Indications and Challenges of conducting prospective individual patient data meta-analyses

Slides available at: github.com/kristyrobledo/talks

2023 TROG

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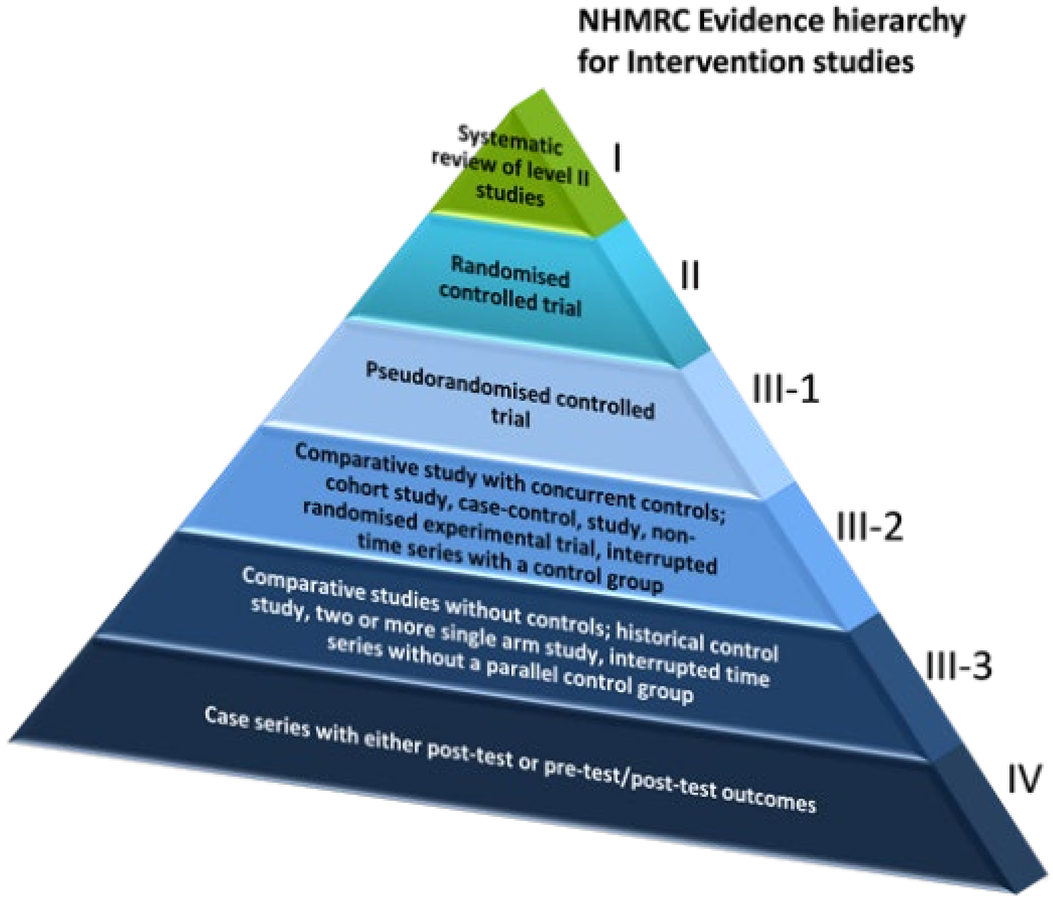
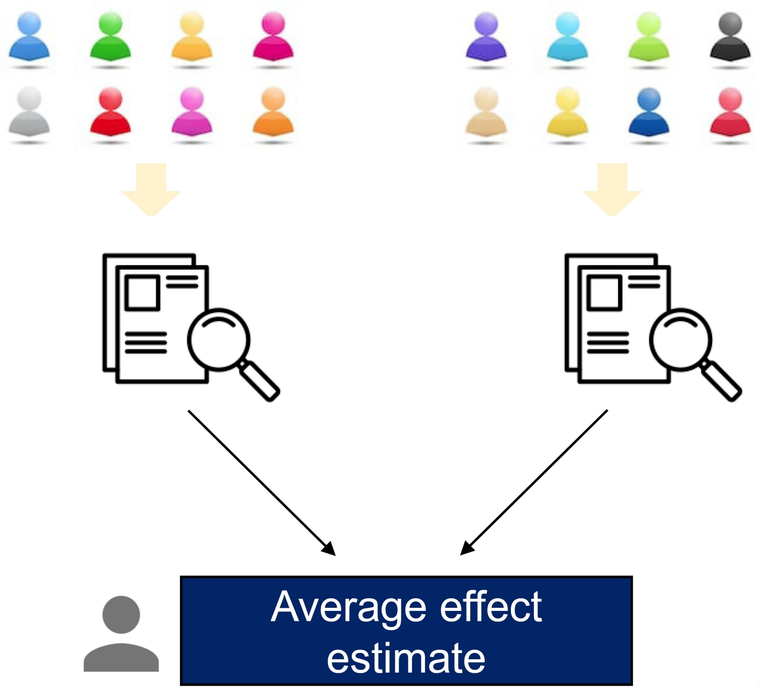
Systematic reviews are at the top of the evidence hierarchy

