

# Why harmonise outcome measures?

### Hywel Williams

Nottingham



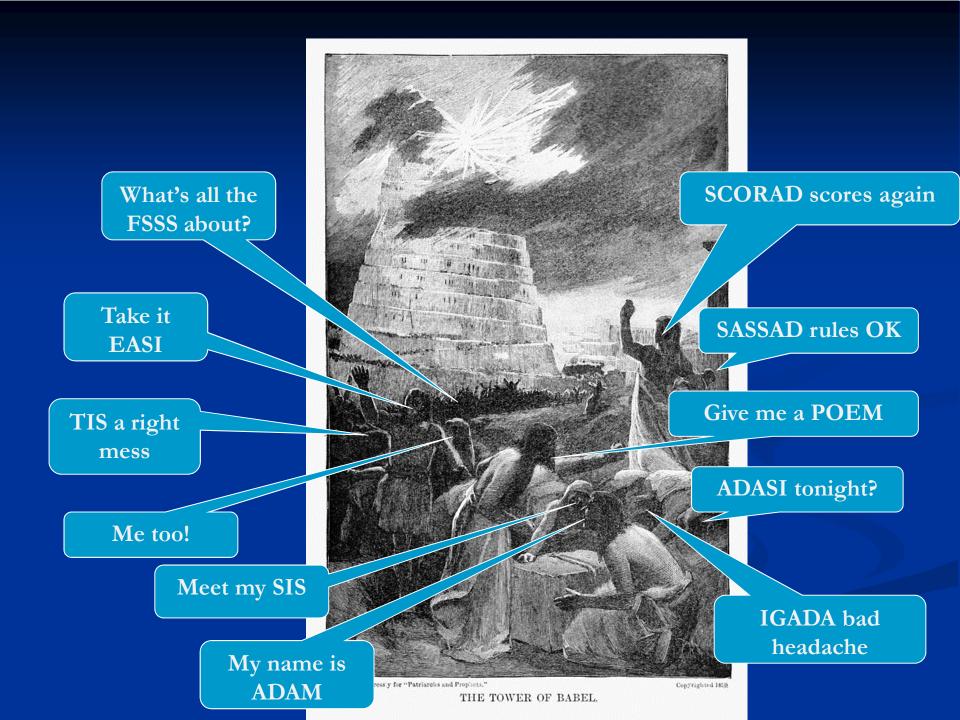
Outcome measures for eczema/atopic dermatitis – a mess

■ Too many – over 20 named scales

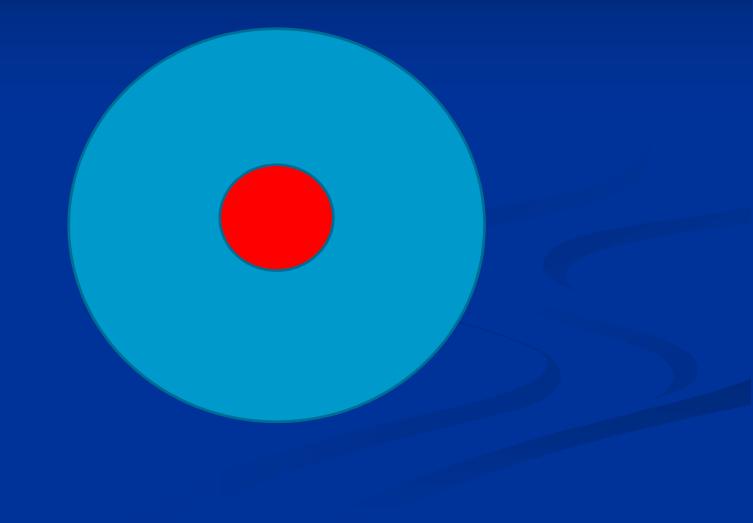
Many not tested at all

Some are only partly tested (validity, repeatability, sensitivity change, consistency, interpretability)

Some that are tested do not pass the tests



## What we need are *core* outcomes that are used in all trials



### What are <u>core</u> outcomes?

- Minimum set for all clinical trials
- Need to be relevant to patients
- Relevant to those making decisions about health care
- Maybe different for clinical trials and routine care
- Need to measure what they're supposed to measure, be repeatable, sensitive to change, and be easy to use



### - so that we can compare

Standard Cochrane Skin Group abstract:

*"We found 27 studies, but outcomes were heterogeneous precluding any formal meta-analysis"* 

And it goes on.....

