

PEER REVIEW HISTORY

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ARTICLE DETAILS

TITLE (PROVISIONAL)	Cohort Profile: The Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog) – a national research and quality registry with a biomaterial collection
AUTHORS	Medbøen, Ingrid; Persson, Karin; Nåvik, Marit; Totland, Torunn; Bergh, Sverre; Treviño, Cathrine; Ulstein, Ingun; Engedal, Knut; Knapskog, Anne-Brita; Brækhus, Anne; Øksengård, Anne; Horndalsveen, Peter; Saltvedt, Ingvild; Lyngroth, Anne; Ranhoff, Anette; Skrettingland, Dagny; Naik, Mala; Soares, Jelena; Johnsen, Bente; Selbaek, Geir

VERSION 1 – REVIEW

REVIEWER	D Aarsland King's College London
REVIEW RETURNED	06-Jan-2022

GENERAL COMMENTS	<p>This paper describes the background, methods and cohort detail of a nationwide quality and research dementia registry in Norway, with >15000 patients included, half of them with dementia. In addition it provides a review of some selected publications based on the registry. This is thus an interesting background paper providing relevant information of an important and ambitious project that promises to provide interesting information for Norway and the rest of the world. The paper is clear and well structured. Imaging and fluid biomarkers are collected, but apparently not utilized for diagnosis, but solely for research purposes</p> <p>I have some questions and comments to consider</p> <p>Abstract "Purpose", I assume this refers to the purpose of the paper, rather than the purpose of the registry. The Future plans states "data will be keptto achieve the purpose of the registry". As these are fairly vague, it is not clear how to interpret this statement Strength/limitation; "cannot generalize" since referral based; it would be interesting to know the proportion of Norwegian dementia/MCI patients are included, and what is known re the bias, (ie more severe, more psychiatric or atypical features etc; this is mentioned but only as a general statement without any evidence.</p> <p>Intro "Dementia denotes ...category of diseases", this is a rather idiosyncratic definition, usually it is defined as cognitive impairment leading to functional impairment</p> <p>Cohort 47 clinics are now included, to understand this number we need to know the total number of clinics Table 1 gives a nice overview; however I would like to see a</p>
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	<p>breakdown of different dementia diagnoses.</p> <p>A major issue is WHO did the diagnostic assessments, their background, whether any reliability data exist and whether attempts have been made to increase reliability.</p> <p>Biomarkers, do not seem to be used for diagnosis, why is that?</p> <p>The "Findings to date" section provides a random overview over specific studies published; I am not sure if this is relevant or particularly interesting, and how they selected from the >90 papers?</p> <p>Page 12: "few neurological departments conduct diagnostic assessment of dementia in Norway": This is a very surprising statement, please justify.</p>
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REVIEWER	James Bourgeois Baylor Scott and White Health, Psychiatry
REVIEW RETURNED	16-Feb-2022

GENERAL COMMENTS	<p>Review of The Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog)</p> <p>Overall this is a well-written descriptive piece about a national dementia registry in Norway. It would be welcome if every nation had such a resource. The writing and use of figures and tables are clear and help to enhance understanding.</p> <p>The paper could be strengthened by at least succinct mention of the evolving nomenclature for neurocognitive disorders in the era of DSM-5, wherein the terms mild neurocognitive disorder and major neurocognitive disorder have largely supplanted the term "dementia."</p> <p>Greater detailed description on how researchers (including those from other nations) might be given access to this database to complete large data-set projects on dementia would be welcomed, assuming such access is possible.</p> <p>Overall, this is a welcome addition to the literature and reflects a thorough, pragmatic approach to population-based studies on the natural history of dementia, an area that needs significant world-wide advancement.</p>
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REVIEWER	Elizabeth Birkenhäger-Gillesse University of Groningen, Elderly care medicine and dementia
REVIEW RETURNED	03-Mar-2022

