Evidence-based Clinical Guidelines in Stuttering Therapy

Mark Pertijs, MSc.

European Symposium on Fluency Disorders 2014

March 29th 2014

mark.pertijs@hu.nl

Topics

- Aims and definition.
- The Dutch Evidence-based Clinical Guideline Developmental Stuttering:
  - developmental proces,
  - grading the evidence,
  - from evidence to recommendations.
- Guidelines in Europe.

HOGESCHOOL UTRECHT

ecsf
EUROPEAN CLINICAL SPECIALIZATION FLUENCY DISORDERS

- Which therapy?
- When to start therapy?
- When to end therapy?
- Who has to provide therapy?

HOGESCHOOL UTRECHT

ecsf
EUROPEAN CLINICAL SPECIALIZATION FLUENCY DISORDERS

Undesirable Variation

Evidence-based Clinical Guidelines

- Reduce undesirable variation,
- Improve transparancy,
- Make the rapidly growing flow of information manageable,
- Integrate clinical expertise with the best available scientific evidence.

HOGESCHOOL UTRECHT

ecsf
EUROPEAN CLINICAL SPECIALIZATION FLUENCY DISORDERS

The Ultimate Goal

Improve quality of care!

Definition

"An Evidence-based guideline is a document with recommendations meant to improve quality of care. It is founded on systematic reviews of scientific research and on the assessment of the advantages and disadvantages of different care options and includes expertise and experience of healthcare professionals and service users."

(Richtlijn voor Richtlijnen, 2011)

Standard of Care

Evidence-based guidelines can be used to formulate standards of care.

Standards of care describe the process of care necessary to provide good healthcare.

The Dutch Evidence-based Guideline Developmental Stuttering in Children and Adults

Uncertainty about..

Content of Care

- Diagnostics
- Intervention

Organisation of Care

- Timing
- Refering
- Collaboration
- Aftercare

Available Stuttering Guidelines

- Guidelines for Practice in Stuttering Treatment
  American Speech and Hearing Association (1995)

- Clinical Guidelines
  Royal College of Speech & Language Therapists (2005)

Available Stuttering Guidelines

- The most influential guidelines are developed nationally and interpreted locally (Barkham et al. 2010)
- Update every 5 years

The Working Group

- Bast, dr. E.J.E.G., Demosthenes
- Bezemer M., NVST
- Beer, dr. ir. J.J.A. de, CBO
- Bunschoten, E.M., NVST
- Kalter, E., MSc., NVLF
- Kuijpers, dr. A.C., CBO
- Oonk, L.C., MSc., chair
- Ormondt, J. van, Demosthenes
- Pertijs, M.A.J., MSc., project manager
- Rosenbrand, drs. C.J.G.M., CBO
- Wijngaarden, van, L.J., VSN

