COMET Handbook V2.0 Updates

Category	Reference	Description	Section of Handbook to update
Classifying/grouping outcomes	Dodd S, Clarke M, Becker L, Mavergames C, Fish R, Williamson PR. A taxonomy has been developed for outcomes in medical research to help improve knowledge discovery. J Clin Epidemiol. 2018;96:84-92. Link	A new taxonomy for outcome classification.	*2.7.3 Ontologies for grouping individual outcomes into outcome domains*
Classifying/grouping outcomes	Young AE, Brookes ST, Avery KNL, Davies A, Metcalfe C, Blazeby JM. A systematic review of core outcome set development studies demonstrates difficulties in defining unique outcomes. J Clin Epidemiol. 2019;115:14-24. Link	This review identified inconsistencies in how authors define, extract, group, and count trial outcomes.	*2.7.3 Ontologies for grouping individual outcomes into outcome domains*
COS development - general	Gargon E, Williamson PR, Young B. Improving core outcome set development: qualitative interviews with developers provided pointers to inform guidance. J Clin Epidemiol. 2017;86:140-52. Link	Semi structured, audio-recorded interviews with a sample of 32 COS developers. The findings raise important questions about the funding, status, and process of COS development and indicate ways that it could be strengthened.	*2.1 Background*
COS development - general Uptake	Tong A, Crowe S, Gill JS, Harris T, Hemmelgarn BR, Manns B, et al. Clinicians' and researchers' perspectives on establishing and implementing core outcomes in haemodialysis: semistructured interview study. BMJ open. 2018;8(4):e021198. Link	Interviews to describe the perspectives of clinicians and researchers on identifying, establishing and implementing core outcomes in haemodialysis and their expected impact.	*2.1 Background* *3.2 Existing research on the uptake of core outcome sets*
COS development - general Uptake	Tunis SR, Maxwell LJ, Graham ID, Shea BJ, Beaton DE, Bingham CO, 3rd, et al. Engaging Stakeholders and Promoting Uptake of OMERACT Core Outcome Instrument Sets. J Rheumatol. 2017;44(10):1551-9. Link	Propose and discuss recommendations for the OMERACT community to (1) strengthen stakeholder involvement in the core outcome instrument set development process, and (2) promote uptake of core outcome sets with a specific focus on the potential role of post-regulatory decision makers.	*3.3.2.1 Stakeholders as future implementers* *3.3.2.2 Development of an implementation plan*
COS through the healthcare/research eco-system	Meregaglia, M., et al. (2020). "A scoping review of core outcome sets and their 'mapping' onto real-world data using prostate	This study revealed promising overlap between COS and RWD sources, though with important limitations; linking established, national patient	*2.2.3 Setting*

	cancer as a case study." BMC Med Res Methodol **20**(1): 41.	registries to administrative data provide the best means to additionally capture patient-reported and some clinical outcomes over time. Thus, increasing the combination of different data sources and the interoperability of systems to follow larger patient groups in RWD is required.	*4.3 Other applications for core outcome sets*
COS through the healthcare/research eco-system	Dodd S, Harman N, Taske N, Minchin M, Tan T, Williamson PR (2020) Core outcome sets through the healthcare ecosystem: the case of Type 2 Diabetes Mellitus. Trials, accepted		*2.2.3 Setting* *4.3 Other applications for core outcome sets*
Dissemination	Akinremi A, Turnbull AE, Chessare CM, Bingham CO, 3rd, Needham DM, Dinglas VD. Delphi panelists for a core outcome set project suggested both new and existing dissemination strategies that were feasibly implemented by a research infrastructure project. J Clin Epidemiol. 2019;114:104-7. Link	A case study on dissemination of a COS. Respondents generated a variety of suggestions for dissemination of the ImproveLTO COS, which both aligned closely with existing guideline recommendations, and included unique suggestions.	*2.10.5 Disseminating survey results to patients/the patient population* *3.3.2.2 Development of an implementation plan*
Identifying existing knowledge about outcomes Qualitative methods in COS development	Brunton, G., et al. (2019). "Adding value to core outcome set development using multimethod systematic reviews." Res Synth Methods.	Qualitative scoping reviews of participant perspectives research, used in conjunction with quantitative scoping reviews of trials, could identify more outcome domains for consideration and could provide greater depth of understanding to inform stakeholder group discussion in COS development. This is an innovation in the application of research synthesis methods.	*2.7.1 Identifying existing knowledge about outcomes* *2.7.2 Identifying and filling the gaps in existing knowledge*
Identifying existing knowledge about outcomes Qualitative methods in COS development	Gorst, S. L., et al. (2019). "Incorporating patients' perspectives into the initial stages of core outcome set development: a rapid review of qualitative studies of type 2 diabetes." BMJ Open Diabetes Res Care **7**(1): e000615.	This rapid review and synthesis of qualitative studies identified outcomes that had not previously been identified by a systematic review of clinical trials. It also identified differences in the types of outcomes given prominence to in the clinical trials and qualitative literatures. Incorporating qualitative evidence on patient	*2.7.1 Identifying existing knowledge about outcomes* *2.7.2 Identifying and filling the gaps in existing knowledge*