GENERAL COMMENTS	<p>1. no research question is defined: it would be helpful to define the purpose of this article at the end of the introduction.</p> <p>5. Information on consent is available in different parts of the article. It would be helpful to describe all aspects of ethics/ consent in a separate paragraph.</p> <p>10. Results are presented clearly, however table 2 is in my opinion a bit redundant.</p> <p>11 There is no paragraph 'discussion'. To my opinion much of the text in the paragraph 'strengths and limitations' actually belongs in a paragraph 'discussion' (with subparagraph 'strengths and limitations' and 'future plans'). That would add to clarity of the text.</p>
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VERSION 1 – AUTHOR RESPONSE

Reviewer #1:

Dr. D Aarsland, King's College London

Response: We would like to thank the reviewer for insightful and constructive comments and suggestions that contribute to the improvement of our manuscript. Please see our responses below for each issue raised by the reviewer.

This paper describes the background, methods and cohort detail of a nationwide quality and research dementia registry in Norway, with >15000 patients included, half of them with dementia. In addition it provides a review of some selected publications based on the registry. This is thus an interesting background paper providing relevant information of an important and ambitious project that promises to provide interesting information for Norway and the rest of the world. The paper is clear and well structured. Imaging and fluid biomarkers are collected, but apparently not utilized for diagnosis, but solely for research purposes

Response: Regarding the last point about the utilization of biomarkers for diagnosis, we have edited the manuscript to clarify this. The editions are described in our response below to the comments and questions the reviewer had about diagnostic assessment.

Abstract

"Purpose", I assume this refers to the purpose of the paper, rather than the purpose of the registry.

Response: In the author guidelines of BMJ Open's article type specifications for Cohort profile, it is specified that the headline "Purpose" as part of the abstract should "*describe why the cohort was set up*". For clarity, we wanted to add the purpose of the paper as well, but the abstract has a word limit of 300 words. Therefore, and since reviewer #3 also pointed this out, we added a description of the purpose of the Cohort Profile in the introduction (changes in **bold**):

"The purpose of this Cohort Profile is to describe the background, methods, baseline data and future plans of the Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog). NorCog was established in 2008 with two main aims: (...)"

The Future plans states "data will be keptto achieve the purpose of the registry". As these are fairly vague, it is not clear how to interpret this statement

Response: Thank you for pointing out this unclarity. To make this clearer, we have edited the point "Future plans" as part of the abstract, as well as the section "Future plans" towards the end of the manuscript.

Editions in the abstract (changes in **bold**): ***"Future plans: The finish date of NorCog was originally in 2029. In 2021, the registry's legal basis was reformalized and NorCog got approval to collect and keep data for as long as is necessary to achieve the purpose of the registry."***

Editions in the section "Future plans" (changes in **bold**): ***"Originally, the finish date of NorCog was set to the year of 2029. However, the legal basis of NorCog was reformalized in 2021 according to the Norwegian Regulations relating to medical quality registries (FOR-2019-06-21-789), and the registry got approval to collect and keep data as long as is necessary to achieve the purpose of the registry. Thus, data collection in NorCog will continue in the coming years without a specific finish date."***

Strength/limitation; “cannot generalize” since referral based; it would be interesting to know the proportion of Norwegian dementia/MCI patients are included, and what is known re the bias, (ie more severe, more psychiatric or atypical features etc; this is mentioned but only as a general statement without any evidence.

Response: We agree that it would be very interesting to know the proportion of Norwegian dementia/MCI patients that are included in NorCog. Unfortunately, we do not know the incidence rate of dementia and MCI in Norway as of today, but this is under investigation and results will be available soon. Knowing the incidence rate, we will be in a better position to estimate the proportion of dementia/MCI patients that are included in NorCog.

With regard to the last part of the comment, we have edited the paragraph in the introduction that included the statement about which patients that are assessed in specialist health care units in Norway. The changes involve describing what is recommended by the Norwegian national guideline on dementia, rather than stating the features of the patients as a fact without having the evidence for the statement (changes in **bold**):

*“In Norway, the municipalities are responsible for primary care, including the assessment of cognitive impairment in older patients with uncomplicated dementia symptoms. **In more complicated cases, the recommendation of the Norwegian national guideline on dementia is to refer patients to specialist health care units for an extended assessment.**[2] In Norway, specialist care is administered by four regional health authorities. **According to the national guideline on dementia, cases that are appropriate to refer to specialist health care units may include** younger patients with cognitive decline, patients with coexisting psychiatric, neurological, or somatic problems, atypical dementia disorders, and patient groups with complex disorders.”*

