapy centres, including making bids for funding 
- Involve 'users' in research development 
- Be a resource for clinicians/practitioners providing access to web-based materials for use in assessment and therapy 

# Welcome!

Practicalities:

Audience

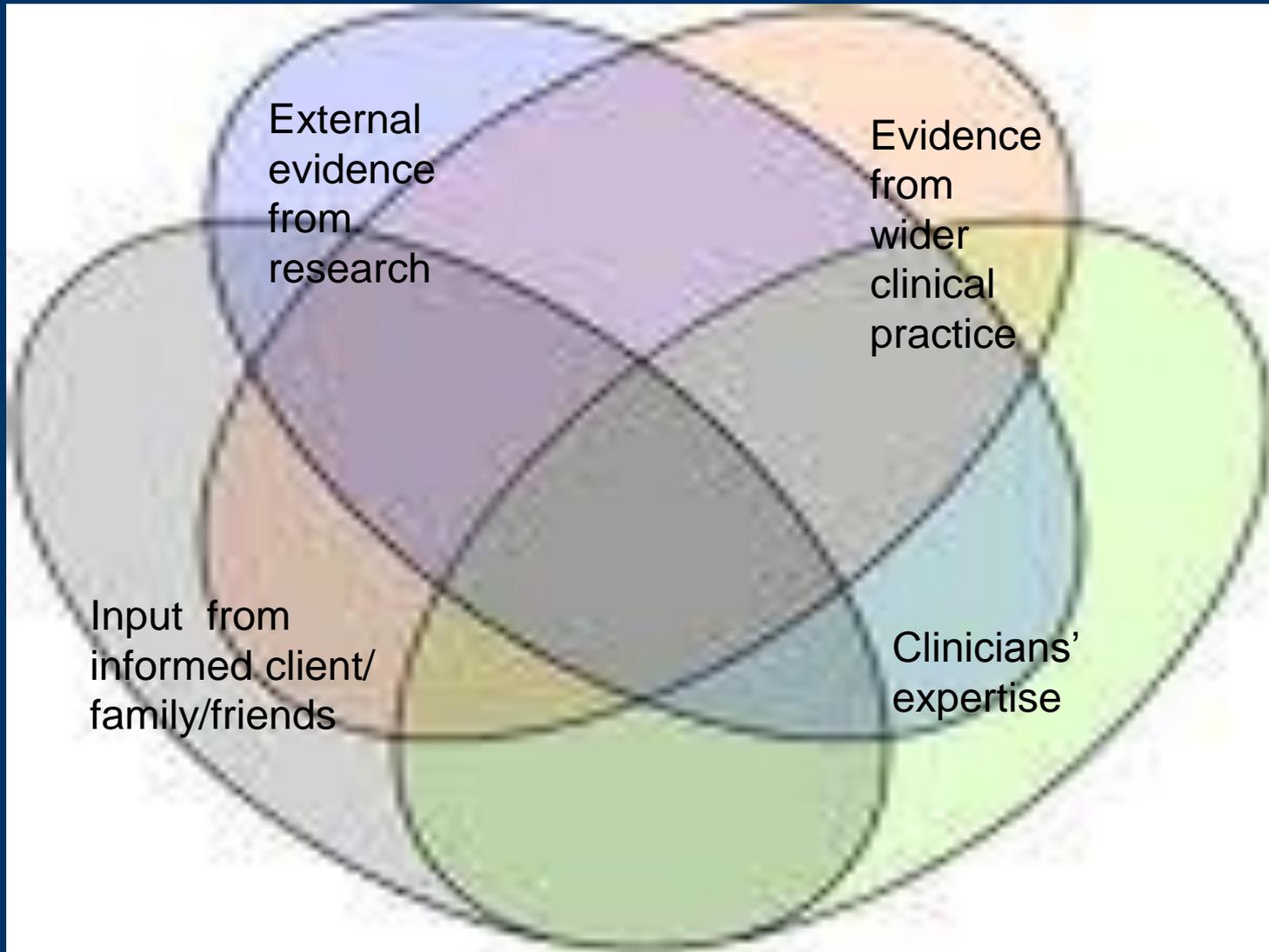
Slides - are/will be on CSLIR web-site

Break – short stretch/water

Drinks – wine reception after event

Thank you Rachel & Francina

# Research forms part of Evidence Based Practice



Adapted from McCurtin & Roddam, 2012, extended from Dollaghan, 2007

# Brief introduction: methods and *uses*

1. Randomised Control Trials (/Group Studies)
2. Single Case Experimental Designs  
/Case Series (SCEDs, n-of-1 trials)
3. Survey findings

