PEER REVIEW HISTORY

ARTICLE DETAILS

TITLE (PROVISIONAL)	Swiss Frailty Network & Repository – Protocol of a Swiss Personalized Health Network's Driver Project Observational Study
AUTHORS	Gagesch, Michael; Edler, Karin; Chocano-Bedoya, Patricia; Abderhalden, Lauren; Seematter-Bagnoud, Laurence; Meyer, Tobias; Bertschi, Dominic; Zekry, Dina; Bula, Christophe; Gold, Gabriel; Kressig, Reto; Stuck, Andreas; Bischoff-Ferrari, Heike

VERSION 1 – REVIEW

REVIEWER	Marjan Abbasi University of Alberta
REVIEW RETURNED	17-Feb-2021

GENERAL COMMENTS	This paper outlinesImportant work and well designed study.

REVIEWER	Emiel Hoogendijk Amsterdam UMC Locatie VUmc
REVIEW RETURNED	29-Mar-2021

GENERAL COMMENTS	This is an interesting protocol of a Swiss frailty project that aims to validate an electronic frailty index. Although it is not very novel, it is a good replication of work that has been done elsewhere. And for a more uniform approach of the frailty concept which allows comparisons, it is good that the eFI becomes available in more countries. I have a few minor comments for the authors to consider: - In the abstract, the aimed sample size is not mentioned, it would be good to mention. The same applies to the article Summary. The interpretation of what a "large multicenter study" is may vary among readers. - The Morley 2013 (JAMDA) and Rodriguez-Manas 2013 (JoG) papers are maybe a bit outdated. The frailty field is still divided, but the field is quickly expanding, and there is a clear development towards the use of frailty indexes (deficit accumulation approach) across many medical disciplines. Moreover, this project builds on the work done in the UK on the eFI, which was a major step forward compared to what is reported in these two papers. - The authors avoid to mention the everlasting discussion on physical frailty (frailty phenotype) vs. multi-system decline (frailty index). However, by avoiding this, it looks like every frailty concept is the same. And that is also not true. For example, on Page 6, line 22: It is a bit strange that the authors talk about the 'frailty syndrome' while they are using another approach (frailty index) that sees frailty as a state/condition, not as a syndrome. It is also a bit strange that the eFI will be validated against a clinical frailty scale based on the frailty phenotype (page 7). It is, for example, well-known that the eFI will lead to higher prevalence rates of frailty than frailty phenotype

	approaches. Moreover, the comparison between eFI and cFI is not completely equal, as they have a different measurement scale. Both instruments cannot be seen as gold standards, as they measure different concepts. For the reader, it would be good to describe more clearly in the Introduction how cFI and eFI relate to each other (later on in the manuscript this becomes more clear, that eFI is meant to screen and cFI to confirm?), or what the exact purpose is of operationalizing both instruments instead of only one. - Not involving patients/general public may result in lower acceptability of using frailty in clinical practice. In the UK there are many discussions about this, especially when frailty screening is used to allocate care and to make decisions on access to care or interventions. - Reference 29: Is this a published abstract? Not sure what the BMJ Open regulations are, but this may not qualify as reference as it is not publicly available with and identifier like DOI.

VERSION 1 – AUTHOR RESPONSE

Reviewer 1
General comment
This paper outlines important work and well designed study.

Reviewer 2
General comment
This is an interesting protocol of a Swiss frailty project that aims to validate an electronic frailty index. Although it is not very novel, it is a good replication of work that has been done elsewhere. And for a more uniform approach of the frailty concept which allows comparisons, it is good that the eFI becomes available in more countries.

Response to reviewer 2's comments

Comment 1
In the abstract, the aimed sample size is not mentioned, it would be good to mention. The same applies to the article Summary. The interpretation of what a "large multicenter study" is may vary among readers.

Response to Comment 1
We thank the reviewer for this important remark and have added the aspired sample size in the abstract and in the article summary (line 10 in the abstract, line 4 in the article summary).

Comment 2
The Morley 2013 (JAMDA) and Rodriguez-Manas 2013 (JoG) papers are maybe a bit outdated. The frailty field is still divided, but the field is quickly expanding, and there is a clear development towards the use of frailty indexes (deficit accumulation approach) across many medical disciplines. Moreover, this project builds on the work done in the UK on the eFI, which was a major step forward compared to what is reported in these two papers.

Response to Comment 2
We do thank the reviewer for the thorough look on the given literature and agree to this comment. We have added Dent et al. 2016 and 2019 as additional references reviewing the evolution of the field

and the approach to frailty instruments (introduction line 19) and added Cesari 2018 reporting on the REPOSI eFI as additional reference.

Comment 3
The authors avoid to mention the everlasting discussion on physical frailty (frailty phenotype) vs. multi-system decline (frailty index). However, by avoiding this, it looks like every frailty concept is the same. And that is also not true. For example, on Page 6, line 22: It is a bit strange that the authors talk about the 'frailty syndrome' while they are using another approach (frailty index) that sees frailty as a state/condition, not as a syndrome.

Response to Comment 3
We do thank the reviewer for spotting this flaw in the introduction and have revised and expanded the paragraph in question and the following paragraph accordingly (lines 23-24, lines 26-30).

Comment 4
It is also a bit strange that the eFI will be validated against a clinical frailty scale based on the frailty phenotype (page 7). It is, for example, well-known that the eFI will lead to higher prevalence rates of frailty than frailty phenotype approaches. Moreover, the comparison between eFI and cFI is not completely equal, as they have a different measurement scale. Both instruments cannot be seen as gold standards, as they measure different concepts. For the reader, it would be good to describe more clearly in the Introduction how cFI and eFI relate to each other (later on in the manuscript this becomes more clear, that eFI is meant to screen and cFI to confirm?), or what the exact purpose is of operationalizing both instruments instead of only one.

Response to Comment 4
We also thank the reviewer very much for this additional feedback regarding our aim of investigating the correlation of both measurements. The primary aim of our study is the generation of a harmonized eFI at all 5 Swiss University Hospitals and the investigation of its predictive abilities against length of stay and in-hospital mortality in patients age 65+. In addition, we are introducing the investigation of a frailty phenotype approach to frailty using a harmonized clinical frailty instrument (cFI) for the first time on a national scale for Switzerland in patients at acute geriatric care at all 5 partnering centers, and comparing the predictive abilities in regard to the eFI. We do see additional value of this comparison as this has not been investigated for older adults from Switzerland in a larger multicenter study so far and will therefore add important information to the existing literature. We have clarified this in more detail in the introduction (lines 34-39), and also added clarification in the statistical analysis section (lines 129-137)

Comment 5
Not involving patients/general public may result in lower acceptability of using frailty in clinical practice. In the UK there are many discussions about this, especially when frailty screening is used to allocate care and to make decisions on access to care or interventions.

Response to Comment 5
We very much appreciate this remark by the reviewer. Although the general public was not involved in the design of the trial, we do hope to lay important groundwork and give hand for a standardized operationalization of frailty in the Swiss health care system in order to expedite the routine assessment of frailty in older adults. Therefore our project should be seen as a stepping stone and future developments, including the connection to the implementation of a Swis electronic patient

dossier, currently under development by the Swiss Ministry of Public Health, appears as a promising future development.

Comment 6
Reference 29: Is this a published abstract? Not sure what the BMJ Open regulations are, but this may not qualify as reference as it is not publicly available with and identifier like DOI.

Response to Comment 6
We are thankful for this remark and have replaced the improper reference and substituted with the published study protocol and main results paper of the DO-HEALTH trial.