		perspectives from the outset of the COS development process can help to ensure outcomes that matter to patients are not overlooked. Our method provides a pragmatic and resource-efficient way to do this. For those developing international COS, our method has potential for incorporating the perspectives of patients from diverse countries in the early stages of COS development.	
Process of determining 'what' to measure Stakeholder participation	Sherratt, F. C., H. Bagley, S. R. Stones, J. Preston, N. J. Hall, S. L. Gorst and B. Young (2020). "Ensuring young voices are heard in core outcome set development: international workshops with 70 children and young people." Res Involv Engagem **6**: 19.	It is important that patients have a voice in the development of core outcome sets and children and young people are no exception. The authors describe two international workshops with children and young people to listen to their views.	*2.7 Determining 'what' to measure – the outcomes in a core outcome set* *2.6 Stakeholder involvement*
Process of determining 'what' to measure Process of determining 'how' to measure	Chevance, A., et al. (2020). "Improving the generalizability and credibility of core outcome sets (COSs) by a large and international participation of diverse stakeholders." Journal of Clinical Epidemiology. Link	This article proposes three adjustments to the development of COSs. First, instead of a qualitative study with few participants, we propose to generate the outcome domains by mapping the expectations toward treatment of a large number of stakeholders, internationally, by using an online survey with open-ended questions. Second, we propose to separate preference elicitation from the decision-making process in the selection of core outcomes. Preference elicitation would rely on an international online ranking survey, whereas the decision-making process would involve a formalized discussion among all stakeholders. Third, we propose to involve a large number of participants, including patients, in an online survey to select outcome measurement instruments.	*2.7 Determining 'what' to measure – the outcomes in a core outcome set* *2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Process of determining 'what' to measure	Maxwell, L. J. and D. E. Beaton (2020). "Controversy and debate on core outcome sets. Paper 2: comment on: "Improving the generalizability and credibility of	Comment on the proposals from Chevance et al (2020). They suggest that Chevance et al generate hypotheses to be studied rather than being	*2.7 Determining 'what' to measure – the outcomes in a core outcome set*

Process of determining 'how' to measure	core outcome sets (COS) by a large and international participation of diverse stakeholders" by Chevance et al." Journal of Clinical Epidemiology.	certain that the modifications recommended will indeed improve generalizability and credibility. The proposed work opens doors to testable hypotheses that will add to our evidence based on core outcome set development.	*2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Process of determining 'what' to measure Process of determining 'how' to measure	Williamson, P. R., J. M. Blazeby, S. T. Brookes, M. Clarke, C. B. Terwee and B. Young (2020). "Controversy and debate on core outcome sets. Paper 4: comments on Chevance et al.'s "Improving the generalizability and credibility of core outcome sets (COS) by a large and international participation of diverse stakeholders"." Journal of Clinical Epidemiology.	Comment on the proposals from Chevance et al (2020). Chevance et al. propose three amendments to a COS development process described in the COMET Handbook – each is discussed. Although development standards exist, no single method is recommended as the only valid or optimum way to develop a COS. There may be scenarios where one approach may be more appropriate than others.	*2.7 Determining 'what' to measure – the outcomes in a core outcome set* *2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Process of determining 'what' to measure	Carter, S. A., A. Tong, T. Gutman, N. Scholes-Robertson, A. Teixeira-Pinto, M. Howell and J. C. Craig (2020). "Controversy and debate on core outcome sets. Paper 5: large-scale, mixed-methods knowledge exchange to establish core outcomes—The SONG approach." Journal of Clinical Epidemiology.	Comment on the proposals from Chevance et al (2020). They propose an alternative that is consistent with existing recommendations yet mitigates these concerns, refering to the global Standardized Outcomes in Nephrology (SONG) initiative	*2.7 Determining 'what' to measure – the outcomes in a core outcome set*
Process of determining 'what' to measure Process of determining 'how' to measure	Schmitt, J., J. Kottner and T. Lange (2020). "Controversy and debate on core outcome sets. Paper 6: improving the generalizability, credibility, and implementation of the core outcome sets—The example of the Cochrane Skin–Core Outcome Set Initiative." Journal of Clinical Epidemiology.	Comment on the proposals from Chevance et al (2020), referring to CS-COUSIN.	*2.7 Determining 'what' to measure – the outcomes in a core outcome set* *2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Process of determining 'what' to measure	Chevance, A., T. V-T and R. P (2020). "Comment: Authors' response to comments on the paper "Improving the generalizability and credibility of Core Outcome Sets (COSs) by involving large international sample of participants"." Journal of Clinical Epidemiology.	Authors response to the comments on Chevance et al 2020.	*2.7 Determining 'what' to measure – the outcomes in a core outcome set*