#### If only we could do more of this...

Review: Topical pimecrolimus for eczema Comparison: 01 Pimecrolimus 1.0% BID vs. vehicle BID Outcome: 01 Clear or almost clear eczema (IGA 0 or 1)

Study	Pimecrolimus 1% E		Relative Risk (Random)	Weight	Relative Risk (Random)				
-	n/N	n/N	95% CI	୯ର୍ବ	95% CI				
01 1 week CASM 981 C2322 2005	5 26/168	13/168	— <u>—</u>	100.0	2.00 [1.06, 3.76]				
Subtotal (95% CI) Total events: 26 (Pimecro Test for heterogeneity: n Test for overall effect z=;	ot applicable	168 /ehicle BID)		100.0	2.00 [1.06, 3.76]				
02 2 weeks CASM 981 C2322 2005	5 38/168	24/168		100.0	1.58 [1.00, 2.52]				
Subtotal (95% Cl) Total events: 38 (Pimecro Test for heterogeneity: n Test for overall effect z=:	ot applicable	168 /ehicle BID)	-	100.0	1.58 [1.00, 2.52]				
03 3 weeks Barba 2003	38/71	8/35	<b></b>	29.5	2.34 [1.23, 4.47]				
Eichenfield (a) 2002	35/130	2/68		<b>₽</b> 7.5	9.15 [ 2.27, 36.91 ]				
Eichenfield (b) 2002	37/137	8/68		25.5	2.30 [1.13, 4.65]				
Ho 2003	54/123	11/63	<b>_</b>	35.6	2.51 [1.42, 4.46]				
Luger 2001	5/45	0/43		+1.8	10.52 [ 0.60, 184.72 ]				
Subtotal (95% Cl) Total events: 169 (Pimec Test for heterogeneity ch Test for overall effect z=:	i-square=4.58 df=4	277 (Vehicle BID) Fp=0.33 I² =12.7%	•	100.0	2.72 [1.84, 4.03]				
04 4 weeks CASM 981 C2322 2005	5 54/168	38/168	<b></b>	100.0	1.42 [1.00, 2.03]				
Subtotal (95% Cl) Total events: 54 (Pimecro Test for heterogeneity: n Test for overall effect z=:	ot applicable	168 /ehicle BID)	•	100.0	1.42 [1.00, 2.03]				
056 weeks Eichenfield (a) 2002	49/130	11/68	_ <b></b>	26.5	2.33 [1.30, 4.18]				
Eichenfield (b) 2002	44/137	14/68	— <u>—</u>	32.6	1.56 [ 0.92, 2.64 ]				
Ho 2003	67/123	15/63	— <u>—</u> —	40.9	2.29 [1.43, 3.66]				
Subtotal (95% Cl) Total events: 160 (Pimeci Test for heterogeneity ch Test for overall effect z=4	i-square=1.43 df=2		•	100.0	2.03 [1.50, 2.74]				
0.1 0.2 0.5 1 2 5 10 Favours Vehicle Favours Pimecrolimus									

Ashcroft DM, Chen L-C, Garside R, Stein K, Williams HC. Topical pimecrolimus for eczema. *Cochrane Database of Systematic Reviews* 2007, Issue 4.

..and compare something that is meaningful rather than just measurable

Good outcomes that cover the key domains of a particular skin condition

 Instruments that pass the test of truth, discrimination and feasibility What is happening elsewhere?