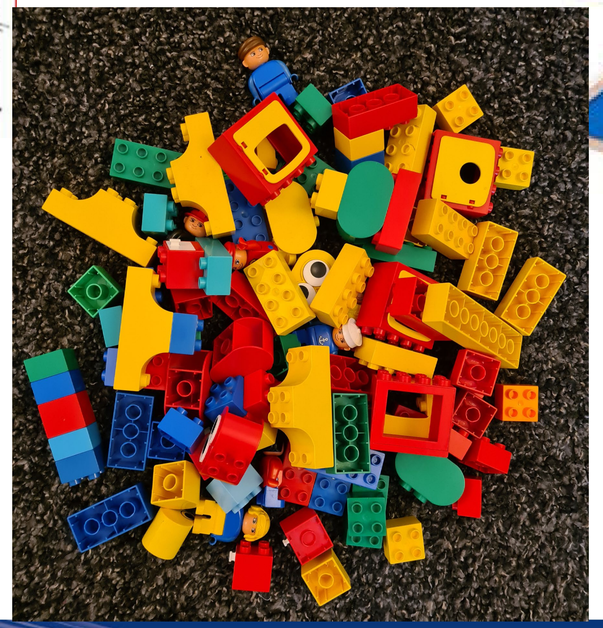
Widely used to inform healthcare policy and practice

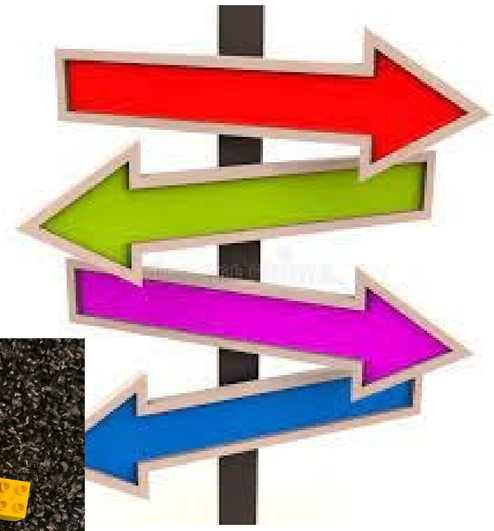
Several limitations and potential sources of bias