Advisory and Focus Group

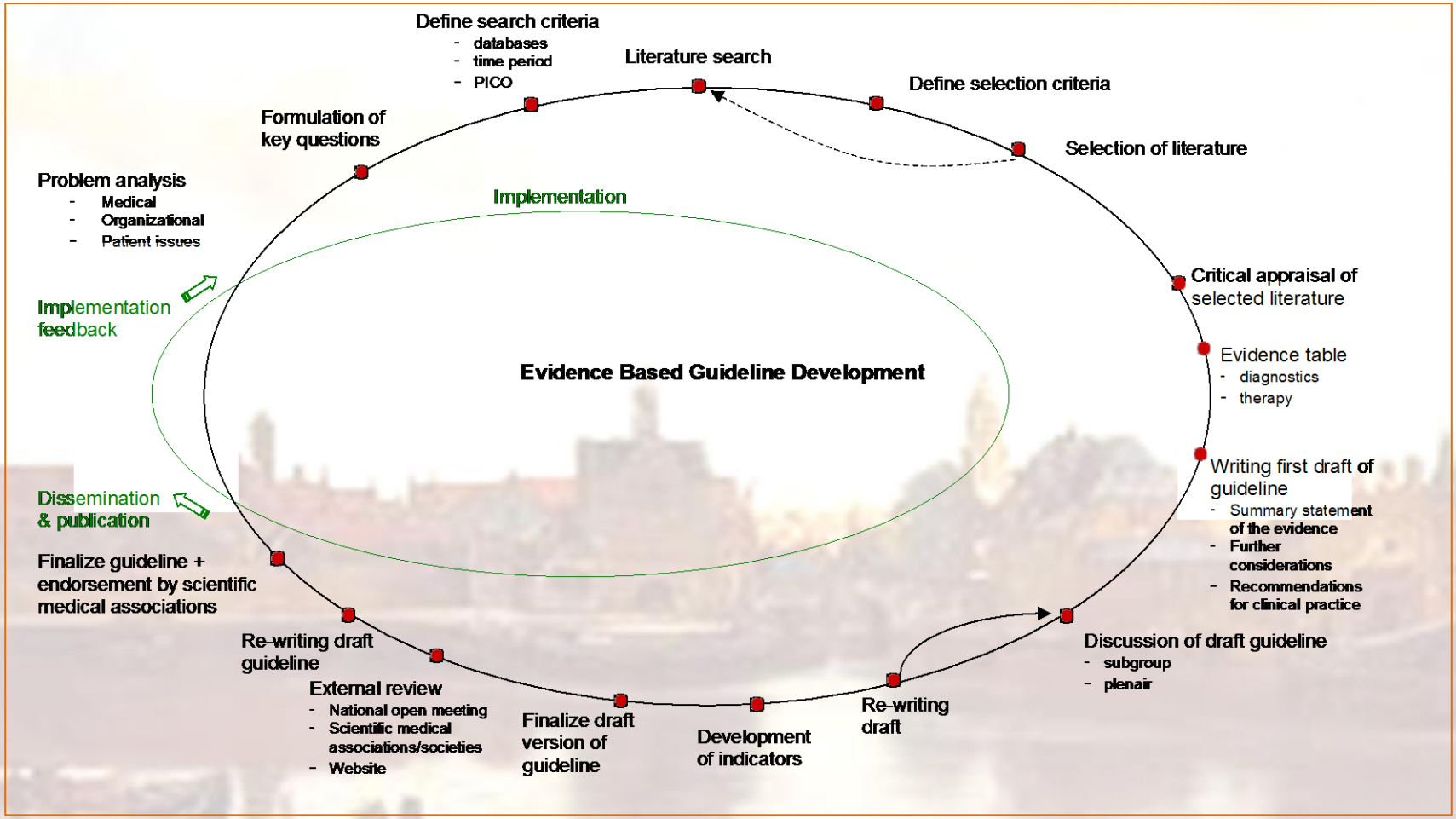
The advisory group

- Family doctors
- Specialists
- Teachers
- Psychologists

Focus group

- Persons Who Stutter
- Parents from Children Who Stutter

Evidence-based Guideline Development



CBO (2004)