OMERACT <a href="http://www.omeract.org/">http://www.omeract.org/</a>

Pain – IMMPACT: <u>www.immpact.com</u>

 COMET initiative: Core Outcome Measures in Effectiveness Trials

http://www.comet-initiative.org/

Tugwell P BM et al. OMERACT: An initiative to improve outcome measurement in rheumatology. Trials. 2007;8(38). Clarke M. Standardising Outcomes in Paediatric Clinical Trials. PLoS Medicine / Public Library of Science. 2008;5(4):e102.

## The world of medicine is moving on – what about skin diseases?



Some signs of hope in skin ...starting with HOME

- Agreed that core outcomes needed
- Started with clinical trials
- Domains identified
- Instrument for clinical signs determined
- Now about to tackle symptoms and QoL in Malmo
- Not easy....

**AIM of HOME:** To agree a set of core outcome measures for eczema for use in **all** clinical trials. Ultimately, the aim is to have just **one instrument** per domain for:

- 1. Signs
- 2. Symptoms
- 3. Quality of Life
- 4. Measure of long term control of flares

	Stage 1→ Stage 2→		Stage 3			Stage 4→	Stage 5
Task	Identify all instruments previously used to measure the domain.	Establish the extent and quality of testing of the identified instruments.		nts are good enough quality mo e shortlisted for further consider	Carry out <b>validation</b> <b>studies</b> on shortlisted scales.	Finalise core outcome(s) for domain.	
Methodology	of outcome of v instruments used. of t ide inst Hig	Systematic review of validation studies of the long-list of identified instruments. Highlight any gaps in validation.	Apply OMERACT filter; Truth, discrimination and feasibility:			Consensus discussion and voting	Re-apply the OMERACT filter with
			Truth "Is the measure truthful, does it measure what it intends to measure? Is the result unbiased and relevant?" Consensus discussion and voting on truth: 1. Face validity 2. Content validity 3. Construct validity 4. Criterion validity	Discrimination "Does the measure discriminate between situations that are of interest?" Consensus discussion and voting on discrimination: 1. Reliability 2. Sensitivity to change	Feasibility "Can the measure be applied easily in it's intended setting, given constraints of time, money, and interpretability?" Consensus discussion and voting on feasibility: 1. Time taken 2. Cost 3. Interpretability	to determine what validation studies will be conducted on short-listed instruments. Gaps in testing were highlighted in stage 2 (systematic review). Appropriate methods used to fill the gaps in validation.	the results of the completed validation studies. Consensus discussion and voting on core outcome to be recommended.
Output	Long-list of all instruments previously used to measure the domain.	Summary of which instruments have been tested and the quality, extent and results of any testing.	Short-list of potential instruments that meet the requirements of the OMERACT filter.			Short-list of fully tested instruments.	Recommended core outcome(s) for the domain.

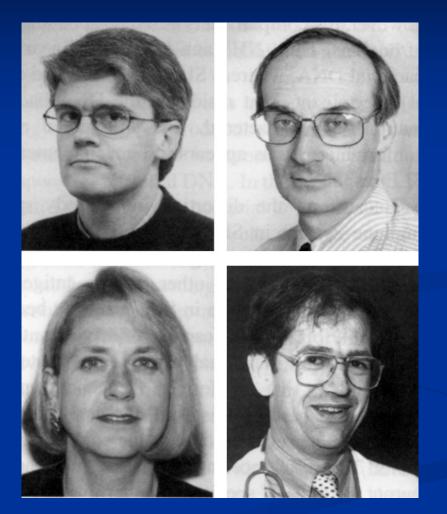
# And other skin diseases listed in COMET website...

