RCSLT Conference 2012

The RCSLT Conference 2012 is sponsored by
TURNING ROUTINE CLINICAL WORK INTO EVIDENCE-BASED PRACTICE

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SESSION OUTLINE

- Let’s talk evidence – **what, why, when, how?**
- Recognising and Making use of the **BEST** evidence
- **The busy practitioner:** Ideas for how you can contribute to the evidence in your daily practice
- Setting your own **future goals and actions** – Turning your clinical practice into evidence for the profession
The Busy Clinician...
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So, if we are so busy, why do we need to provide evidence for what we do, and embed more of a research culture in our daily clinical practice?
Over to YOU...
Drivers Include:

- **Times of Austerity** – need to show why SLT is worth an investment

- Not just an ‘add on extra’

- **Preventing cuts** to services, **rationalising** posts

- Raising our profile – **policy** and government level

- Decision makers, budget holders and stakeholders want:
  - Evidence based services that meet their priorities
  - Meaningful outcome measures
  - Value for money
AND WHAT ABOUT ANSWERING SOME OF OUR OWN QUESTIONS ???
Questions we ask frequently include...

- How do I know if the programme is working?
- Why do I never see any change on the CELF/ (any other test). What can I use which is more sensitive to show change?
- Is something better than nothing?
- His teacher says he is getting better but there is no evidence of this on any of our tests.
- Does the training I am giving to his teacher/spouse/nurse make any difference?
- How do I prioritise the 10 children referred from one school?
- Will this client’s language improve spontaneously without intervention?
- What is best the intervention for this client and when should it be given?
- Do I need to treat everyone who is referred?
- Is it better to see the client for a short intensive period or over a longer period?
If there is evidence, find it, read it, understand it, evaluate it, and use it...if appropriate.

And if there is no evidence, create it!
What is Evidence Based Practice?

- ‘The conscientious, explicit and judicious use of *current best evidence* in making decisions about the care of individual patients’ (Sackett et al, 1997)

- *Current best evidence* is up-to-date information from relevant, valid research (First Annual Nordic Workshop, 1996)
Evidence Based Practice and SLT

- SLTs are increasingly required to demonstrate that their practice is based on evidence.

- Professional associations and regulatory body support and expect its use.

- Resources for services are dependent on results.
Standards of Proficiency, HCPC

- “…be able to engage in evidence-based practice, evaluate practice systematically and participate in audit procedures”

- “…be able to evaluate research and other evidence to inform their own practice”
Evidence-Based Practice is the integration of: (a) clinical expertise/expert opinion, (b) external scientific evidence, and (c) client/patient/caregiver perspectives to provide high-quality services reflecting the interests, values, needs, and choices of the individuals we serve.

http://www.asha.org/members/ebp/
So how do we in fact evaluate our practice and produce an evidence-base for SLT?

‘all evidence is not created equal.

Using inadequate evidence to support something…is bad science, bad for the profession’s service, and bad for the consumers of that service’

Wertz (2002, p. 15)
What constitutes good evidence?
Good evidence will incorporate:

- Clear **question** or hypothesis – theoretically motivated and testable

- Description of the **context** and existing information about the issue under investigation

- **Participants** are adequately described

- Details of **intervention** provided

- Inclusion of some **control** - control group, control measure, baseline

- **Random allocation** to treatment and control group

- **Intention to treat** – control for people dropping out
Good evidence will incorporate:

- Clearly defined **outcome measures**
- Use of a **range** of assessment types
- Baseline, pre, post and follow up **testing points**
- Check on **fidelity** of treatment
- **Blind** assessment
- Appropriate **statistics** - effect sizes
- Presentation of **evidence**, with data and analysis in a format that can be **replicated** by others.
- **Measured** cautious conclusions and their implications
- Overall **Replicability**
Avoid the ‘They Say...’

They say all sorts of things. For example, they say that Eskimos (Inuit) have 23 words for snow, although they never offer a specific citation from an Eskimo dictionary.

They say that you lose 80% of your body heat from your head (possibly for well-dressed, bare-headed people, and even that is probably an exaggeration),

and that you shouldn’t go into the water for an hour after eating (probably good advice for swimming in rough conditions after a heavy meal, but not for relaxing in the water after a snack),

and that people have more accidents when the moon is full (which probably only applies to people who believe this myth).