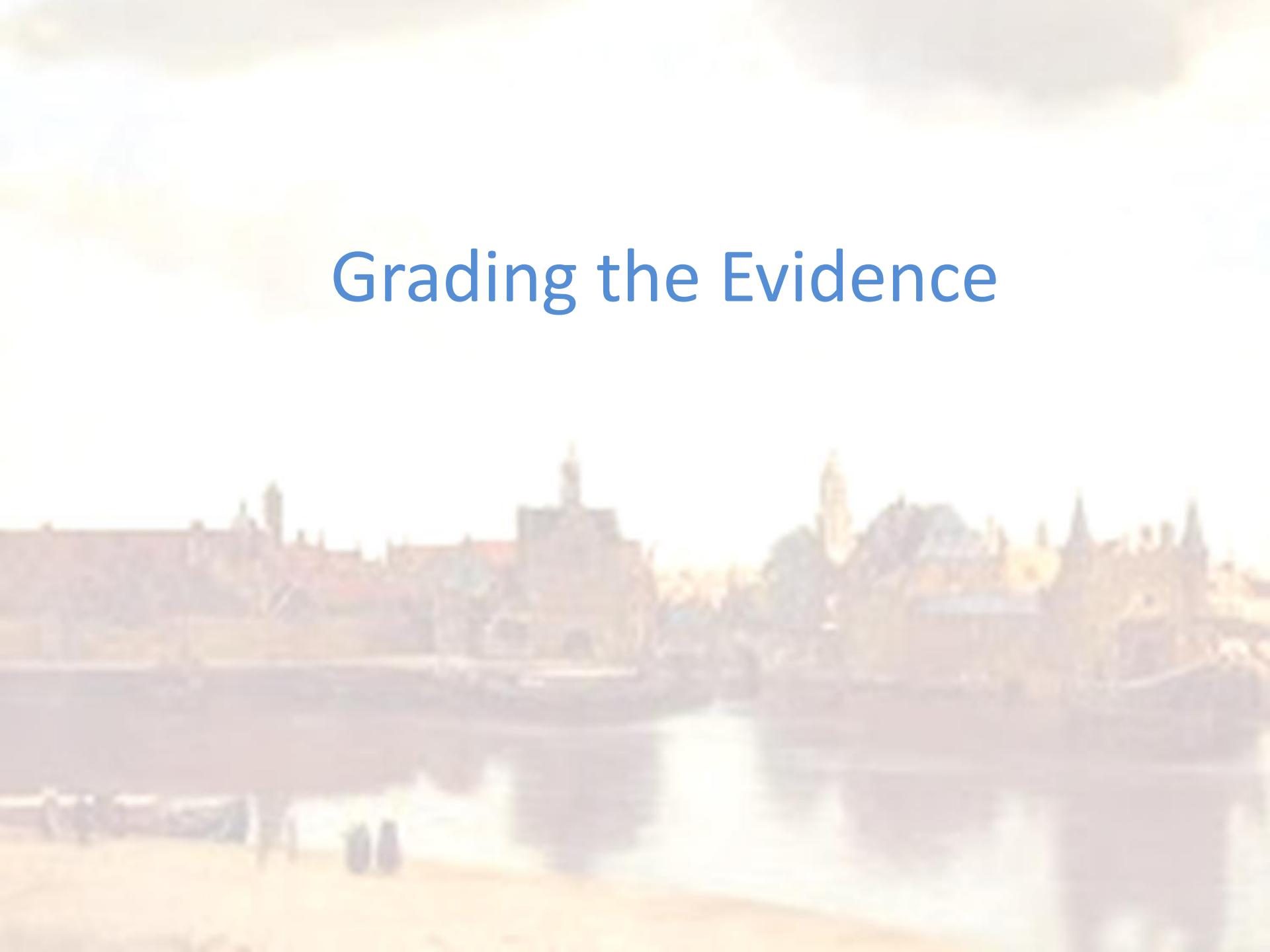
Key Questions

1. What are the indications to treat children and adults with developmental stuttering?
2. What is the value of diagnostic test (I1, I2, ...) in children and adults with developmental stuttering?
3. What are the positive and negative effects (O1, O2, ...) of a particular treatment (I1, I2, ...) compared with no treatment or with another treatment (C1, C2) in children and adults with developmental stuttering (P)?

Key Questions

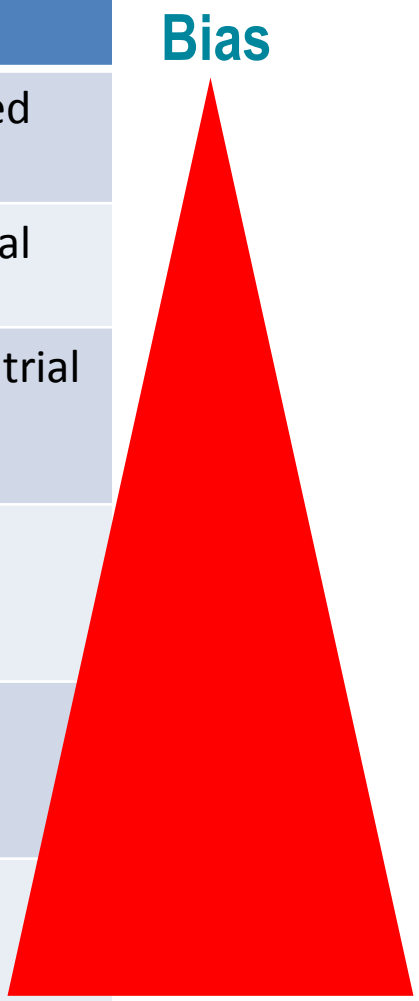
3. When and for what reason should a PWS be referred to a specific care provider (e.g. SLT, Stuttering Specialist, Psychologist, etc..)?
4. How should adequate aftercare be organized and implemented?

