Supplementary information

Questionnaire

1. Your name
2. What is your background? Clinician, scientist, etc.
3. How long have you worked with blood samples for EV research?
    - No experience yet
    - <1 year
    - 2-4 years
    - 5 years
4. Which research on blood EVs do you perform?
    - Omics
    - single EV detection
    - bulk EV detection
    - functional assays
    - biomarker profiling
    - multiple
    - other
5. What is your opinion about inviting a limited number of (possibly non-ISEV) experts on multi-center trials, platelet research, biomarker / biorepository research, etc.?
6. When inviting non-EV experts, do you think it is important to do this strategically, such as actively involved members of other (e.g. more clinical) societies, such as ESC, AHA, ISTH, etc.?
7. Do we go for evidence-based?
8. There is a lack of evidence for most pre-analytical steps. Still, some steps are very critical (e.g. anticoagulation, centrifugation). When we go for evidence-based (previous question), will we identify the most critical steps? Or will we address all steps?
9. If you are in favour of identifying the most critical steps, do you have a suggestion how to identify these critical steps? E.g. questionnaire, Rand approach, other
10. Do critical steps depend on the downstream application? Do you have examples?
11. What is your opinion about education? E.g. with regard to the effects of the many different anticoagulants on platelets, coagulation, downstream application, etc.
12. Pre-analytical variables are recorded in EV TRACK. Because EV TRACK provides no insight into the composition of the end-product, and because there is a long list of variables with regard to blood pre-analytics (easily >40; see Supplementary Table 1), even a detailed SOP is still no guarantee that differences will be present in the composition of the end-product, e.g. between individuals and laboratories. What is your opinion about describing the end-product in a quantitative manner. E.g. with regard to blood, the goal of most centrifugation protocols are to prepare a platelet-depleted plasma. Why not count platelets? Or measure hemolysis, etc. This would give insight in the end-product itself and ensures quality and consistency, which would be important to set up reliable biorepositories. So, in short extensive description versus quality control of the end-product. Whether this is feasible, or should be applied to all samples, is a matter of discussion. What do you think of this suggestion?
13. Some pre-analytical steps apply not only to blood, but also to other body fluids. E.g. centrifugation. Would you be in favour of physical models being developed to understand and

compare end-products? E.g. we (AMC) and Josh Welsh (NIH) have done this for light scatter detection of EVs, which has now enabled us to compare EV concentration measurements between flow cytometers?

14. Do you think we need multiple road maps (“highways versus byways”)? For example easy roadmaps for the clinical setting and more detailed roadmaps for laboratories? Or per downstream application? Other?

Supplementary Table 1. Variables of blood collection, handling and storage

Collection

1. Tourniquet (Yes/No)
2. Tourniquet time
3. Central line or artery vs. peripheral vein
4. Butterfly vs syringe
5. Needle bore
6. Type of port (if used for access)
7. Total time of draw
8. Time of collection
9. Use of discard tube (Yes/No)

Collection tube

10. Anticoagulant
11. Draw order
12. Tube material
13. Tube volume
14. Vacuum
15. Number of inversions

Between collection and centrifugation

16. Time
17. Temperature
18. Agitation
19. Upright transport
20. Plasma preparation

Centrifugation

21. Rotor
22. g-force
23. Time of centrifugation
24. Temperature
25. Brake
26. Volume
27. Which part of the “cell-free” supernatant is collected and how
28. Number of centrifugation cycles
29. Pooling Yes/No after first centrifugation cycle
30. Platelet count after final centrifugation to confirm platelet removal

Sample storage

31. Temperature of freezing
32. Additions before storage (protease inhibitors, DMSO, other)
33. Duration of storage
34. Storage of plasma or isolated EVs
35. Used after single or multiple freeze-thaw cycles
36. Thawing temperature / conditions
37. Centrifugation post-thawing