Process of determining 'what' to measure-Delphi	Gargon E, Crew R, Burnside G, Williamson PR. Higher number of items associated with significantly lower response rates in COS Delphi surveys. J Clin Epidemiol. 2018. Link	COS developers should pay attention to methods when designing a COS development study; in particular, the size of the panels and the size of the list of outcomes.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	MacLennan S, Kirkham J, Lam TBL, Williamson PR. A randomized trial comparing three Delphi feedback strategies found no evidence of a difference in a setting with high initial agreement. J Clin Epidemiol. 2018;93:1-8. Link	A nested study to explore the impact of different feedback strategies on subsequent agreement and variability in Delphi studies.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	Brookes ST, Chalmers KA, Avery KNL, Coulman K, Blazeby JM. Impact of question order on prioritisation of outcomes in the development of a core outcome set: a randomised controlled trial. Trials. 2018;19(1):66. Link	In the development of a COS, participants' ratings of potential outcomes within a Delphi survey depend on the context (order) in which the outcomes are asked, consequently impacting on the final COS.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	Biggane AM, Williamson PR, Ravaud P, Young B. Participating in core outcome set development via Delphi surveys: qualitative interviews provide pointers to inform guidance. BMJ open. 2019;9(11):e032338. Link	This study identifies important information that should be communicated to COS Delphi study participants. It also indicates the importance of communicating about COS Delphi studies in ways that are accessible and salient to participants.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	Turnbull AE, Dinglas VD, Friedman LA, Chessare CM, Sepúlveda KA, Bingham CO, et al. A survey of Delphi panelists after core outcome set development revealed positive feedback and methods to facilitate panel member participation. J Clin Epidemiol. 2018;102:99-106. Link	This international Delphi panel, including favorably reported on feasibility of the methodology. Providing all panelists pertinent information/reminders about the project's objective at each voting round is important to informed decision making across all stakeholder groups.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	Lange, T., et al. (2020). "Comparison of different rating scales for the use in Delphi studies: different scales lead to different consensus and show different test-retest reliability." BMC Med Res Methodol **20**(1): 28. Link	This study provides evidence that consensus depends on the rating scale and consensus threshold within one population. This variation in reliability can become a potential source of bias in consensus studies. Researchers conducting Delphi studies should be aware that final consensus is substantially influenced by the choice of rating scale and consensus criteria.	*2.7.6.1 The Delphi technique*

Process of determining 'what' to measure-Delphi	Morbey, H., et al. (2019). "Involving people living with dementia in research: an accessible modified Delphi survey for core outcome set development." Trials **20**(1): 12.	In this paper, the authors describe the design process and features of a modified Delphi survey devised through consultation with people living with dementia. A flexible, responsive and adaptive approach to ongoing consultation with people living with dementia and care partners through 1:1 face-to-face sessions facilitated: (1) the development of a 3-point non-categorical importance scale; (2) the translation of 54 outcome areas into 'accessible statements' for a two-round Delphi survey administered to five stakeholder groups (people living with dementia, care partners, health and social care professionals, policy-makers and researchers); and (3) the delivery of a Delphi survey. These features of core outcome set development facilitated the involvement of people living with dementia in study design and as research participants in the data collection phase.	*2.7.6.1 The Delphi technique*
Process of determining 'what' to measure-Delphi	De Meyer, D., et al. (2019). "Delphi procedure in core outcome set development: rating scale and consensus criteria determined outcome selection." Journal of Clinical Epidemiology **111**: 23-31.	The objective of this study was to compare two different rating scales within one Delphi study for defining consensus in core outcome set development and to explore the influence of consensus criteria on the outcome selection. Conclusion: The format of rating scales in Delphi studies for core outcome set development and the definition of the consensus criteria influence outcome selection. The use of the nine-point scale might be recommended to inform the consensus process for a subsequent rating or face-to-face meeting. The three-point scale might be preferred when determining final consensus.	*2.7.6.1 The Delphi technique*