- Vitiligo
- Acne
- Incontinence-dermatitis
- Vulval skin conditions
- Leishmaniasis
- **H**S
- Psoriasis (IDEOM not sure)

## Progress will vary...

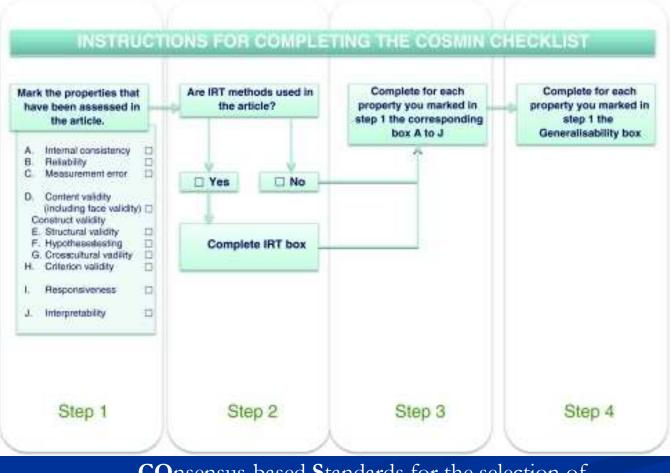


## Adoption of the OMERACT filter



#### Truth, Discrimination and Feasibility

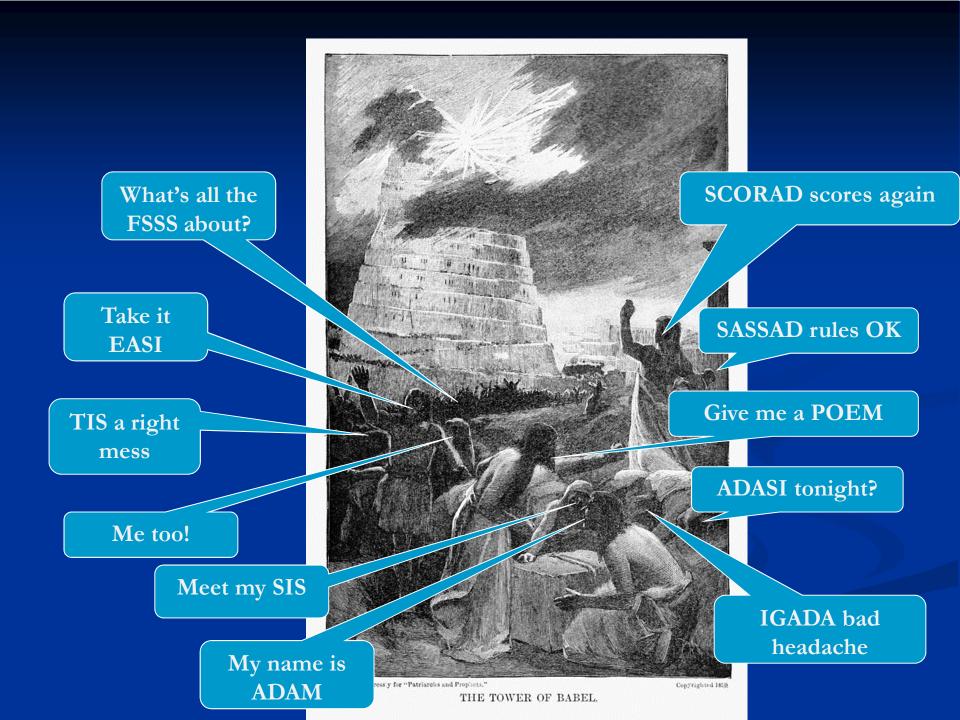
## Use COSMIN to rate studies that rate outcomes



**CO**nsensus-based **S**tandards for the selection of health**M**easurement **I**<u>n</u>struments <u>http://www.cosmin.nl/</u>

## Philosophy of CSG-COUSIN

Working hard together to help patients Respecting all stakeholder viewpoints Putting prejudices and allegiances aside in order to achieve the greater good for patient care Evidence-based and evidence-generating Pragmatic – to inform clinical decisions To have fun With very little money



### Cochrane reviews of the future..

- We found 27 acne studies for our intervention,
   25 of which used our primary outcome of
   inflammatory lesion count
- We were able to directly and indirectly compare them as a result
- Treatment A is clearly very helpful, treatment B and C are only moderately so, and treatments D and E and pretty useless