They say that “you only live once,” but they also say that people are reincarnated.
Avoid the ‘They Say...’

Much of what “they” say may have some factual basis, but people invoke “them” to validate ideas without bothering to define the issues or test their validity.

Just because a concept is frequently repeated does not mean it should be accepted without question.

Litman, 2012, p.11,

www.vtpi.org
Info@vtpi.org

http://www.badscience.net/category/evidence-based-policy
Neuro-scientific interventions for dyslexia: red flags

Dorothy Bishop: http://deevybee.blogspot.co.uk/2012/02/neuroscientific-interventions-for.html - re: Sensory Activation Solutions

- Who is behind the treatment and what are their credentials?
- Is there a credible scientific basis to the treatment?
- Who is the intervention recommended for?
- Is there evidence from controlled trials that the intervention is effective?
- What is the attitude of those promoting the intervention to conventional approaches?
- Are the costs transparent and reasonable?

**A 5-step Process to EBP**

**Recap:** EBP is an integration of the best available evidence, coupled with clinical expertise. It allows clinicians to address clinical questions with an evaluative approach. It enables the clinician to assess current and past research, clinical guidelines, and other information in order to identify relevant literature and differentiate between high- and low-quality findings.

It includes 5 basic steps:

**Step 1:** Formulating a well-built question  
**Step 2:** Identifying evidence-based resources that answer the question  
**Step 3:** Critically appraising the evidence to assess its validity  
**Step 4:** Applying the evidence  
**Step 5:** Re-evaluating the application of evidence and areas for improvement

http://www.asha.org/members/ebp/  
http://hsl.lib.umn.edu/learn/ebp/mod01/index.html
Step 1: Formulating the Question

- Decide what details are important to the question you want to ask. Keep it **SMART**. A well-built clinical question includes the following components:

  **P** = The patient’s disorder or the problem
  
  **I** = The intervention or finding under investigation
  
  **C** = A comparison intervention (if applicable)
  
  **O** = The outcome.
Example 1:

“Would the administration of a 6-week (12, 1-hour sessions) phonological based intervention programme be more effective than the same amount of semantic-based intervention in reducing the occurrences of word finding difficulties in a 54-year old man with severe word finding difficulties after experiencing a left-sided CVA, 18 months ago”

Can you identify each PICO component?
Example 2:

“Do pre-schoolers with severe developmental stuttering and delayed language development show greater fluency with Lidcombe therapy or a school-based counselling approach.”

Can you identify each PICO component?
<table>
<thead>
<tr>
<th>Population</th>
<th>Intervention</th>
<th>Comparison</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke clients</td>
<td>Early initiation of aphasia treatment</td>
<td>Aphasia treatment after spontaneous recovery time</td>
<td>Functional communication abilities</td>
</tr>
<tr>
<td>Pre-schooler with articulation disorders</td>
<td>Individual withdrawal intervention</td>
<td>Group withdrawal treatment</td>
<td>Ability to consistently produce /s/</td>
</tr>
<tr>
<td>17-year-old male with a severe head injury</td>
<td>Cognitive rehab</td>
<td>No cognitive rehab</td>
<td>Return to work/school</td>
</tr>
</tbody>
</table>
Step 2: Database/Resource Searching

- After successfully formulating the clinical question, find relevant **evidence**. You may need to consult **several types of information resources**. These resources generally fall into three categories:

1. **General information (background) resources**:
   resources that provide background information

2. **Filtered resources**: resources that have synthesized "evidence" to state conclusions based on the available research. The literature has been searched and results evaluated to provide an answer to a clinical question. E.g. **Cochrane Database of Systematic Reviews**

3. **Unfiltered resources**. Individual studies (the primary literature), for e.g. Medline, Web of Science etc.
Step 3: Critical Appraisal

- After identifying article/s or resource/s that seem appropriate to your question (step 2), there is a need to appraise the information critically. A healthy scepticism is no bad thing!
A **systematic review** is a summary of the literature that uses explicit methods to perform a comprehensive literature search and critical appraisal of individual studies, and that uses appropriate statistical techniques to combine these valid studies.