Furthermore, we refer to a recent study in the end of the section “Findings to date” which may be somewhat relevant in relation to the last point in your comment:

“A recent study described patients assessed for cognitive decline in primary health care, compared to patients assessed in specialist health care that have been included in NorCog. The study found that patients assessed in primary health care were older, less educated, had poorer cognitive functioning and activity limitations, more often lived alone, and had more behavioural and psychological symptoms of dementia and depression.[31]”

Intro

“Dementia denotes ...category of diseases”, this is a rather idiosyncratic definition, usually it is defined as cognitive impairment leading to functional impairment

Response: We agree and have revised the definition (changes in **bold**):

“Dementia is the deterioration of cognitive functions to an extent that impedes a person’s ability to perform functions of daily living and, ultimately, resulting in premature death.”

Cohort

47 clinics are now included, to understand this number we need to know the total number of clinics

Response: Thank you for pointing this out. We have added information to the second paragraph of the section “Cohort description” to increase the understanding about outpatient clinics that collect data in NorCog (changes in **bold**):

“NorCog was originally established as a regional quality and research registry in 2008. During the first year of data collection, in 2009, seven outpatient clinics from the South-Eastern Norway Regional

Health Authority participated. Since then, outpatient clinics from all four regional health authorities in Norway have joined, and the registry received status as a national quality registry in 2013. Most of the clinics are referred to as memory clinics or outpatient clinics in old-age psychiatric and geriatric units.[6] **There is no clear consensus for which type of outpatient clinics that should be assessing dementia in Norway and there are variations between regions. To be eligible for data collection in NorCog, the outpatient clinics need to have a specialist as part of their interdisciplinary staff. Some clinics have had staffing problems and have stopped or paused data collection in NorCog until specialists are rehired. In December 2021, 45 out of 49 eligible outpatient clinics (memory clinics or outpatient clinics in old-age psychiatric and geriatric units) participated with data collection in NorCog.”**

Table 1 gives a nice overview; however I would like to see a breakdown of different dementia diagnoses.

Response: In response to your comment, we have made an additional table with characteristics by different dementia diagnoses. Since the new table shows the frequency of different etiological dementia diagnoses, also shown in Figure 2, we think that Figure 2 is redundant and have removed it from the manuscript.

The new table inserted in the manuscript:

Table 2. Demographic characteristics by etiological dementia diagnoses registered in NorCog at baseline during 2009-2021.

	<i>AD dementia</i>	<i>Mixed AD and VaD</i>	<i>VaD</i>	<i>DLB</i>	<i>PDD</i>	<i>FTD</i>	<i>Unspecified dementia</i>	<i>Other dementia types</i>
<i>n (%)</i>	4481 (53.5)	1047 (12.5)	925 (11.1)	343 (4.1)	199 (2.4)	131 (1.6)	1154 (13.8)	88 (1.1)
<i>Age (years), mean (SD)</i>	75.9 (8.3)	79.0 (6.7)	78.4 (7.2)	74.3 (8.2)	75.0 (6.5)	66.8 (10.9)	75.9 (8.1)	70.6 (9.1)
<i>Sex (female), n (%)</i>	2750 (61.4)	552 (52.7)	411 (44.4)	140 (40.8)	70 (35.2)	61 (46.6)	574 (49.7)	40 (45.5)
<i>Education (years), mean (SD)</i>	10.9 (3.5)	10.6 (4.1)	10.3 (3.4)	11.3 (3.6)	11.4 (3.8)	12.3 (3.6)	10.5 (3.5)	11.5 (3.3)
<i>Married/cohabiting, n (%)</i>	2606 (60.3)	569 (57.1)	505 (56.7)	223 (67.4)	151 (77.8)	97 (77.6)	610 (55.7)	51 (61.4)
<i>Living alone, n (%)</i>	1676 (38.8)	428 (41.9)	371 (41.5)	98 (29.4)	42 (22.0)	30 (23.8)	461 (41.4)	28 (32.9)
<i>Public care, n (%)</i>	1429 (32.7)	516 (50.4)	510 (56.5)	123 (37.3)	96 (50.0)	32 (25.4)	517 (46.0)	36 (43.4)
<i>MMSE score, mean (SD)</i>	20.8 (4.4)	20.7 (4.2)	21.4 (4.3)	21.5 (4.5)	21.7 (4.3)	24.1 (3.7)	20.9 (4.6)	23.7 (4.0)