Supplementary Table 2. Involvement of non-ISEV members

- "*The only way forward!*", "*Very helpful*", "*Good idea*", "*Yes*", "Great idea", "*Essential*", "*Good and important idea*", "*Recommendable*"
- "*We need to learn from other fields, so a selection of experts on specific topics should be considered for inclusion*"
- "*It will increase impact and visibility of the field*"
- "*The utilization of EV studies across different disciplines leads to field-specific requirements that are not fully captured with the expertise of ISEV*"
- "*If some of the knowledge is already available in another field, we should benefit from that. It would allow us to set up the best type of trials*"
- "*Completely necessary to advance the EV field and effectively incorporate many of the discoveries, beyond pure EV biology, into clinician practice*"
- "*They can help us to understand things like the platelet activation work and profiling their EVs. Also they can help us with post-analytical aspects like measuring platelet activation under the various anticoagulant conditions*"
- "*The lack of interdisciplinary contacts has hampered the field too long and we can shortcut problems by talking to relevant experts from other fields*"
- "*We need to have experts in the management of these types of samples, so yes it will be beneficial to have that expertise even if it out of ISEV*"
- " *They could help us with their experience in establishing similar SOPs/ recommendations for their respective fields. Importantly, they probably have experience in the transfer of the SOPs/ recommendations into practice and could therefore help us set realistic/clinically applicable goals*"
- "*Targeted groups always good to brainstorm, step up and lead effort to identify new questions*"
- "*It can be real added value of expertise, allowing EV scientists to profit from experience of non-EV researchers / clinicians experiences in pre-analytics and biobanking. On the other hand, since the liquid biopsy topic is getting more and more popular, by contacting the non-EV experts, we will have a chance to educate them in the handling of EVs, which is very important to guarantee the high quality of EV research in biomedical translational projects*"
- "*Drawing in expertise from more established fields can bring benefits. The only danger is a lot of talking, and no action. The gains could be very insightful about how we undertake processes, manage these and current best practice in other research areas"*

Supplementary Table 3. Choose experts based on experience, choose experts strategically, or choose on experience and strategy

Experience

- "*Invite experts based on their knowledge and publications rather than on their position in societies.*"
- "*Expertise is priority above the coverage of different societies.*"
- "*The most important is to bring in people with knowledge, hand-on experience and the capacity to contribute.*"
- "*Inviting someone who is well known in his or her expertise of working with blood analysis will be invaluable.*"
- "*From such cohorts you are likely to identify people who understand the importance of this and so you don't have to spend so much time "selling" the idea in the first place. However, if there are experts that you are aware of who just don't happen to be a member of a society/association, that should not automatically eliminate them.*"
- "*Members of other societies that can witness the experience and opinions of their society might be of help.*"

Strategically

- "*Yes*" (6 participants)
- "*Yes, again to increase impact of any outcomes*"
- "*Strategic involvement of course OK*"
- "*Essential*"
- "*They normally have a different structured approach to bring.*"
- "*These should be targeted invitations of individuals with more clinical background.*"
- "*Other societies who are more experienced in clinical blood work should be involved.*"
- "*At least in some co-ordinated fashion to avoid a shotgun approach"*
- "*Completely necessary to develop strong ties with as many organizations possible since many ISEV members are active members in other scientific communities, we can absolutely use this to the advantage of the field since I would say EV research is among the least solid of the scientific fields.*"
- "*It is important. Ideally they would need to be aware of the challenges in EV research. ISTH is a good idea. ASH maybe a good option too*"

Experience and strategy

- "*We need to target key stakeholders in other fields or thought-leaders. If the selection is not done correctly, there will be too much 'noise' to discern a consensus or effective input. I would highly recommend going to the other working groups from societies such as American Heart Association (AHA) and seeing if the group could designate a liaison or committee of non-ISEV experts upon which more effective discussion could be based. Haematology and even phlebotomy groups will be key in involving*"

Supplementary Table 4. Do we go for evidence-based guidelines?

In favour of evidence-based guidelines

- "*Yes*" (6 participants)
- "*Evidence-based will be the only way to move forward, which is difficult given broad opinions of methodology in the EV field and speculation of data from outside the field. We have to be advocates for the minimal reportable guidelines and ensure reproducibility*"
- *"I understand that this makes it much more complicated and a bigger task, but I think it is important that we actually contribute with hard facts and not just speculations/suggestions or highlighting gaps in the literature. A lot of things are currently not in the literature and some of the studies that are, are poorly executed. I think it is important to bring in evidence on which variables affect the EVs and how. It could be that we separate it and write a road map on the variables we know now and then the evidence-based part becomes its own project/report."*
- *"I support evidence based recommendations"*
- "*Yes, with allowance for related evidence properly documented. Grading levels of evidence as is commonly done in National Comprehensive Cancer Network guidelines would be useful.*"
- "*Yes, we're scientists*"
- "*As a field we should always strive for evidence-based conclusions and support for hypotheses. I think this is a large issue in many emerging fields.*"
- "*It makes sense in view of the reliability of our road map.*"
- *"At least wherever possible."*
- "*Where possible; if not, then outlining the work flow for providing the evidence needed.*"
- "*Yes, because then it will be more likely that the guidelines will be adhered to. We can collect lab data that have not been published since they are commonly regarded as "optimization". Many such data may be available and could support any guidelines.*"
- *"Ideally, yes. However, considering Q7 in parallel with this, if information is to be included that is not evidence-based then the final document should make clear what is evidence-based and what is "opinion of the majority."*