Problems with traditional evidence synthesis



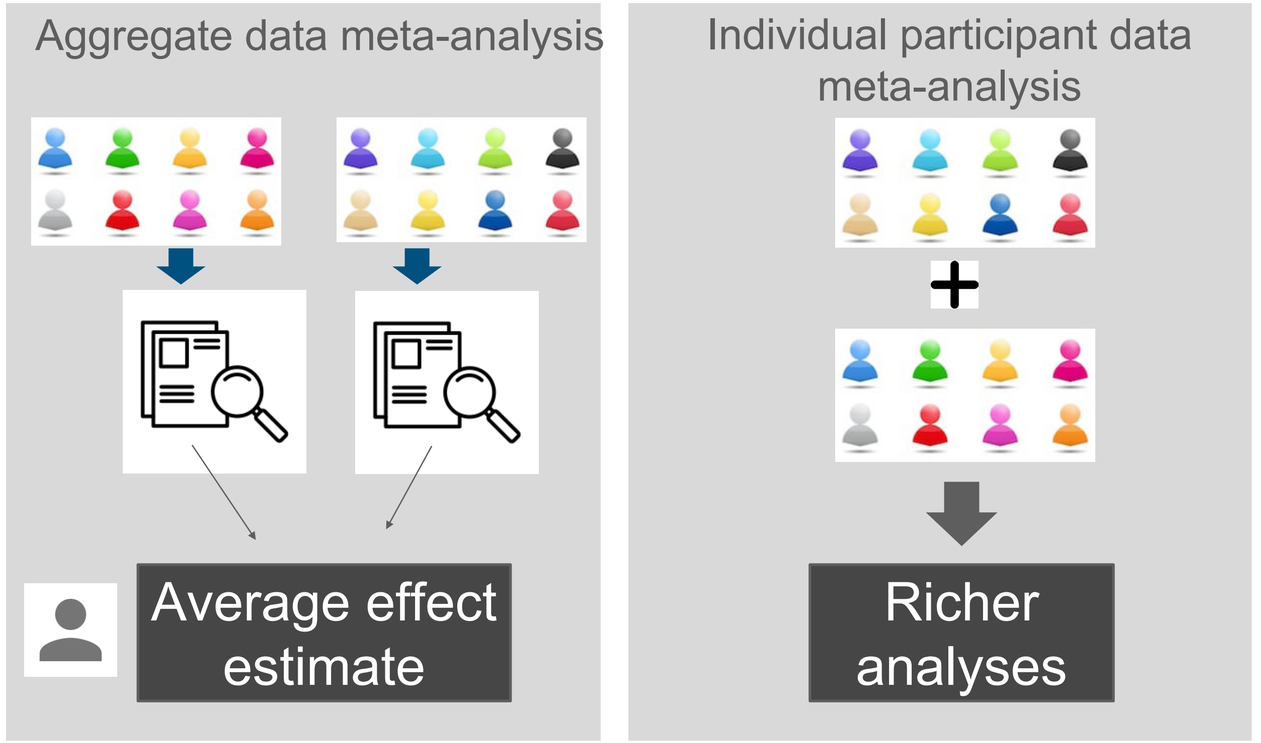




Enter: Next generation evidence synthesis (IPD-MA)