Abbreviations: AD=Alzheimer's disease, DLB=Dementia with Lewy bodies, FTD=Frontotemporal dementia, MMSE=Mini-Mental State Examination, PDD=Parkinson's disease dementia, SD=Standard Deviation, VaD=Vascular dementia

A major issue is WHO did the diagnostic assessments, their background, whether any reliability data exist and whether attempts have been made to increase reliability.

Biomarkers, do not seem to be used for diagnosis, why is that?

Response: The diagnostic workups are conducted by specialists (e.g., physicians or psychologists) at the outpatient clinics, and the clinical diagnosis is registered in NorCog. The diagnostic work-up is based on all available data collected by interdisciplinary teams at the outpatient clinics, including biomarkers. Unfortunately, we don't have any reliability data concerning the diagnostic process. However, the specialists at the outpatient clinics receive regular courses and information on diagnostic criteria. We have made editions to the manuscript to clarify the process of diagnostic work-up (changes in **bold**).

*“Diagnostic **work-up and** criteria*

The diagnostic workups are conducted by specialists (e.g., physicians or psychologists) at the outpatient clinics. Diagnoses are discussed in interdisciplinary consensus meetings and are based on all available data from the assessment, including biological markers such as imaging, blood tests and cerebrospinal fluid (CSF) biomarkers. The specialists at the outpatient clinics conclude on a diagnosis according to standardized diagnostic criteria.”
(...)

*Furthermore, **the specialists at the outpatient clinics** are encouraged, **but not obliged**, to make a more specific sub-classification according to a number of research diagnostic criteria. Here, the NIA/AA criteria are used for Alzheimer's disease (AD),^[14] the Sachdev/VASCOG for vascular dementia (VaD),^[15] the McKeith criteria for dementia with Lewy bodies (DLB),^[16] the Emre criteria for Parkinson's disease dementia (PDD),^[17] the Rascovsky criteria for frontotemporal dementia (FTD) behavioural variant,^[18] and the Gorno-Tempini criteria for the language variants of FTD.^[19] In addition, the NIA/AA criteria are used for the subclassification of MCI.^[20] **Since the specialists at the outpatient clinics are not obliged to register diagnoses according to research criteria other than ICD-10, research diagnoses are determined retrospectively in some research projects.”***

The “Findings to date” section provides a random overview over specific studies published; I am not sure if this is relevant or particularly interesting, and how they selected from the >90 papers?

Response: It is correct that the section provides an overview of a few of the studies published using data from NorCog. In the author guidelines of the article type specifications for Cohort profile BMJ Open, it is specified that a section about “Findings to date” should be included, with the following description: *“Include a short explanation of the most notable results from the cohort so far, with references to relevant publications. This section should summarise rather than present results.”* There was no systematic selection process as to which published studies that should be included in this section. The selection of studies is based on which studies the first author had some knowledge of, as well as suggestions from the co-authors. An aim was to choose different type of studies to show the breadth of the conducted studies.

To underline that the section “Findings to date” provide a short explanation of results from a few of the published studies based on data from NorCog, we added a sentence at the end of the introduction. In addition, we moved the description of the website, where a complete list of research projects can be found, to the first paragraph of the section (changes in **bold**):

*“Data from NorCog have been used in a wide range of research projects within the field of cognitive impairment and dementia, incorporating geriatric medicine, psychology, pharmacy, nursing, occupational therapy, and basic research. Up to December **2021**, more than **100** scientific papers, 22 PhDs, and 18 postdoctoral studies were fully or partially based on data from NorCog. **A complete list of research projects using data from NorCog, and their publications, can be found on the website www.aldringoghelse.no/forskning/norkog. Below is a short description of results from a few of the published studies based on data from NorCog.”***

Page 12: “few neurological departments conduct diagnostic assessment of dementia in Norway”: This is a very surprising statement, please justify.