Concerns about evidence-based guidelines

- "*If at all possible, but otherwise consensus is better than nothing at all.*"
- "*Not every step can be evidence-based, some might be ok as consensus based.*"
- "*Not entirely; pre-analytical data from non-EV research will serve as critical foundation for understanding the initial scope of studing pre-analytical variables for EVs. However, EVs behave uniquely from cells (e.g. aggregation, distortion, lysis), so theoretical pre-analytical factors should be considered.*"

Supplementary Table 5. Should we address all pre-analytical variables, or only the most critical?

All variables

- "*Address all steps."*
- *"Address all (if possible), but starting with the most critical"*
- *"All steps as to have the complete picture."*
- *"We should try to address all steps as every expert could have a different opinion of what is the critical point."*
- *"All steps should be addressed, as all researchers doing EV work have to have some familiarity with all of the steps."*
- *"If possible, for survey, we have to address all steps to ensure maximum knowledge impact from ISEV scientists and not just use empirical justifications for determination of the "most critical" steps. Based on the survey, we can identify knowledge gaps and most critical steps for the isolation of blood EVs. Potentially aspects, which were not addressed yet experimentally will be uncovered, which we will need to address in future."*

All variables to identify critical variables

- "*These two are mutually exclusive. We can address all steps and point out the most critical ones*"
- "*Without addressing all steps – it's difficult to truly define which are the most critical steps without making some assumptions. However, there are clearly too many variables, and to cover everything is simply not practical. We may have to resort to best guess about the key variables, and these can be informed by the blood-biomarker field to help these decisions*"

Critical variables only

- "*Identify most critical steps.*"
- "*Similar to the EV-TRACK approach, focus on the critical steps; If these are adhered to, it is a big step forward for the research field; In the meantime we should continue to develop guidelines for the byways or less critical steps.*"
- "*Prioritizing of critical steps with plan to "fill in the gaps.*"
- "The identification of the critical steps, together with good evidence (i.e. EV and cells in starting material, EV and contaminating cells in final product) might be sufficient."
- "*Identify only the most critical steps."*
- "*Critical steps evidence-based.*"
- "*Design a study / studies based on limited, crucial points identified in the literature.*"
- "*It will be impossible to address all steps. I would recommend that a panel of 10-20 experts rank pre-analytical steps to identify the priorities.*"
- "*We should identify the most critical steps for a roadmap at least just to simplify things.*"
- "*While there should be a consistent enforcement of evidence-based science across all the steps; however, there should also be room for creativity in science. As such, identifying the critical steps, while not over burdening any pre-analytical protocol with outlined steps, will most likely be key in maintaining stakeholder adherence to any proposed guidelines. i.e. Sample Collection – Time from Extraction, Tube Order, Tube Type, 'Variable room for extraction technique', time to end-product*."

Supplementary Table 6. Do critical steps depend on the downstream application?

- "*Yes*" (10 participants)
- "*Absolutely, a big problem we have encountered in our research is utilizing technologies that can be effectively adapted to clinical care"*
- "*Of course they do, but it is not sensible to start building from top down*"
- "*It might be to some extent but I think we know too little at the moment*"
- "*Some will*"; "*likely*"; "*Potentially it may*"
- "*Going back to practice, some of pre-analytical steps, e.g. type of needle for the blood collection from central line or artery are determined by the routine established in the clinics. So, I would say that some critical steps are predefined by the corresponding established clinical routine and optionally, should be kept to make the implementation into the clinical praxis easier. If a change to a routine is required, clear evidence-based argumentation will be required. Maintenance of intact EVs with minimal ex-vivo EV release, haemolysis and platelets contamination should be relevant to my concern for all downstream applications*."
- "*Maybe; but to be ultimately useful in "real world" situations -where numerous different protocols probably cannot be used to suit every potential future downstream application- ideally critical step that are broadly of importance should be priority*."