Grading the Evidence



Clinical Guidelines
Royal College of Speech & Language Therapists (2005)

Level Type of evidence (based on AHCPR 1992)
Ia Evidence obtained from meta-analysis of randomised controlled trials
Ib Evidence obtained from at least one randomised controlled trial
IIa Evidence obtained from at least one well-designed controlled trial without randomisation
IIb Evidence obtained from at least one other type of well-designed quasi-experimental study
III Evidence obtained from well-designed non-experimental descriptive studies, such as comparative studies, correlation
IV Evidence obtained from expert committee reports or opinions and/or clinical experience of respected authorities



Clinical Guidelines
Royal College of Speech & Language Therapists (2005)

Grade Recommendations (based on AHCPR 1994)
A Requires at least one randomised-controlled trial as part of the body of literature, of overall good (Evidence levels Ia, Ib) quality and consistency, addressing the specific recommendation.
B Requires availability of well-conducted clinical studies but no randomised clinical trials on the (Evidence levels IIa, IIb, III) topic of recommendation.
C Requires evidence from expert committee reports on opinions and/or clinical experience of (Evidence level IV) respected authorities. Indicates absence of directly applicable studies of good quality

Recommendations
Clinical Guidelines
Royal College of Speech & Language Therapists (2005)

1) Demands and Capacities Model (B)

These therapy programmes are based on the principle that a child's capacity for fluency can be enhanced naturally by reducing the internal and external demands that may be being placed on a vulnerable system. Learning two languages does not necessarily increase a child's risk of stammering.

Rationale

Stammering is a highly variable, context-sensitive disorder. Most children who stammer have the capacity to be more fluent at certain times according to a range of internal and external factors, within differing communicative environments.

Evidence

- Matthews S, Williams R & Pring T (1997) *Evidence Level III*
- Guitar B, Schaefer HK, Donahue-Kilburg G & Bond L (1992) *Evidence Level III*
- Weiss AL & Zebrowski PM (1992) *Evidence Level III*
- Gottwald SR (1999) *Evidence Level IV*
- Yairi E (1997) *Evidence Level IV*

2) Child (fluency) focused therapy (A)

These therapies aim at direct modification of the child's stammering, usually involving a behavioural methodology and, in some cases, involving parents/carers. In the Lidcombe Program the therapist's role is to teach the parents how to carry out the therapy at home.

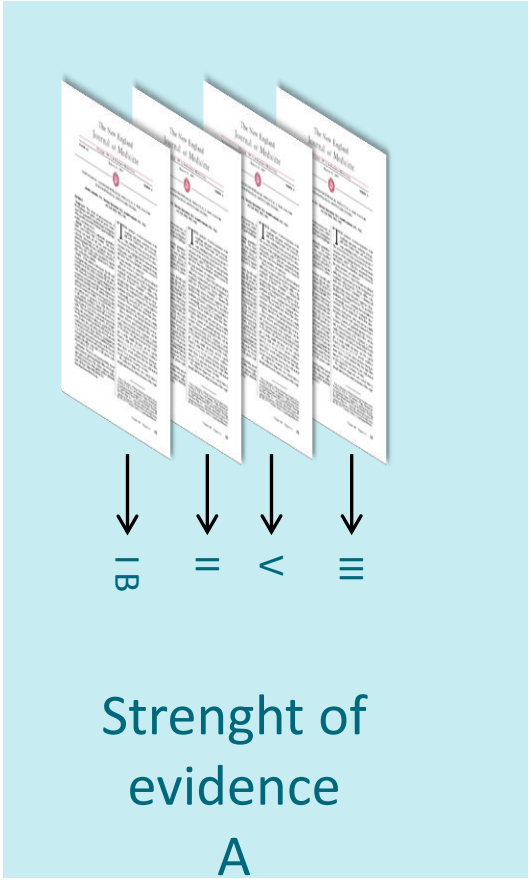
Rationale

Early stammering is viewed as a maladaptive response that can be replaced by more adaptive behaviours through the use of appropriate and timely feedback. Such therapies need to be carefully structured.