Response: Since this statement is based on an overall impression and no empirical data exist, we have decided to omit the statement from the manuscript.

Reviewer #2:

Dr. James Bourgeois, Baylor Scott and White Health, Texas A&M University System

Response: We would like to thank the reviewer for taking the time to review our manuscript and contribute to its improvement.

Review of The Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog)

Overall this is a well-written descriptive piece about a national dementia registry in Norway. It would be welcome if every nation had such a resource. The writing and use of figures and tables are clear and help to enhance understanding.

The paper could be strengthened by at least succinct mention of the evolving nomenclature for neurocognitive disorders in the era of DSM-5, wherein the terms mild neurocognitive disorder and major neurocognitive disorder have largely supplanted the term “dementia.”

Response: Thank you for the suggestion. In the section about “Diagnostic work-up and criteria” we have edited the parts describing ICD-10 and added information about, and a reference to, DSM-5 (changes in **bold**):

“The specialists at the outpatient clinics conclude on a diagnosis according to standardized diagnostic criteria. ICD-10 is the 10th revision of the International Statistical Classification of Diseases and Related Health Problems (ICD), a medical classification list by the World Health Organization. In Norway, ICD-10 is established in clinical practice. The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) is widely used in clinical practice in the US and internationally, wherein the terms mild neurocognitive disorder and major neurocognitive disorder have largely supplanted the term dementia.[11] DSM-5 is not widely used in Norwegian clinical practice, but ICD-11, which is more similar to DSM-5 than ICD-10, will be implemented in the near future. Clinical diagnoses in NorCog are registered according to the ICD-10 Classification of Mental and Behavioural Disorders: Diagnostic criteria for research.[12]”

Greater detailed description on how researchers (including those from other nations) might be given access to this database to complete large data-set projects on dementia would be welcomed, assuming such access is possible.

Response: In response to your suggestion, we have edited the section previously headed “Collaboration” (changes in **bold**):

“COLLABORATION AND ACCESS TO DATA AND BIOMATERIAL

The use of data and biological material from NorCog is subject to ethical and legal regulations, including the General Data Protection Regulation, the Health Register Act, the Health Research

Act, and the Register Regulations. The information and biomaterial collected in NorCog can be made available to researchers if access is permitted under these regulations. Applicants from outside Norway are advised to identify a Norwegian collaborator. Enquiries can be submitted to the corresponding author, Geir Selbæk. An application form in Norwegian and in English may be found at <https://www.aldringoghelse.no/forskning/norkog>. All research projects must be approved by the Regional Committees for Medical and Health Research Ethics in Norway and by the Steering committee for NorCog. Oslo University Hospital has the overall responsibility for the data, and the Norwegian **National Centre for Ageing and Health is managing the registry.”**

Overall, this is a welcome addition to the literature and reflects a thorough, pragmatic approach to population-based studies on the natural history of dementia, an area that needs significant world-wide advancement.

Reviewer #3:

Dr. Elizabeth Birkenhäger-Gillesse, University of Groningen, Laurens care centers

Response: We would like to thank the reviewer for constructive comments and suggestions that contribute to the improvement of our manuscript.

1. no research question is defined: it would be helpful to define the purpose of this article at the end of the introduction.

Response: Thank you for the suggestion. We agree and have added a description of the purpose of the Cohort Profile in the introduction. We found it appropriate to place the description near the end of the introduction, in the fourth paragraph before the aims of NorCog are described (changes in **bold**):

“The purpose of this Cohort Profile is to describe the background, methods, baseline data and future plans of the Norwegian Registry of Persons Assessed for Cognitive Symptoms (NorCog). NorCog was established in 2008 with two main aims: (...)”

5. Information on consent is available in different parts of the article. It would be helpful to describe all aspects of ethics/ consent in a separate paragraph.