Supplementary Table 7. Relevance of education

Relevance of education

- "*Education is very important*"
- "*It is something very important*"
- "*Essential*"
- "*Education is important*"
- "*It is really important as many people enter the field way out of the EV field*"
- "*Desperately required – but in my opinion there is a lack of evidence, consensus and clarity to provide meaningful education for effects on EVs as most studies are outdated. Education on the effects of different processing variables on cells is still however required and more achievable in the short-term, leading to an understanding of these effects may impact EV collection*."
- "*Educating the people working in the clinical settings? It will definitely be important to educate the people handling the biospecimens. Maybe this could be done by national EV societies with the support of ISEV. But this will be an ongoing effort*"
- "*From our experience and experience of other researchers, these parameters are critical for the quality of our EV biomarker research and EV researchers performing biomarker studies should be aware of these parameters. To keep efforts in a most efficient way, collaboration with corresponding communities already addressing these questions will be favourable*"
- "*I am not opposed to education. Not sure what is the best form for it, though*"
- "*Unless you live and breathe blood-based work daily that you might not be fully up to date on the current understanding, and available tools/tubes/stabilisers etc. I'm always happy to learn more, and attend educational events to this end*"

Evidence-based education

- "*Need to be educated based on facts.*"
- "*Education on all of these is important when we have the evidence-based data to educate on them.*"
- "*We need more evidence before we can effectively educate researchers on the impacts of these decisions. Nonetheless, increasing the awareness about how these decisions may affect EV research is immensely important. This is something that could be added to Coursera."*

Suggestions how to set-up education

- "*This would be helpful. I propose a collaborative action with the ISEV Educational Committee*"
- "*It is important and it may be one area where invited experts from other fields can link to their own society educational resources (rather than reinventing the wheel)*"
- "*Building a stream of conscience model that can be adapted to new information, available on the web*?"
- "*The biological / biomedical background of the researcher limits the introduction of artefacts related to pre-analytical variables. I can feel it when talking with colleagues with chemical or physical background. If the researcher has a "bio" background, probably every choice in the sample handling procedure has been weighted. On the other hand, another background might*

help for the analytical phase. This is, in my opinion, the main reason to provide ISEV-approved suggestions to blood-EV researchers. Scientists with a non-bio background, need help and suggestions from experts to start from a good sample for their analysis, otherwise they waste time in analysing bad samples and not focus on the analytical phase. Education activities as MOOC, education days at ISEV meetings, etc., are particularly useful."

Supplementary Table 8. Quality control of prepared plasma and serum

- "*This is a very smart way of approaching the problem. We could propose a (simple) SOP and then suggest few most important controls of the end-product*"
- "*Excellent! This is an extremely good point! I think description of the end-product in a quantitative manner could be besides platelet count and haemolysis, cholesterol/triglyceride levels as well. For human samples, these parameters are measured routinely in a clinical laboratory anyway. So, it would not be too much expectation to collect these parameters for platelet free plasma samples*"
- "*Describing the end-product in a quantitative manner would be ideal; descriptive is more subjective and so, in my opinion, not so robust and reliable an may be more easily misinterpreted*"
- "*The quantitative approach is always the best one. It might help in understanding if one pre-analytical variable is really crucial and should be controlled/recorded/considered or if it just our perception. It might be that sometimes we are a little bit too focused on a variable, but if you look to the analysis as a whole, it does not really influence your work. Quality control better then description*"
- "*I like it, as long as it are analyses that can be relative easily be conducted in most laboratories"*
- "*If we can't control how well the biospecimen was collected and stored {the reality is this scenario for most}- then having a means of stating specimen quality (keep / reject criteria) will be hugely useful. It needs to be simple, quick and cheap. The visual inspect of hemolysis is one such example- but perhaps the community can innovate here and correlate such general specimen conditioning tests with vesicle integrity prediction. If this aspect is developed well- then perhaps the variables issue could be overcome by this simple test (series of tests) on the specimen- prior to commencing vesicle work. Is this a pipe dream*?"
- "*Quality control of the end-product is likely more important initially. Having 40 analytics about the preparative methodology doesn't necessary matter if the end-product is the same. This goes back to identifying the critical steps to ensure sample consistency. Additionally, the simpler the list (i.e. end-product description) the more likely people will adhere to the guidelines set up. Think of it as a quick, pre-take-off checklist (aviation field has done a great job on checklists), for the quality of your end-product*"
- "*The establishment of a quantitative relationship between initial material and the end-product is a very relevant issue. This will allow to implement quality controls. All initiative to quantify the starting material and then refer/correlate to the quantified-end-product will increase accuracy and will make feasible the comparison between different individuals and laboratories. It will be something essential to translate the EVs to the biomarker and therapeutics field, where reproducibility and quality control need to be quantified to define the range of safety and efficacy of the EVs-based end-products*"
- "*It should be expected to know what is the end product. I think it is also important to know the start product*"
- "*Very good suggestion – some quantifiable quality control measures should be a goal of the aggregate pre-analytical studies. However, these must be practical and may be specific to goals in some instances (e.g. selective losses of specific EVs) or universal (e.g. platelet content of platelet 'depleted' plasma)*."
- "*We need to count platelets or a suggested way to control for it.*"