Evidence

- Harris V, Onslow M, Packman A, Harrison E & Menzies R (2002) *Evidence Level IIb*
- Onslow M, Andrews C & Lincoln M (1994) *Evidence Level IIa*
- Kingston M, Huber A, Onslow M, Jones M & Packman A (2003) *Evidence Level IIa*
- Ryan BP & Van Kirk Ryan B (1995) *Evidence Level III*
- Onslow M, Costa L, Andrews C, Harrison E & Packman A (1996) *Evidence Level III*

AHCPR-System



Limitations

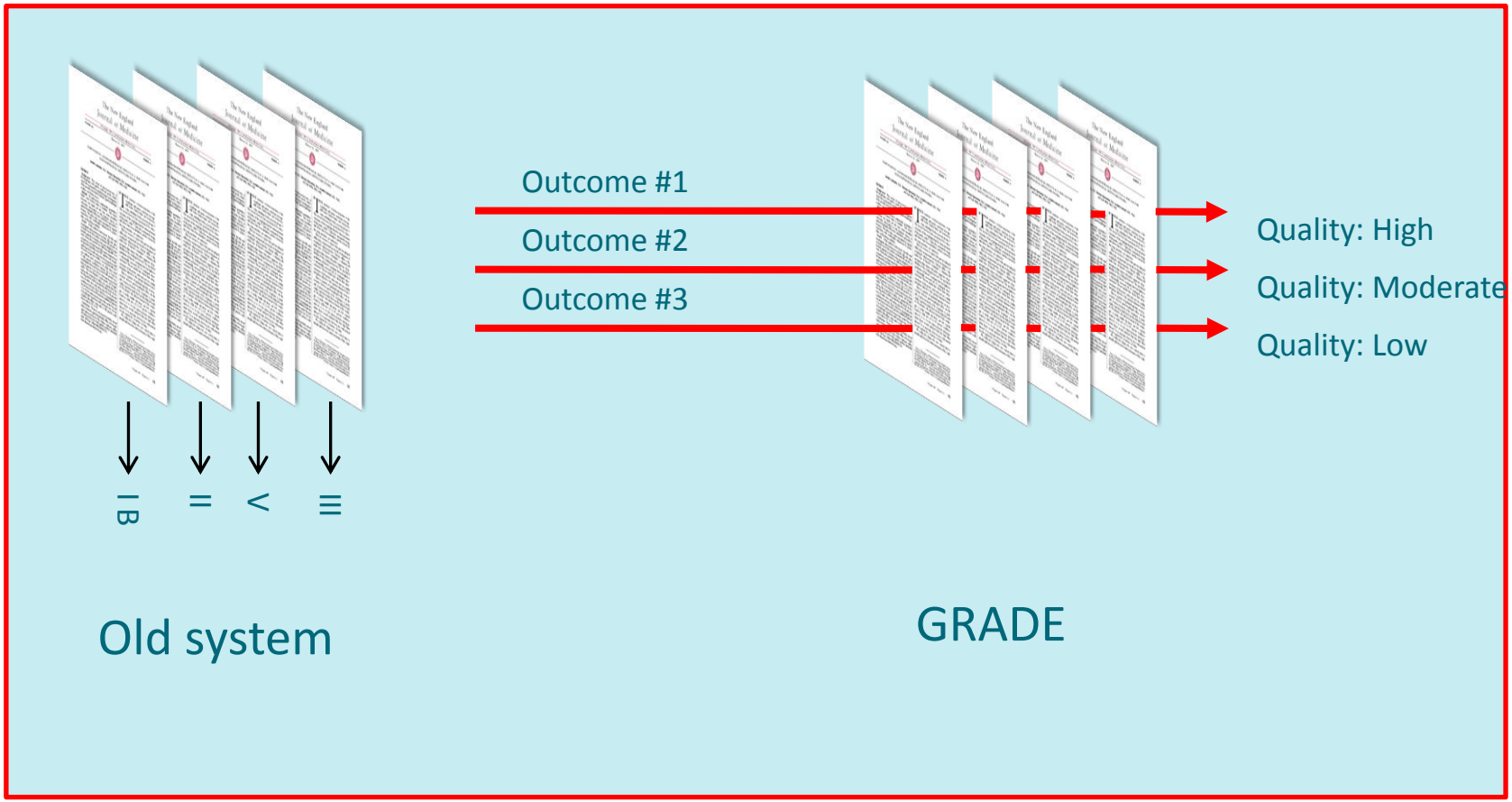
- confuse quality of evidence with strength of recommendations
- criteria not comprehensive or transparent
- lack well- articulated conceptual framework