Process of determining 'what' to measure- Delphi	Humphrey-Murto, S., et al. (2019). "Consensus Building in OMERACT: Recommendations for Use of the Delphi for Core Outcome Set Development." J Rheumatol **46**(8): 1041-1046.	Based on the literature and feedback from delegates at OMERACT 2018, a set of recommendations is provided in the form of the OMERACT Delphi Consensus Checklist. The checklist provides guidance for clearly outlining the multiple aspects of the Delphi process.	*2.7.6.1 The Delphi technique*
Process of determining 'how' to measure	Gorst SL; Prinsen CAC; Salcher-Konrad M; Matvienko-Sikar K; Williamson PR, Terwee CB. (2020). " Methods used in the selection of instruments for outcomes included in core outcome sets have improved since the publication of the COSMIN/COMET guideline. " Journal of Clinical Epidemiology. DOI: 10.1016/j.jclinepi.2020.05.02	Methods used to select outcome measurement instruments have improved since the publication of the COSMIN/COMET guideline. Going forward, COS developers should ensure that recommended outcome measurement instruments have sufficient content validity. In addition, COS developers should recommend one instrument for each core outcome to contribute to the overarching goal of uniformity in outcome reporting.	*2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Process of determining 'how' to measure	Santaguida, P. L., D. Oliver, A. Gilsing, L. Lamarche, L. E. Griffith, D. Mangin, J. Richardson, M. Kastner, P. Raina and L. Dolovich "Delphi Consensus on Core Criteria Set Selecting Amongst Health-Related Outcome Measures (Hrom) in Primary Health Care." Journal of Clinical Epidemiology.	A Delphi consensus was undertaken to identify core criteria for selecting amongst different HROM and contextual factors affecting decision-making.	*2.11 Determining 'how' to define and measure an outcome in the core outcome set*
Standards	Kirkham JJ, Davis K, Altman DG, Blazeby JM, Clarke M, Tunis S, et al. Core Outcome Set-STAndards for Development: The COS-STAD recommendations. PLoS Med. 2017;14(11):e1002447. Link	The Core Outcome Set-STAndards for Development (COS-STAD) identifies minimum standards for the design of a COS study.	*2.15 Quality assessment/critical appraisal*
Standards	Gargon, E., P. R. Williamson, J. M. Blazeby and J. J. Kirkham (2019). "Improvement was needed in the standards of development for cancer core outcome sets." J Clin Epidemiol.	This current review provides guidance on how to compare a published COS to the standards (Table 2). This study identified the need to consider the scoring process and consensus definition separately. We recommend this separation for future users of COS-STAD.	*2.15 Quality assessment/critical appraisal*
Standards	Kirkham JJ, Gorst S, Altman DG, Blazeby JM, Clarke M, Tunis S, et al. Core Outcome Set-STAndardised Protocol Items: the	The Core Outcome Set-STAndardised Protocol Items (COS-STAP) Statement consists of a checklist of items	*2.4 Study protocol*

	COS-STAP Statement. Trials. 2019;20(1):116. Link	considered essential in a COS protocol.	
Standards	Kirkham JJ, Gorst S, Altman DG, Blazeby JM, Clarke M, Devane D, et al. Core Outcome Set-STAndards for Reporting: The COS-STAR Statement. PLoS Med. 2016;13(10):e1002148. Link	The Core Outcome Set-STAndards for Reporting (COS-STAR) provides guidance for the final reporting of COS development studies.	*2.14 Reporting guidance*
Uptake	Hughes KL, Kirkham JJ, Clarke M, Williamson PR. Assessing the impact of a research funder's recommendation to consider core outcome sets. PLoS One. 2019;14(9):e0222418. Link	The aim was to assess the extent to which applicants followed the National Institute for Health Research Health Technology Assessment (NIHR HTA) programme's recommendation to search for a COS to include in their clinical trial.	*3.3.4 Engagement with funders*
Uptake	Tong A, Manns B, Wang AYM, Hemmelgarn B, Wheeler DC, Gill J, et al. Implementing core outcomes in kidney disease: report of the Standardized Outcomes in Nephrology (SONG) implementation workshop. Kidney international. 2018;94(6):1053-68. Link	A SONG Implementation Workshop to discuss the implementation of core outcomes resulting in implementation strategies and pathways to be established through partnership with stakeholders.	*3.3.2.2 Development of an implementation plan*