- "*To address this, it is important to have an SOP for platelet count for example. In this case, education plays a big role in providing training that is suitable or targeted for this. A workshop is good, but this type of training should be more technical in wet based lab such as the EMBL EV training class*."
- "*In studies describing EV isolation from plasma and doing any downstream analysis, but especially any omics, you need to show that your sample does not have residual platelets / haemolysis*." "*I think it is very important point. According to our experience with EV-TRACK – it is a system which is designed and nicely suited for fundamental research, but the parameters are not settled for clinical studies yet. In contrast, parameters as platelets count and hemolysis should be included. To our experience, once SOPs are established, it is easy to carry out. Respecting EV-Track - I think it would be helpful to establish separate parameters designed for clinical studies and biomarker search with a high number of clinical samples and including those critical steps as quantitative control of the end-products since these parameters influence the results of biomarker detected*."
- "*This could be useful added information for multicentre studies and historic archives.*"
- "*Recording the pre-analytical variables is an important first step, but I agree that describing the end-product is also important to the extent that necessary descriptions of an end-product have been agreed. EV-TRACK is still useful, as it can be revised as needed to include outcome of assays such as those proposed. I fully agree that measures such as platelets and haemolysis are informative for many plasma experiments and could be written into guidelines and databases like EV-TRACK*."
- "*Pre-analytical variable should be recorded in EV-TRACK and, where a reliable metric of end-product consistency can be identified, it would be helpful to measure that. What are best end-product metrics, though, is a difficult question, depending on the nature of the samples and types of downstream assays*."
- "*Agree: MISEV guidelines recommend to report on quality controls for cell culture: cell count, apoptosis,…. Similar quality controls should also be logical for other biofluids including plasma and serum"*
- *"Quantitative quality control measurements are very important. They must however be reported and conducted in a standardized way to make the measurement valid"*

Participants applying quality control procedures

- *"Coming from a clinical laboratory background, I have always counted residual platelets in platelet-poor plasma and would not accept haemolysed samples if possible. As we move from pure research into EV assays with clinical applications, good laboratory practice (including quality control) will become more important*"
- *"We typically quantify platelets in start and end products. Haemolysis is an interesting read out also. The issue is that several protocols permit to eliminate platelets, but they do not permit to know what is the proportion of EV lost because the start product is unknown*"

Participant with restrictions

- "*First step is complete reporting of the steps. I think too early to leave the "EV TRACK approach". For quantitative description of the end-product we still need to agree on the technologies to do so. Platelets are just one concern*"

Supplementary Table 9. Developing physical models for improved understanding of EV preparation

- "*Yes good idea*"
- "*Yes, great idea*"
- "*Yes I think this can be good*"
- "*Physical models are highly useful, and I applaud and encourage their development. However, outcome measures are also important*"
- "*Absolutely, having physical models that can allow us to better understand what our end-product is will be essential in downstream applications and translation to other fields*"
- " *It would increase accuracy of the measurements and facilitate comparative studies*"
- "*Gold standard methodologies and physical models are going to be critical as reference models in this effort. The project should be front-loaded with their development*"
- "*Any of these tools to facilitate reliable cross-institutional and cross-platform data comparisons will be helpful*"
- "*Yes – the development of physical models will ultimately lead to better understanding in the field about how our techniques work and the variables that need consideration. It is important that physical models are reported in an accessible manner and they be produced with an ergonomic implementation for others to utilise*"
- "*In general are this helpful tools, as long as critical used and evaluated on different body fluids*"
- "*This is good but at this moment, it is imperative that we focus on blood*"
- "*Yes, but do not believe they work*"; "*In certain cases they might be helpful*"
- "*Yes, if the round robin approach is considered, it might be useful for the modelling*"

Supplementary Table 10. How many "roadmaps" do we need for blood EV preparation?