Grading the Evidence

GRADE

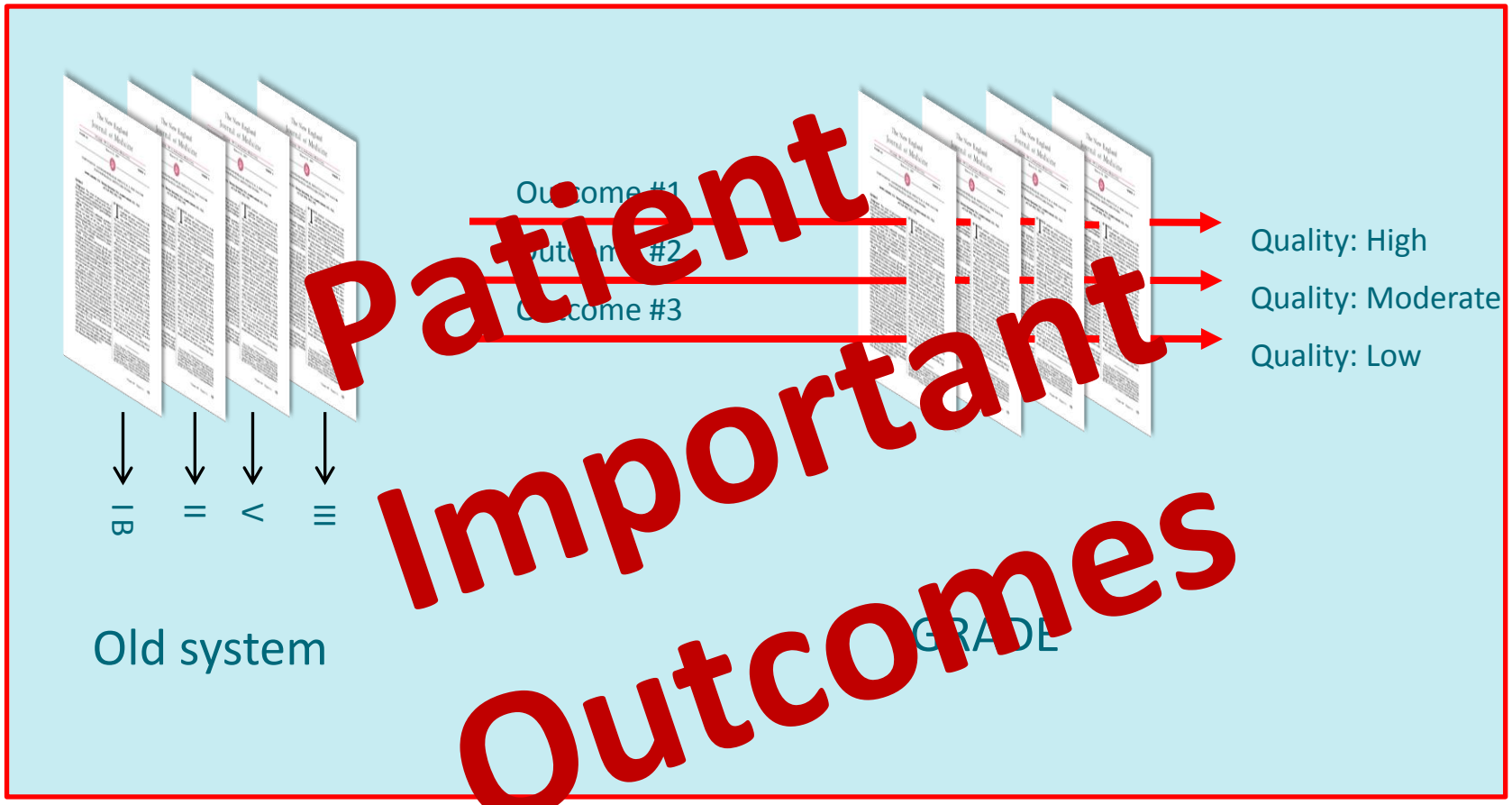
Grades of Recommendation Assessment, Development and Evaluation

GRADE is outcome-centric



Kuijpers & De Beer (2013)

GRADE is outcome-centric



Rates of Relative Importance of Outcomes

- Critical for making a decision
- Important, but not critical for making a decision
- Not important