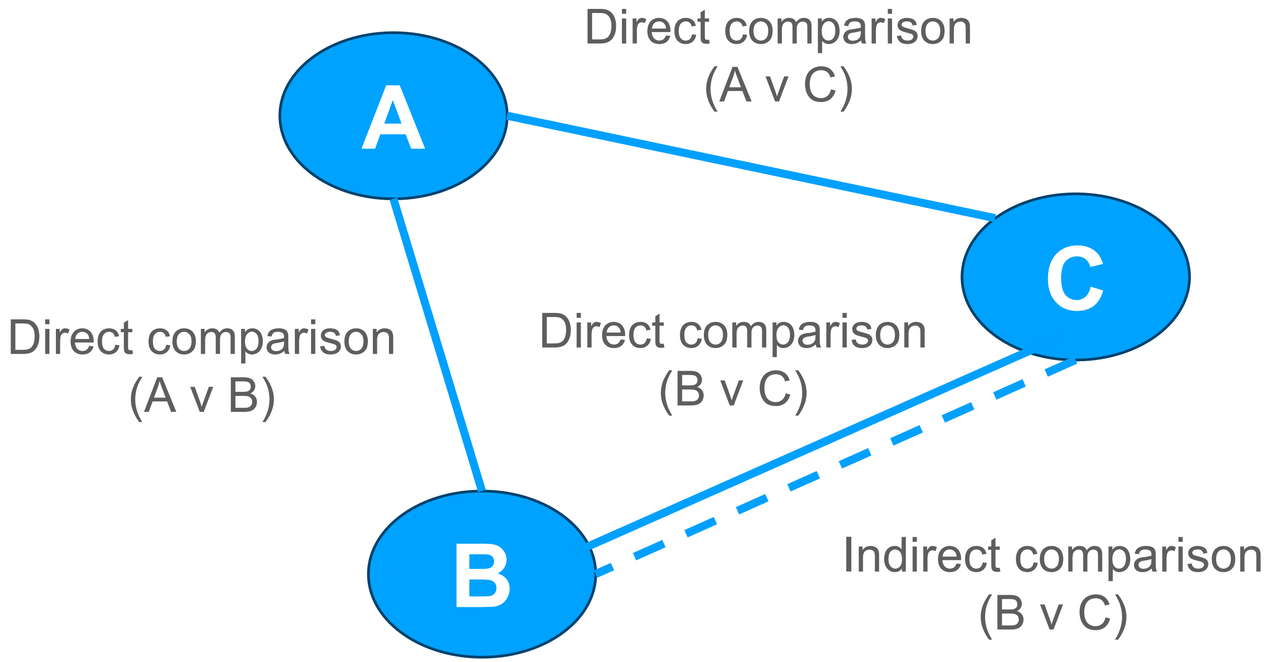
PID	TRIAL	Age	ECOG	PFS	PFSdays	Death	DeathDays
1	1	52	1	0	74	1	87
2	1	32	1	0	69	1	93
1001	2	57	0	1	34	1	34
1002	2	54	1	0	79	0	120

Individual Participant Data (IPD) meta-analysis (MA) involves the central collection of **raw data** for **each participant** in the original trials