**Example:** Law et al., 2000, IJLCD, Prevalence and natural history of primary speech and language delay:
Example of a RCT

Example: Boyle et al, 2009: IJLCD: RCT comparing direct versus indirect language therapy

http://gollum.lib.uic.edu/applied_health/node/12?q=node/37
Cohort study - observational

Example: McCartney et al., 2010, IJ LCD: Effects of indirect language therapy

http://gollum.lib.uic.edu/applied_health/node/12?q=node/38
**Case-control study:** observational, retrospective study, identifying people with an outcome of interest (cases) and control patients without the same outcome, and looking back to explain this.

http://gollum.lib.uic.edu/applied_health/node/12?q=node/39
A **case series** is a descriptive report on a series of clients with an outcome of interest. No control group is involved.

http://gollum.lib.uic.edu/applied_health/node/12?q=node/44
Expert opinion

The clinical experience, expertise, and judgment of a respected healthcare professional can play an important role in EBP.

Sometimes there will not be methodologically sound research to answer your clinical question, and expert opinion will be important in your decision-making process.

Both expert opinion and scientific research should be evaluated for selective use of evidence and other biases.
Step 4: Applying the Evidence – Making the decision

- Once you are satisfied that the study is internally valid (step 3), you can decide how the study and/or other information applies to your question.

- Combine clinical expertise, the patient's perspective, and the available scientific evidence in making a specific clinical decision with a specific patient.

- The expertise and experience of the individual clinician is an absolutely essential part of evidence-based practice.
Step 5: Re-evaluating the Evidence

- In this process, you will have developed a clinical question (step 1), sought out answers to verify and support your clinical decision (steps 2 and 3) and ultimately applied the findings to your client (step 4).

- The final stage is to evaluate the effectiveness and efficiency of your decision in direct relation to your client.
How to undertake research in clinical practice

Dr Emma Pagnamenta
Research and Resources Manager
RCSLT
Aims

- Research in the context of clinical practice
- How did clinical work inspire research activity?
- What was the process involved?
- Impact on clinical practice?
- 3 recent examples
Life as a clinician?
I want SLT to be equitable
I want to use our resources effectively and efficiently
I want to feel confident that I’m doing the right thing

I want to have an impact

I want to provide the best service I can
I want to share good news (and bad news)
I want our profession to be well respected
RESEARCH

EVIDENCE BASE

CLINICAL PRACTICE
EXAMPLE 1: SMALL SCALE ENGAGEMENT WITH RESEARCH
Clinical practice ➔ research

- Huge referral rate at 2 years
- Often no or few words
- Limited resources
- Need for early intervention
- Specialist intervention for those who need it
What predictors are there of outcome for children with language delay at 2 years?
Process

PDP target → Library service contacted and carried out literature search → Review of evidence
Research → practice

- Risk factors to be aware of (e.g. family history, family environment, maternal education, comprehension, communicative intent, pretend play)
- Care pathways/prioritization
- Add to evidence base: record risk factors at initial assessment and collate with outcomes
EXAMPLE 2: USING OUTCOME MEASUREMENT IN EVERYDAY PRACTICE
Clinical practice research

- ‘Playing with words’ group offered to most 2-3 year old children presenting with language delay
- Do our groups have an impact on parents and children?
- Is group content effective (circle time, 1:1 support in free play)
- Can our outcomes help with parent pre-conceptions and expectations of group
Are the early language parent-child groups we provide effective?
Process

Questionnaire developed and trialled in groups lead by EP and Technical Instructors → PDP target

Results collated and presented at whole service meeting → Rolled out across groups
Details of study

- 38 children
- Ages ~2;6 to 3;6
- Typical profile: 1-2 ICW comprehension with no/few single words
- Parent questionnaire pre and post 6 week block of 1 hour/week with homework
1. How concerned are you about your child’s language?
   - Very concerned
   - Not at all concerned

2. How does your child’s language compare to children of the same age
   - Much lower level
   - Same level

3. How does your child communicate (tick all that apply)
   - Pointing
   - Gesture/mime
   - Taking you to what they want
   - Signing
   - Looking
   - Sounds (not obvious words)
   - Single words
   - 2 word phrases
   - 3+ word phrases
4. How many words does your child use? ______________________________

5. What would you like your child to be able to do that they can’t at the moment?
   ____________________________________________________________________
   ____________________________________________________________________