Response: In line with your suggestion, we have added a separate paragraph about consent in the manuscript, as part of the larger section “Cohort description”:

“Informed consent

Participation in NorCog is voluntary and enrolment require written informed consent. To give informed consent, a person must have the ability to fully understand what the participation in the registry means. During 2009-2021, NorCog has only recruited patients that have the capacity to give informed consent. However, from January 2022, patients who are unable, or have reduced capacity, to provide informed consent can also be included in NorCog based on proxy consent.”

10. Results are presented clearly, however table 2 is in my opinion a a bit redundant.

Response: We agree and have removed table 2. In earlier versions of the manuscript, before we added table 2, there were a bit confusion among the co-authors as to why the numbers in the section “Patient not included in NorCog” only referred to the time period 2016-2020 and not 2009-2020 as in table 1. To avoid confusion, we added the following sentence at the beginning of the section:

“The number of non-included patients during 2009-2015 has not been registered.”

Furthermore, since table 2 was removed, we added some of the numbers in the text (changes in **bold**):

*“The average age and the proportion of females were higher among the non-included patients (**76 years and 55% females**) compared to the included patients (**74 years and 52% females**).”*

11 There is no paragraph 'discussion'. To my opinion much of the text in the paragraph 'strengths and limitations' actually belongs in a paragraph 'discussion' (with subparagraph 'strengths and limitations' and 'future plans'). That would add to clarity of the text.'

Response: The reason that we have not included a paragraph called discussion is that it was not included as part of BMJ Open’s article type specifications for Cohort profile, while “Strengths and limitations” was specified. In order to obey to BMJ Open’s submission guidelines, we have not made this change, but we will be happy to revise if the Editor thinks that we should do as suggested by the reviewer.

VERSION 2 – REVIEW

REVIEWER	D Aarsland King's College London
REVIEW RETURNED	14-Jun-2022

GENERAL COMMENTS	The authors have done a great job in revising the paper. I have only a final comment. Thanks for presenting the distribution of dementia types. I think you should briefly comment on this, is it as expected? What does the distribution say about the referrals and diagnostic practices, if anything?
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REVIEWER	James Bourgeois Baylor Scott and White Health, Psychiatry
REVIEW RETURNED	11-May-2022

GENERAL COMMENTS	<p>Thank you for prompt and thorough response to reviewer's concerns. The paper is strengthened as a result of the revisions. The added text adds great clarity and specificity.</p> <p>Minor points to address: Page 8, line 15, "competence" should be changed to "capacity." Page 9, line 38, "between" should be changed to "among." Page 9, line 59 "depression" should be changed to "depressive disorder." Page 11, line 34, what specialist physicians are included? Page 12, line 58 and page 13, line 3 - if "Steering Committee" is the official term, thus a proper noun, both words are to be capitalized, otherwise, it should be lower case. Page 13, line 17 - wouldn't you also include psychiatrists and neurologists as dementia experts? Page 13, line 20, do you mean Ph.D. dissertations? If so, state such.</p>
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REVIEWER	Elizabeth Birkenhäger-Gillesse University of Groningen, Elderly care medicine and dementia
REVIEW RETURNED	18-May-2022

GENERAL COMMENTS	no additional comments
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VERSION 2 – AUTHOR RESPONSE

Reviewer #1:

Dr. D Aarsland, King's College London

The authors have done a great job in revising the paper. I have only a final comment. Thanks for presenting the distribution of dementia types. I think you should briefly comment on this, is it as expected? What does the distribution say about the referrals and diagnostic practices, if anything?

Response: Thank you for a relevant and important final comment. We agree that the distribution of dementia subtypes in Table 2 should be commented and have made an addition in the section “Cohort description”, fourth paragraph (changes in **bold**):

*“Table 2 shows the frequency of the different etiological dementia diagnoses and a selection of characteristics by dementia diagnoses. **The frequency of dementia subtypes is similar to the distributions in the Swedish Dementia Registry (SveDem) and the Danish Dementia Registry (DanDem),[7] although these two registries recruit patients from both specialist units and primary care centres. Since NorCog only recruits from specialist units, one might have expected a higher share of the less frequent dementia subtypes such as dementia with Lewy bodies (DLB) and frontotemporal dementia (FTD). The distribution of dementia subtypes in NorCog is also similar to the findings in a recent Norwegian population-based prevalence study.[8] The subtype of unspecified dementia is often used as a pending diagnosis when the etiological diagnosis is not yet confirmed at the time of baseline registration. It is possible that rarer or more complicated dementia subtypes are overrepresented in this diagnostic group. Better registry follow-up data in the future may reveal the etiological diagnoses in the unspecified dementia group.**”*