Clinical Relevant Outcome Measures

Outcome Measures	Relevance (patients perspective)
Stuttering severity	critical
Avoidance behaviour	critical
Speech naturalness	important
Quality of life	critical

Quality criteria

Design	Initial quality of a body of evidence	Lower if	Higher if	Quality of body of evidence
RCT	**High →**	**Study limitations** **Inconsistency** **Indirectness** **Imprecision** **Publication bias**	**Large effect** **Dose response** **All plausible confounding & bias** – **would reduce a demonstrated effect** – **would suggest a spurious effect when results show no effect**	**High**
				Moderate
Observational study	**Low →**			**Low**
				Very low

Kuijpers & De Beer (2013)

Quality of Evidence (4 categories)

The quality of evidence reflects the extent of our confidence that the estimates of the effect are correct.	
High	We are **very** confident that the true effect lies close to that of the estimate of the effect.
Moderate	We are **moderately** confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
Low	Our confidence in the effect estimate is **limited**: The true effect may be substantially different from the estimate of the effect.
Very Low	We have **very little** confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.

Kuijpers & De Beer (2013)

Key Question

What are the desirable and undesirable effects of treatment according to the Demands and Capacities Model compared to treatment with the Lidcombe Program on stuttering severity, avoidance behaviour, speech naturalness and quality of life in CWS 2 to 6 years of age?

Quality of Evidence Lidcombe Program (PICO)

Study	Statistical Measures					
	Treatment n	Control n	Hedges' g	Lower limit CI	Upper limit CI	P value
Harris et al. (2002)	8	11	0.67	-0.23	1.56	.144
Jones et al. (2005)	27	20	0.94	0.34	1.54	.002
Latterman et al. (2008)	23	22	1.51	0.53	1.77	.001
Overall Effect			0.97	0.58	1.30	.001

Effect size, 95% Confidence Interval and p-value of percentage stuttered syllables comparing children 2 to 6 years of age for treatment vs control group RCT design with post-test measurement immediately following intervention. (Nye et al., 2012).

Quality of Evidence Lidcombe Program (PICO)

Quality of evidence: **Moderate***	Treatment of stuttering children under 6 years with the Lidcombe Program in the short and medium term (3 to 9 months) is more effective in reducing the percentage of stuttered syllables than when stuttering is not treated. Nye et al (2012)

The observed effect can be considered large (g = 0.97, 95% CI: 0:58 to 1:30, p <.0001). Effects larger than 0.7 are considered large (Higgins & Green, 2008).
We are **moderately** confident in the effect estimate This implies that there is some uncertainty about the magnitude of the effect. The effect could also be 0.58.

Quality of Evidence DCM (PICO)

Quality of evidence: **Low**	The number of studies of treatment based on DCM is limited and our confidence in the effect estimate of these studies is limited. The true effect might be substantially different from the estimate of the effect. No clinically relevant difference in the reduction of the %SS was demonstrated after treatment comparing DCM and the Lidcombe Program group. However, there is considerable uncertainty about this conclusion, given the width of the 95% confidence interval (g = - 0.275*, 95%CI: - 1.066 - 0.517) in the study by Franken et al. (2005). *Threshold clinical relevant difference in reduction %SS is (-)0.5 according to the GRADE working group.

Balance of Desired and Undesired Effects

- The most commonly reported outcome measure is % SS, other outcomes are hardly or not reported.

Balance of Desired and Undesired Effects

- The effect of treating CWS up to 6 years with the Lidcombe Program in the short and medium term (3 to 9 months) is large compared with no treatment.
- Over the long-term effects of treatment with the LP exists greater uncertainty.

Balance of Desired and Undesired Effects

- No evidence that proved undesirable effects of treatment with the Lidcombe Program.

Quality of evidence: Very Low	There are no indications of possible adverse effects of the Lidcombe Program such as anxiety, aggression, avoidance and depression and the impact on the quality of the mother and child relationship. Woods et al. (2002)

Balance of Desired and Undesired Effects

- Effect of treatment with DCM shows a substantially similar magnitude of effect compared to the effect size of treatment with the LP.
- Undesirable effects of DCM are hardly investigated or reported.

Values and Preferences

Parents of CWS

- Inform parents about the possible benefits of treatment.
- Preferences of parents play an important role in the decision to choose treatment with DCM or the LP.