Multiple roadmaps

- "*Yes this may enable different centres to make the most use of a wide sample range*"
- "*Yes, it may be helpful if we consider our road map as some kind of a guideline*"
- "*Yes. Depending on downstream application, sometimes easy roadmaps are sufficient. If you have to develop an assay you should care more about the pre-analytical variables; if you apply an established assay and look for a solid biomarker you don't*"
- "*My suggestion is to build a detailed roadmap and based on it, suggest a simplified one for clinical settings*"
- "*I think we should first focus on easy roadmaps for the clinical setting and promote their usage. Clinicians are starting to work on EVs more and more. Mostly they don't have the time to really study how different pre-analytical steps affect EVs, so if there are no SOPs available they will just use protocols already established in the lab, which could be inappropriate for EVs*"
- "*Yes, differentiation needs to be made but will depend on the downstream process and not clinical versus laboratory*"

Mulitple roadmaps sharing commonalities

- "*We need to have road maps for both the clinical and research settings since there will be different reporting guidelines. However, these road maps should share commonalities, or the critical steps, in getting a quality end-product*"
- "*Sample collection and processing in research and clinical settings have to converge at some stage if the research findings are to be relevant to clinical settings*"
- "*Yes, the road maps are going to be different depending on the application and rigor necessary to achieve hypothesis testing or clinical grade application. But fundamental endpoints should overlap (e.g. platelet depletion, aggregation/lysis/losses)*"

Single roadmap

- *"Personally, I don't agree with easy roadmaps for the clinical setting and more detailed roadmaps for laboratories. Maybe this is because my reason for doing this research is ultimately towards clinical utility, rather than research for lab research sake. So, I'd favour the same roadmap for both"*
- *"I do not like the clinical setting to be any "easier" if the downstream analysis is omics. Things like "process time" can be controlled even if they cannot be fast, but I often hear that they do not have time to double-centrifuge etc. which is not a valid reason. In all, I am in favor of giving guidelines for how to do an optimal job, but resistant of being very judgmental about the lack of it"*

"Highway roadmap" for all

- "*I think some key road maps and then additional thoughts as I think you will get 90% of people work in two SOP's*."

- "*Just as for EV-TRACK, focus already on a few critical points, if these would be adhered to by a significant number of researchers, it would already be a big step forward*!"
- "*Easy is good for all of us. And yes, I think breaking it down into manageable sections is the only way to really tackle this*."
- "*Start with the biggest need. Then branch off from that. I think of MISEV, where the main thing in my view is to get people to think about negative controls! There's a lot more to work on, but it can come later*."
- "*A great idea but ideally it should be readily applicable in a clinical setting*"

Long term vision

- "*Big picture, long-term, somewhat grandiose solution: ISEV has a critical role to play in the field of EV standardization. ISEV needs to consider the big picture and be methodical and forward looking when considering the development of standardization efforts and how they are reported. I would suggest that an overarching framework be developed that is maintained by ISEV and contains all considerations required by category. This would be in a format that is concise, easily accessible, and easily searchable. This would therefore likely require the development of a web-based platform.*

  This type of platform would take time to collate and is a long-term project and solution to disseminating quality control measures and known variables for each technique – currently these are listed in prose in the MISEV guidelines which also refer to a variety of papers. A draft of this overarching framework could initially be based on merging existing MISEV and EV-TRACK frameworks and be method-based e.g. blood collection, centrifugation, single-EV flow cytometry, RNA-seq. Under each method would be 'Quality control measures' and 'Known variables'.

  The idea being if you use a method like centrifugation, you go to the web page and click on centrifugation: You may have a list of quality control steps to consider in order to demonstrate your centrifugation efficacy. You would have list of known variables consideration effecting centrifugation e.g. rotor type, centrifugal force, time, temperature, etc. This would essentially be collating a known knowledge in an organized way and ideally done and led by consensus of a standardization committee(s) who specialize in that topic. For areas like single EV flow cytometry we have already developed the MIFlowCyt-EV reporting framework which would fit under a single EV flow cytometry section.

  By collating these considerations and quality controls in an organized way for various procedures there is a methodical way to organize, update, identify gaps, and further advance procedures in the field. This type of development also acts as an education tool and makes utilizing new technique easier, rather than having to trawl through the literature and decipher ambiguous prose. It provides clarity and organized consensus."