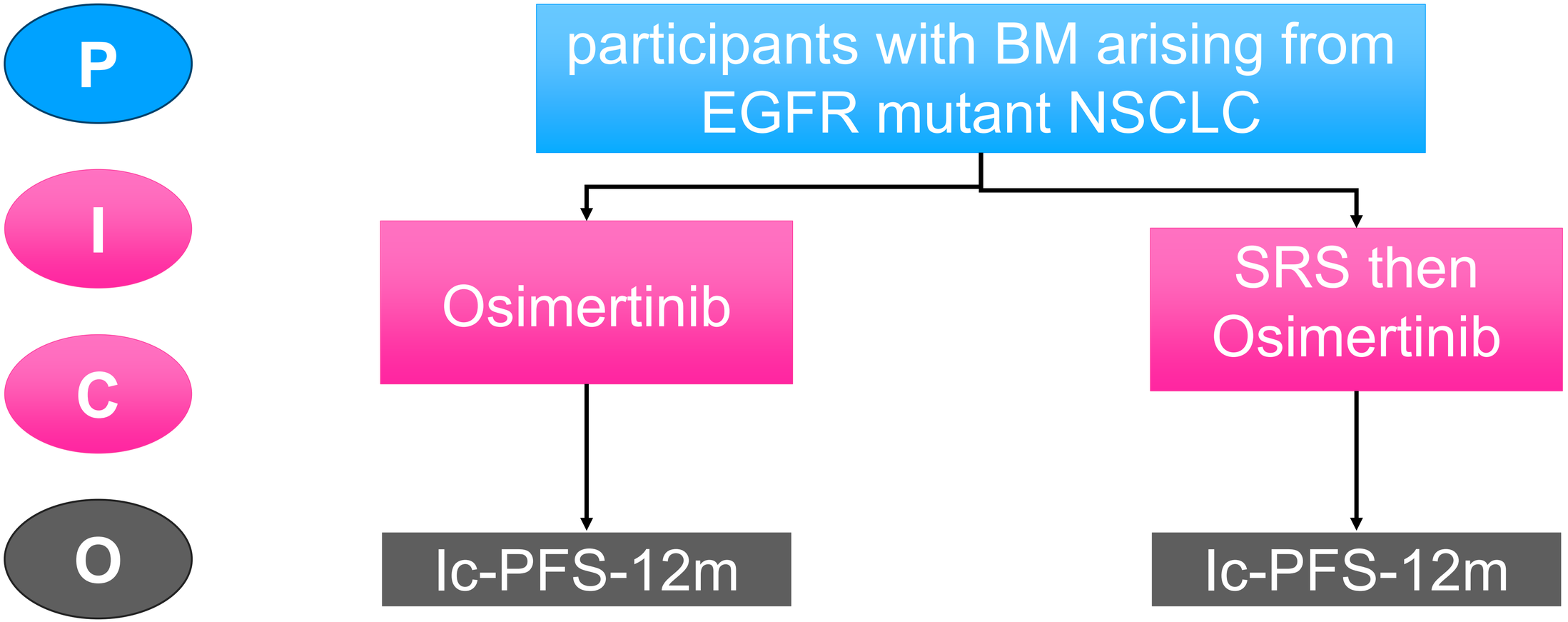


Enter: Next generation evidence synthesis (NMA)

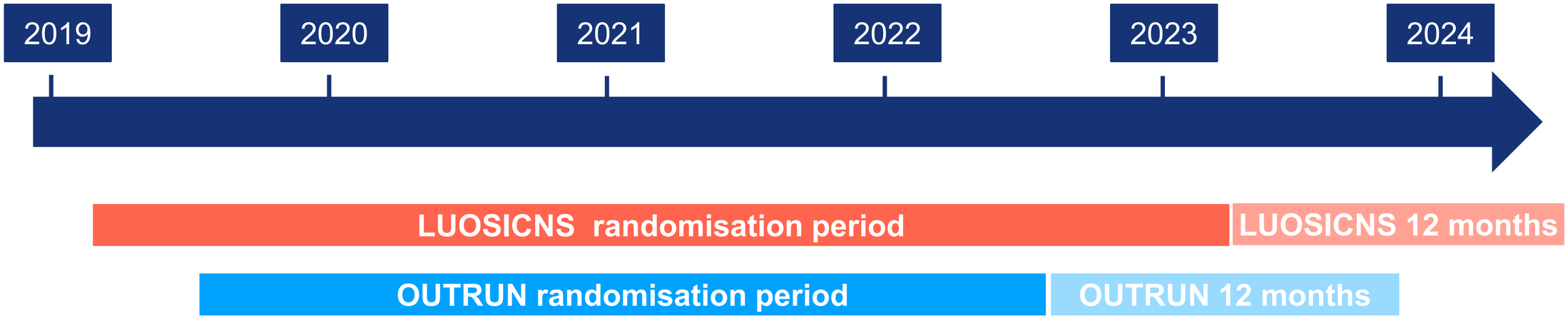
- Network meta-analysis (NMA)
- Enables comparison and ranking of multiple treatment options
- Uses direct and indirect evidence



IPD-PMA: STARLET Collaboration



IPD-PMA: STARLET Collaboration



IPD conversations start

IPD agreed upon

IPD registered in Prospero

IPD Protocol submitted

IPD analyses


Searching for planned and ongoing studies
Data sharing willingness and bureaucracy
Data management
Analyses
Integrity
Collaboration management

iCOMP

- IPD-PMA
- Pairwise + network MA
- 117 trials identified
- 61 trials with IPD shared
- 33 with aggregate data