Because of the addition of two new references in the text, the reference list and the numbering of the citations in the rest of the manuscript are updated. The newly added references are:

7. Fereshtehnejad SM, Johannsen P, Waldemar G, et al. Dementia Diagnosis, Treatment, and Care in Specialist Clinics in Two Scandinavian Countries: A Data Comparison between the Swedish Dementia Registry (SveDem) and the Danish Dementia Registry. *J Alzheimers Dis* 2015; 48(1), 229-239. doi:10.3233/jad-150144
8. Gjøra L, Strand BH, Bergh S, et al. Current and Future Prevalence Estimates of Mild Cognitive Impairment, Dementia, and Its Subtypes in a Population-Based Sample of People 70 Years and Older in Norway: The HUNT Study. *J Alzheimers Dis* 2021; 79(3), 1213-1226. doi:10.3233/jad-201275

Reviewer #2:

Dr. James Bourgeois, Baylor Scott and White Health, Texas A&M University System

Thank you for prompt and thorough response to reviewer's concerns. The paper is strengthened as a result of the revisions. The added text adds great clarity and specificity.

Minor points to address:

Page 8, line 15, "competence" should be changed to "capacity."

Page 9, line 38, "between" should be changed to "among."

Page 9, line 59 "depression" should be changed to "depressive disorder."

Page 11, line 34, what specialist physicians are included?

Page 12, line 58 and page 13, line 3 - if "Steering Committee" is the official term, thus a proper noun, both words are to be capitalized, otherwise, it should be lower case.

Page 13, line 17 - wouldn't you also include psychiatrists and neurologists as dementia experts?

Page 13, line 20, do you mean Ph.D. dissertations? If so, state such.

Response: Thank you for your comments and for the list of minor points to address. We agree and have changed the wording according to your suggestions in point 1-3. In point 4, you ask what specialist physicians are included, referring to the sentence:

“The diagnostic workups are conducted by specialists (e.g., physicians or psychologists) at the outpatient clinics.”

To clarify this, we have changed the sentence in the manuscript (changes in **bold**):

*“The diagnostic workups are conducted by specialists (e.g., **geriatricians, psychiatrists, neurologists** or psychologists) at the outpatient clinics.”*

In point 5, it is pointed out that if "Steering Committee" is the official term, thus a proper noun, both words are to be capitalized, otherwise, it should be lower case. We agree that it is an official term and that both words should be capitalized. We have made changes accordingly throughout the manuscript.

In point 6, it is referred to page 13, line 17, which, from what we can see, is the following sentence:
“Data from NorCog have been used in a wide range of research projects within the field of cognitive impairment and dementia, incorporating geriatric medicine, psychology, pharmacy, nursing, occupational therapy, and basic research.”

Your comment was about including psychiatrists and neurologists as dementia experts, so we are not sure if the point was referring to the correct sentence? We can't see that we have used the word dementia experts in the manuscript. Anyway, we did some small editions to the sentence (changes in **bold**):

*“Data from NorCog have been used in a wide range of research projects within the field of cognitive impairment and dementia, incorporating geriatric medicine, **neurology, psychiatry**, psychology, pharmacy, nursing, occupational therapy, and basic research.”*

In point 7, we do indeed mean Ph.D. dissertations, and have changed the sentence (page 13, line 20, changes in **bold**):

*“Up to December 2021, more than 100 scientific papers, 22 Ph.D. **dissertations**, and 18 postdoctoral studies were fully or partially based on data from NorCog.*

Thank you for your corrections and remarks.

Reviewer #3:

Dr. Elizabeth Birkenhäger-Gillesse, University of Groningen, Laurens care centers

Comments to the Author: no additional comments