6. How confident do you feel in knowing what to do to help?

   1  2  3  4  5

   😞 Not at all confident    😊 Very confident

7. Any other comments
   ____________________________________________________________________
   ____________________________________________________________________
Parental concern

Number of words

Parental confidence

Means of communication

- Pointing
- Gesture
- Taking adult to object
- Signing
- Looking
- Babble
- Single words
- 2 word phrases
- 3 word phrases

T1
T2
A research design…
Research → practice

- Outcome measure developed that gives us useful information
- Evidence specific to service delivery to discuss with parents
- Evidence of impact and quality
- Modifications to content
EXAMPLE 3: MASTERS PROJECT BY PRACTICING CLINICIAN

Teresa Heathcote 2011 (unpublished)
Clinical practice  research

- Some children with learning disabilities may have speech difficulties that are more severe than other difficulties.
- Poor intelligibility impacts greatly on students. Often motivated to address this.
- Anecdotal evidence that using functional vocabulary in therapy with students had resulted in positive change.

Teresa Heathcote 2011
Is core vocabulary therapy effective for children with inconsistent speech disorders and learning disabilities

Teresa Heathcote 2011
Process

- Experienced clinician working in special schools
- Successfully applied for MSc Human Communication at City University
- 1 day for data collection
- Fees funded by learning and development
- Project designed in collaboration with Barbara Dodd

Teresa Heathcote 2011
Process

1. Ethical approval
2. Study design presented to team
3. Special school team carried out screening
4. Results disseminated to team
5. Assessments and intervention delivered by TH
6. Approval of school/parents
7. Written for publication

Teresa Heathcote 2011
Study design

4 case studies

Teresa Heathcote 2011
Findings

- All students increased consistency of words targeted in therapy
- 2 students generalised consistency
- 1 student with +++consistent speech patterns showed least change

Teresa Heathcote 2011
Clinical practice → research

- Evidence that core vocabulary approach effective for children will inconsistent speech disorders and learning disabilities
- Practical strategies for intervention
- Reinforcement by school/parents
- Motivation
- Greater change with older children
- Extended evidence base

Teresa Heathcote 2011
I want SLT to be equitable.

I want to have an impact.

I want to use our resources effectively and efficiently.

I want to feel confident that I'm doing the right thing.

I want to provide the best service I can.

I want to share good news (and bad news).

I want our profession to be well respected.
Final thoughts

- Research Clinical practice
- Research brings huge benefits to us as individual clinicians, to service delivery and the profession as a whole
- Research can be done as part of a busy clinical role
- There are people who can help you

THANK YOU FOR LISTENING
Acknowledgements

Thank you to:

- The children & their families
- Teresa Heathcote
If there is evidence, find it, read it, understand it, evaluate it, and use it...if appropriate.

And if there is no evidence, create it.
Contributing to the evidence...

- Define your **clinical question** – what do you want to know?
- Who are your **participants**?
- What is your **intervention**?
- **Control** group? – waiting list controls
- **Blind** assessment – other colleagues? Students?
- Use a **range of assessments**
- Consider **timings of assessment points** – baseline, pre, post and follow up
Contributing to the evidence...

- **Start small**, single case or small group studies, combine and build from there
- Be **rigorous** with your data collection
- Take a stats and research methods **refresher course** 😊
- **Share and disseminate** – SIGs, conferences, professional magazines and practitioner journals
- **Enjoy, grow and develop** – explore the range of options these activities will bring…
EMBEDDING RESEARCH IN EVERYDAY CLINICAL PRACTICE

- What am I doing now to embed research into my everyday clinical practice?
- What are the main barriers preventing me from being sufficiently research aware and research active?
- What can I do to overcome some of these barriers?
- The 3 new activities I will be undertaking over the next year to become more research aware and research active as a therapist are:
  1. 
  2. 
  3. 
- The burning research question that I would like to explore regarding my clinical work is: ____________________________
And who do I need to connect with to make this happen?

- Manager/supervisor
- Colleagues - internal and external
- Allied Health Professions research forum network
- R&D Department
- Local Higher Education Institution
Make the leap...
Take the Plunge
“Accept the challenges so that you may feel the exhilaration of victory”
Keep in touch and let us know how things are progressing…

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