SLT's and Fluency Specialists

- Become competent in treating CWS with the LP
- It is an advantage to become competent in treating CWS with DCM aswell.

Recommendation

Inform parents of children who stutter under 6 years of age about the benefits of treating stuttering compared to no treatment*. In consultation with the parents of the young child who stutters decide which method is preferred, the Lidcombe Program or treatment based on the Demands and Capacities Model.

*The recommendation about timing of therapy (starting therapy or monitoring) will be described at the recommendation no.1 (indications to treat CWS).

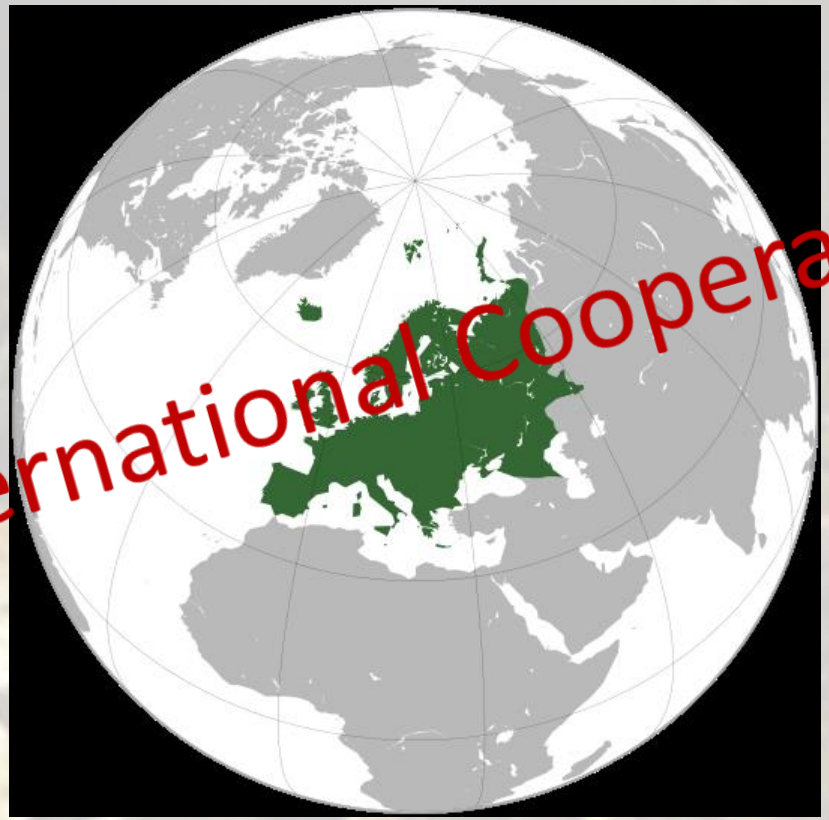
GRADE

- conceptual framework
- comprehensive, transparent criteria
- focus on all important outcomes related to a specific question and overall quality

Undesirable Variation in Europe

	Country	Clinical Guideline	Type
	Austria	No	
	Belgium	No*	
	Croatia	No	
	Cyprus	No	
	Finland	No	
	France	?	
	Germany	Yes	Consensus based , Ev-B under construction
	Greece	No	
	Ireland	Under construction	Evidence-based
	Italy	No	
	Macedonia	No	
	Malta	Yes	Evidence-based
	Norway	No	
	Poland	Standard	Consensus based
	Portugal	No	
	Slovenia	No	
	Spain	?	
	Sweden	Under construction	Evidence-based
	The Netherlands	Under construction	Evidence-based
	United Kingdom	Yes	Evidence-based

Evidence-based Guideline Development



HOGESCHOOL UTRECHT

The Evidence-based Guideline Developmental Stuttering is sponsored by:

- De Nederlandse Vereniging voor Logopedie en Foniatrie,
- Het Damsté-Terpstra Fonds,
- De Nederlandse Vereniging voor Stottertherapie,
- De Nederlandse Stottervereniging Demosthenes.

Nederlandse Vereniging voor Logopedie en Foniatrie

Damsté-Terpstra Fonds
voor praktische en preventieve Logopedie
www.dtfonds.nl

NVST
NEDERLANDSE VERENIGING VOOR STOTTERTHERAPIE

nederlandse stottervereniging DEMOSTHENES

a TNO company