# RCTs/Group Studies

- Well established 'gold standard' in health research & becoming more widely used in education
- Can generalise findings to other children who meet criteria
- New frameworks are emerging for complex interventions (MRC)
- Will facilitate inclusion of findings in policy/documents particularly those produced using the medical hierarchy of evidence (e.g. Cochrane reviews)

# RCT, Boyle et al. (2007), Scotland

(see slides from Elspeth McCartney's 2010 Centre Talk)

- Language impairment 'which persists into the school years is unlikely to resolve spontaneously' (Boyle et al., 2009, p. 843).
- Therapy study: children with language impairment, age 6-11
- Manualised intervention, (based on 'sparse' evidence)
- Intervention resulted in significant improvement in standardised scores for expressive language but not for receptive language.
- Control group did not improve.
- No statistically significant difference in outcome for SLT vs SLT assistant delivered therapy, or for individual vs small group therapy.
- Further research is necessary to inform '*...an understanding of what components are most effective for particular presenting problems*' (p.98).

# Issues for RCTs?

- Findings apply to group average and not necessarily to individuals within group
- Can be very expensive
- ‘Control’ condition is often ‘standard practice’, in this case it is not always clear what about the intervention resulted in change (e.g. increased attention, contact with therapist)
- ‘Control’ may be a different intervention ...but care in how findings may be used

# RCT with adults with aphasia

Doesborgh et al. Visch-Brink (2004)

55 adults with aphasia (all had both semantic and phonological deficits)

1 group semantic intervention & 1 group control (phonological intervention)

Both groups improved on language testing with *no difference* between the groups on overall score

There were selective gains on secondary outcome measures according to the nature of the intervention (word-to-picture matching improved with semantic intervention and non-word repetition with phonological intervention)

# Use of this RCT

Draft National Clinical Guidelines (The Royal College of Physicians Intercollegiate Stroke Working Party 2012)

‘Specific therapy aimed at altering the underlying communication impairments post-stroke should only be used in the context of a clinical trial’.

Use Doesborgh et al. 2004 and other references including Jong-Hagelstein et al. 2011 to support this.

However the study does **not** show specific therapy aimed at altering the underlying communication impairments post-stroke to be ineffective.

# Why SCEDs

- Each child acts as their own control, the effects of different interventions can be compared for an individual
- Assessments are typically in depth. The results can be linked to different children's language (& wider) profile enabling exploration of the mechanisms of change
- Practitioners may be influenced by case studies that relate to individuals with whom they work

# Issues for SCEDs

- Findings from individuals can not be generalised to wider population with this difficulty
- Less widely accepted and understood than group studies (although Oxford Centre for EBM includes systematic reviews of n-of-1 trials as level 1 evidence, 2011)
- Debate about optimum design continues (e.g. no stats in many multiple baseline across behaviour studies)

# Issues for all intervention studies

- Statistical significance is not clinical significance
- Generalisation
  - In RCTs to those with same characteristics as those who met inclusion criteria
  - In SCEDs, big difficulty, but can find helpful approach for an individual and if many show the same pattern, how many is enough? If there are different patterns this may be clinically and theoretically informative
- Bias (lots of research on this for medical RCTs)
- Are these the studies those with speech/language/communication needs would wish for?

# What research evidence do SLTs use? (Edmundson & Best, in progress)

144 SLTs working with either adults with aphasia or children with specific speech and language needs completed questionnaire.

Therapists rated the extent to which they agreed with statements about how they used the results of RCTs & SCEDs.

Use of study	RCTs	SCEDs
Justify service to commissioners	29%	28%
Guide management of individual cases	50%	85%
Plan specific therapy with clients	40%	82%

Both approaches are valued by clinicians, with SCEDs being more widely used to inform the specifics of intervention.

# Quotes from SLT survey:

Views were very varied :

*'The bigger the study numbers the more likely it is to influence what I do'*

*'Control trials that have bigger participant numbers are more useful in terms of strength and use with commissioners. Also it provides more information on the type of service that we deliver. Case studies are more useful in terms of more specific therapy interventions'*

*'I do find single case studies a really helpful clinical resource-- I think a move to case series design might be more pragmatic and widen application of findings but I am not convinced that RCT design presents the best way forward for measuring efficacy of therapy when aphasic patients are so diverse and therapy is tailored to specific difficulties'*

*'Single case studies, either published or presented during presentations, seminars and conferences tend to be enthusiastic, encouraging and presented in practical detail. A child on my caseload comes to mind and I am keen to try a specific line of therapy'.*

# Choice of design:

Hegde (2007) notes, “...researchers select experimental designs based on their training, experience, expertise, and research philosophy. And it will continue to be that way. Those who typically use a particular strategy will retain a healthy critical disposition toward the one they do not use. This is good for the science ... because the sceptics of any approach will help keep the enthusiasts a notch below extremists (p30.)”