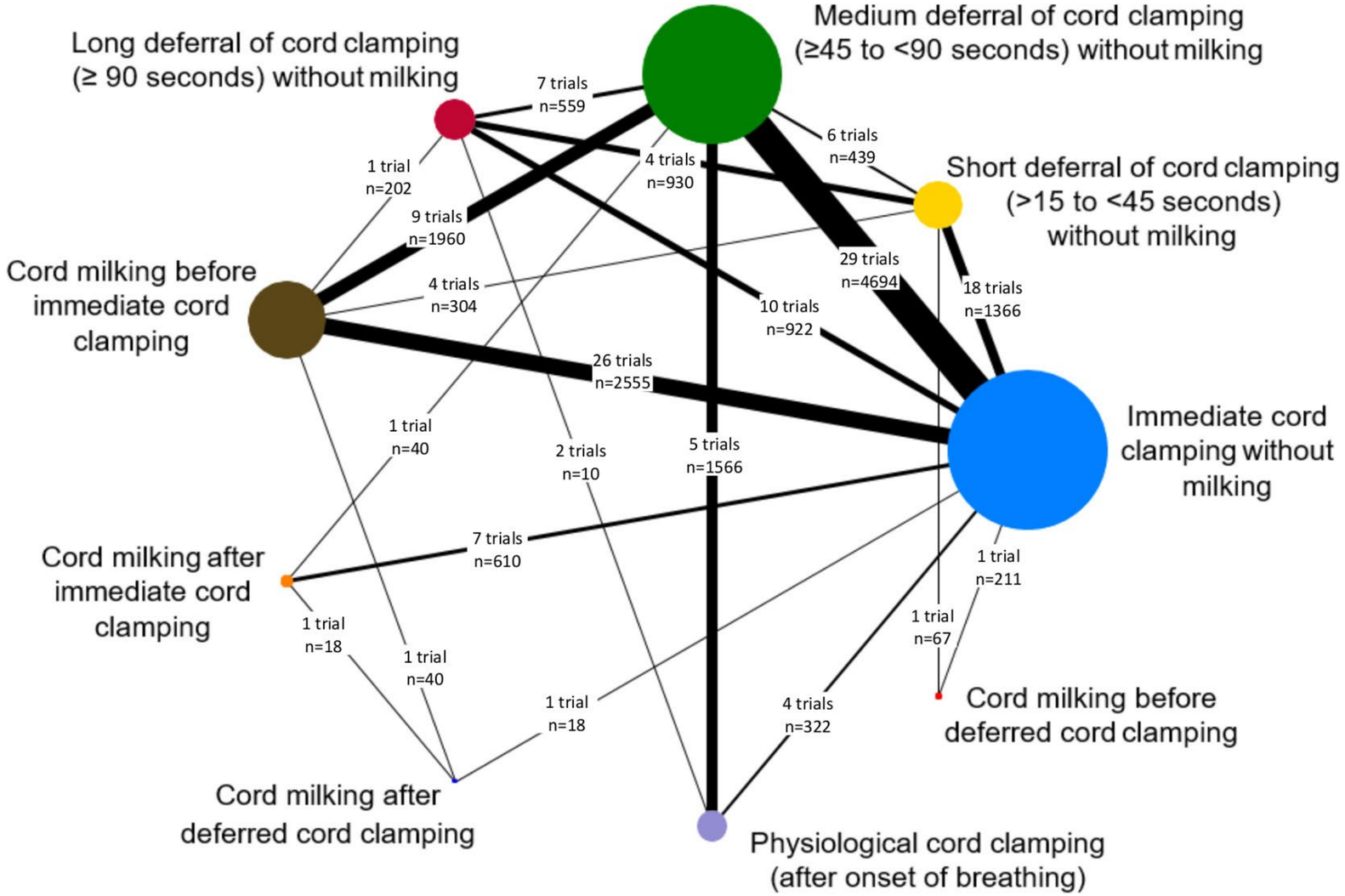


Figure from: Seidler AL, On behalf of the iCOMP Collaboration, *et al.* Systematic review and network meta-analysis with individual participant data on cord management at preterm birth (iCOMP): study protocol *BMJ Open* 2020;**10:**e034595. doi: 10.1136/bmjopen-2019-034595

Take home messages

- Fancy methods exist to utilise data from trials
- Answer more questions
- Subgroups
- Multiple treatments
- Collaboration (and sharing) is key

DISCUSSION / QUESTIONS: