OBSTETRICS & GYNECOLOGY

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- Comments from the reviewers and editors (email to author requesting revisions)
- Response from the author (cover letter submitted with revised manuscript)*

**The corresponding author has opted to make this information publicly available.*

Personal or nonessential information may be redacted at the editor's discretion.

Questions about these materials may be directed to the *Obstetrics & Gynecology* editorial office: obgyn@greenjournal.org.

Date: Oct 05, 2020
To: "Deirdre A Quinn" [redacted]
From: "The Green Journal" em@greenjournal.org
Subject: Your Submission ONG-20-2359

RE: Manuscript Number ONG-20-2359

Measuring women Veterans' preconception wellness using Veterans Administration health record data

Dear Dr. Quinn:

Your manuscript has been reviewed by the Editorial Board and by special expert referees. Although it is judged not acceptable for publication in Obstetrics & Gynecology in its present form, we would be willing to give further consideration to a revised version.

If you wish to consider revising your manuscript, you will first need to study carefully the enclosed reports submitted by the referees and editors. Each point raised requires a response, by either revising your manuscript or making a clear and convincing argument as to why no revision is needed. To facilitate our review, we prefer that the cover letter include the comments made by the reviewers and the editor followed by your response. The revised manuscript should indicate the position of all changes made. We suggest that you use the "track changes" feature in your word processing software to do so (rather than strikethrough or underline formatting).

Your paper will be maintained in active status for 14 days from the date of this letter. If we have not heard from you by Oct 19, 2020, we will assume you wish to withdraw the manuscript from further consideration.

REVIEWER COMMENTS:

Reviewer #1:

Summary: The current study uses VA data to examine rates of compliance with preconception wellness factors. It is an interesting subject, but the data quality remain questionable.

Abstract:

Line 70 is confusing. It does not have a reference to one third of what (?).

Intro:

I think it might be helpful to include a description of the nine preconception wellness measures.

In lines 112 and 113, you reference a study that focused on live births. Can you describe that study in the intro.

Methods:

-There are a lot of assumptions and issues in the formation of the dataset. I am all about using secondary and EMR data, but our findings are only as good as our data's quality. Can more be done within this section of describe how the data were merged to create the main data? How the data were reviewed and cleaned?

I don't understand the dataset specific to pregnancy intention. Was this merged in to the main dataset or entirely different with different people?

What stats/data management program was used?

Results:

How were the multiple occurrences (multiple pregnancies) handled? Was only one pregnancy selected? Were robust estimates used?
The number of prior diabetes seems low. Is this correct?

Discussion:

How does this study compare to other work that uses VA data to study other outcomes? How did they handle the data quality and assumption issues? It might be good to place your study within the context of already published VA data work.

Reviewer #2:

The authors aimed to determine the feasibility of using measures developed by the clinical working group of the national preconception health and health care initiative to assess women's preconception wellness in a large healthcare system. They used VA national administrative data for women veterans ages 18 to 45 years who had >= 1 pregnancy outcomes during fiscal years 2010-2015 and had a VA primary care visit within 1-year prior to last menstrual period (LMP).
Major Issues:
- I think including those with no record of VA primary visit within one year prior to LPM would make the study more robust. (a) Would be great to know if this group is different from those who received care; (b) Is there difference in-terms of outcomes based on status of preconception wellness? (This could be added as third aim in this study if the authors agree to analyses data from those excluded from the current analyses).
- In the last paragraph of the discussion section, the authors claim this is the first comprehensive assessment and their findings "suggest that health systems approach that integrates reproductive healthcare services with other aspect of health care across VA will be essential for improving women veterans' health before, during, and after pregnancy. " This is little confusing because it is not clear which aspect of their finding support this claim. I think the authors need to keep the discussion and conclusion to their findings and refrain from statements such as "the first comprehensive assessment of preconception…." Unless they are very certain about this claim.
- In the discussion section, the authors need to emphasize limitations associated with the use of ICD-9/10 codes.
- Discuss the findings in this study in relation to similar outcomes in non-VA population (if available). Do you expect the results to be similar or different (why)?

Minor Issues:
- In the first paragraph of the introduction, the authors presented lack of consensus in the medical community about how and when to implement such are and how to determine preconception care quality as the reason for suboptimal clinical implementation of preconception care. I believe this sentences oversimplifies the complexity of the problem. The problems are diverse and complex. For example access to insurance and whether insurance covers such services need to be stated. As authors admitted in the method section (under measures of preconception wellness), significant (37% to 40%) portion pregnancies are unintended. Thus, the latter could also additional reason for the sub optimal implementation.
- Under the subtitle "materials and methods", the authors claimed that their study is the first to consider pregnancies resulting in other outcomes. I think the authors need to reconsider this statement carefully.
- The authors hinted that there were some elective abortion codes reported in the dataset, which they said could be due to codding error. I think it is important they report the number (%) of those excluded because of this reason to give readers some insight
- Along this section in line #125, the authors gave some evidence to support their claim that there is miss coding related to elected abortion. One of the reasons was that the code was assigned to women who are not child bearing age. What age range are they referring here? Some clarification is needed.
- The 210 days and 60 days cut point used to identify codes relevant to the same pregnancy is a little bit questionable. Perhaps, the authors might consider using additional criteria. For example, parity or gravida reported.

Reviewer #3: Quinn and colleagues present a retrospective cohort study to evaluate preconception wellness in patients cared for by the VA. I have the following question/comments for the authors.

1 - Please abbreviate your precis to be more concise.

2 - Why was the ECUUN study data included if not part of this cohort? This study stands well enough on its own. I would not include this additional information.

3 - Table 1 - Again, remove the ECUUN data as different cohort and not utilized to stratify the patients included here.

Reviewer #4:

In their work, Dr. Quinn et al. examine markers of preconception care among deliveries identified within the VA

administrative database between 2011-2015. They sought to examine if preconception health could be measured/tracked in this data set using metrics developed by the Clinical Workgroup of the National Preconception Health and Health Care Initiative.

With the focus on population health management and improved pregnancy outcomes, their work is innovative. It is especially relevant to providers, hospitals, health systems, and payers who are attempting to implement tools for health tracking or ensuring high quality care.

The authors presented two objectives: 1) to give a snapshot of the VA system users' preconception wellness, and 2) offer a guide for using administrative data for this purpose.

To improve their work, the authors may consider the following points -- grouped by their two stated objectives.

Objective 1:
- All measures are subject to bias, thus very likely do not truly reflect the actual preconception wellness status of women in their system.
- A quarter of pregnancies were excluded because they had no record of a preconception care within the last year before pregnancy. Women not seeking care are more likely to be healthy than those who visit a PCP, in particular if all are equally ensured/have access.
- Of those they included, another quarter had repeated episodes in their data set. Why did the authors include multiple episodes from the same woman? The results are likely to cause over-representation.
- Similarly, I suspect that women who screened for conditions like smoking were more likely to be smokers given the increased likelihood of documenting a positive response than a negative.
-Why were gonorrhea/chlamydia/HSV not considered in the STI screening measure? These are likely much more common than the conditions they examined.
- In general, I do not find the actual numbers in Table 2 to be truly reflective of the preconception wellness of their population for many of the reasons listed above and in their own discussion. Similarly, I caution the authors from making assumptions about specific or individualized care improvement strategies for their population.
- In my opinion, I think this paper is a better example of a proof of concept, highlighting the possible role and challenges for this type of preconception health monitoring in health systems / populations. I would suggest the authors refocus their framing a bit to focus more on Objective 2.

Objective 2:
- The authors describe that they use "administrative data" to assess for preconception wellness. This is a bit misleading because their metrics relied on patient survey data (pregnancy intention), lab data (STIs), med data (teratogens), and vital data (weight, height) -- I would consider many of these to be EHR data elements and not routinely available in discharge or claims data, which I would consider administrative data. In reality, a health system needs to access more than just administrative data to compute these metrics -- would the authors agree?
- While I commend the authors on linking to a pregnancy intention survey, is this feasible to implement in practice? It seems like without explicit documentation of this in the EHR, the metric would be near impossible to calculate and lacks generalizability.
- How do the authors propose that health systems treat missing data? Exclude it from their denominator? How would deal with the issues of bias raised above?

STATISTICAL EDITOR COMMENTS:

The Statistical Editor makes the following points that need to be addressed:

Table 1, lines 67: There were > 19,000 births among ~ 16,000 women. Therefore, the births are not independent events, since some women had > 1 pregnancy counted. The n(%)s in Table 1 need to be corrected, since there is double counting (or more) for some women. Furthermore, the pregnancy outcomes and the preconception indicators for a specific woman are correlated, not independent events, yet the methodology assumes independence. Simplest solution would be to randomly select one pregnancy from among women with > one pregnancy during 2010-2015.

Table 2:Again, these are calculated incorrectly, since some women had multiple events.

lines 262-265: What were the demographic and clinical characteristics of the women who had not VA primary care visit within one year of LMP? In other words, how representative is the 16,034 women included in the study compared to the entire cohort of 21,234 women?

EDITORIAL OFFICE COMMENTS:

1. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses:
A. OPT-IN: Yes, please publish my point-by-point response letter.
B. OPT-OUT: No, please do not publish my point-by-point response letter.

2. Obstetrics & Gynecology uses an "electronic Copyright Transfer Agreement" (eCTA). When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA.

Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.

3. If your study is based on data obtained from the National Center for Health Statistics, please review the Data Use Agreement (DUA) for Vital Statistics Data Files that you or one of your coauthors signed. If your manuscript is accepted for publication and it is subsequently found to have violated any of the terms of the DUA, the journal will retract your article. The National Center for Health Statistics may also terminate your access to any future vital statistics data.

4. For studies that report on the topic of race or include it as a variable, authors must provide an explanation in the manuscript of who classified individuals' race, ethnicity, or both, the classifications used, and whether the options were defined by the investigator or the participant. In addition, the reasons that race/ethnicity were assessed in the study also should be described (eg, in the Methods section and/or in table footnotes). Race/ethnicity must have been collected in a formal or validated way. If it was not, it should be omitted. Authors must enumerate all missing data regarding race and ethnicity as in some cases, missing data may comprise a high enough proportion that it compromises statistical precision and bias of analyses by race.

Use "Black" and "White" (capitalized) when used to refer to racial categories. The nonspecific category of "Other" is a convenience grouping/label that should be avoided, unless it was a prespecified formal category in a database or research instrument. If you use "Other" in your study, please add detail to the manuscript to describe which patients were included in that category.

5. In order for an administrative database study to be considered for publication in Obstetrics & Gynecology, the database used must be shown to be reliable and validated. In your response, please tell us who entered the data and how the accuracy of the database was validated. This same information should be included in the Materials and Methods section of the manuscript.

6. Figure 1: Please cite the figure within the text of the manuscript.

Tables, figures, and supplemental digital content should be original. The use of borrowed material (eg, lengthy direct quotations, tables, figures, or videos) is discouraged. If the material is essential, written permission of the copyright holder must be obtained.

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If the figure or table you want to reprint can be easily found on the internet from a reputable source, we recommend providing a link to the source in your text instead of trying to reprint it in your manuscript.

7. Responsible reporting of research studies, which includes a complete, transparent, accurate and timely account of what was done and what was found during a research study, is an integral part of good research and publication practice and not an optional extra. Obstetrics & Gynecology supports initiatives aimed at improving the reporting of health research, and we ask authors to follow specific guidelines for reporting observational studies (ie, STROBE), observational studies using ICD-10 data (ie, RECORD), meta-analyses and systematic reviews of randomized controlled trials (ie, PRISMA), meta-analyses and systematic reviews of observational studies (ie, MOOSE), economic evaluations of health interventions (ie, CHEERS), quality improvement in health care studies (ie, SQUIRE 2.0), and studies reporting results of Internet e-surveys (CHERRIES). Include the appropriate checklist for your manuscript type upon submission. Please write or insert the page numbers where each item appears in the margin of the checklist. Further information and links to the checklists are available at http://ong.editorialmanager.com. In your cover letter, be sure to indicate that you have followed the CONSORT, MOOSE, PRISMA, PRISMA for harms, STARD, STROBE, RECORD, CHEERS, SQUIRE 2.0, or CHERRIES guidelines, as appropriate.

8. Your study uses ICD-10 data, please make sure you do the following:
a. State which ICD-10-CM/PCS codes or algorithms were used as Supplemental Digital Content.
b. Use both the diagnosis and procedure codes.
c. Verify the selected codes apply for all years of the study.
d. Conduct sensitivity analyses using definitions based on alternative codes.
e. For studies incorporating both ICD-9 and ICD-10-CM/PCS codes, the Discussion section should acknowledge there may be disruptions in observed rates related to the coding transition and that coding errors could contribute to limitations of the study. The limitations section should include the implications of using data not created or collected to answer a specific research question, including possible unmeasured confounding, misclassification bias, missing data, and changing participant eligibility over time.
f. The journal does not require that the title include the name of the database, geographic region or dates, or use of database linkage, but this data should be included in the abstract.
g. Include RECORD items 6.3 and 7.1, which relate to transparency about which codes, validation method, and linkage were used to identify participants and variables collected.

9. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric data definitions at https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-obstetrics-data-definitions and the gynecology data definitions at https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-gynecology-data-definitions. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.

10. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.

11. Specific rules govern the use of acknowledgments in the journal. Please note the following guidelines:

* All financial support of the study must be acknowledged.
* Any and all manuscript preparation assistance, including but not limited to topic development, data collection, analysis, writing, or editorial assistance, must be disclosed in the acknowledgments. Such acknowledgments must identify the entities that provided and paid for this assistance, whether directly or indirectly.

* All persons who contributed to the work reported in the manuscript, but not sufficiently to be authors, must be acknowledged. Written permission must be obtained from all individuals named in the acknowledgments, as readers may infer their endorsement of the data and conclusions. Please note that your response in the journal's electronic author form verifies that permission has been obtained from all named persons.
* If all or part of the paper was presented at the Annual Clinical and Scientific Meeting of the American College of Obstetricians and Gynecologists or at any other organizational meeting, that presentation should be noted (include the exact dates and location of the meeting).

12. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully.

In addition, the abstract length should follow journal guidelines. The word limit for Original Research articles is 300 words. Please provide a word count.

13. Only standard abbreviations and acronyms are allowed. A selected list is available online at http://edmgr.ovid.com/ong/accounts/abbreviations.pdf. Abbreviations and acronyms cannot be used in the title or précis. Abbreviations and acronyms must be spelled out the first time they are used in the abstract and again in the body of the manuscript.

14. The journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.

15. ACOG is moving toward discontinuing the use of "provider." Please replace "provider" throughout your paper with either a specific term that defines the group to which are referring (for example, "physicians," "nurses," etc.), or use "health care professional" if a specific term is not applicable.

16. In your Abstract, manuscript Results sections, and tables, the preferred citation should be in terms of an effect size, such as odds ratio or relative risk or the mean difference of a variable between two groups, expressed with appropriate confidence intervals. When such syntax is used, the P value has only secondary importance and often can be omitted or noted as footnotes in a Table format. Putting the results in the form of an effect size makes the result of the statistical test more clinically relevant and gives better context than citing P values alone.

If appropriate, please include number needed to treat for benefits (NNTb) or harm (NNTh). When comparing two procedures, please express the outcome of the comparison in U.S. dollar amounts.

Please standardize the presentation of your data throughout the manuscript submission. For P values, do not exceed three decimal places (for example, "P = .001"). For percentages, do not exceed one decimal place (for example, 11.1%").

17. Your manuscript contains a priority claim. We discourage claims of first reports since they are often difficult to prove. How do you know this is the first report? If this is based on a systematic search of the literature, that search should be described in the text (search engine, search terms, date range of search, and languages encompassed by the search). If it is not based on a systematic search but only on your level of awareness, it is not a claim we permit.

18. Please review the journal's Table Checklist to make sure that your tables conform to journal style. The Table Checklist is available online here: http://edmgr.ovid.com/ong/accounts/table_checklist.pdf.

19. Please review examples of our current reference style at http://ong.editorialmanager.com (click on the Home button in the Menu bar and then "Reference Formatting Instructions" document under "Files and Resources). Include the digital object identifier (DOI) with any journal article references and an accessed date with website references. Unpublished data, in-press items, personal communications, letters to the editor, theses, package inserts, submissions, meeting presentations, and abstracts may be included in the text but not in the reference list.

In addition, the American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (ie, replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance (obgyn@greenjournal.org). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (eg, Committee Opinions and Practice Bulletins) may be found at the Clinical Guidance page at https://www.acog.org/clinical (click on "Clinical Guidance" at the top).

20. When you submit your revision, art saved in a digital format should accompany it. If your figure was created in Microsoft Word, Microsoft Excel, or Microsoft PowerPoint formats, please submit your original source file. Image files should not be copied and pasted into Microsoft Word or Microsoft PowerPoint.

When you submit your revision, art saved in a digital format should accompany it. Please upload each figure as a separate file to Editorial Manager (do not embed the figure in your manuscript file).

If the figures were created using a statistical program (eg, STATA, SPSS, SAS), please submit PDF or EPS files generated directly from the statistical program.

Figures should be saved as high-resolution TIFF files. The minimum requirements for resolution are 300 dpi for color or black and white photographs, and 600 dpi for images containing a photograph with text labeling or thin lines.

Art that is low resolution, digitized, adapted from slides, or downloaded from the Internet may not reproduce.

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***

If you choose to revise your manuscript, please submit your revision through Editorial Manager at http://ong.editorialmanager.com. Your manuscript should be uploaded in a word processing format such as Microsoft Word. Your revision's cover letter should include the following:

* A confirmation that you have read the Instructions for Authors (http://edmgr.ovid.com/ong/accounts/authors.pdf), and
* A point-by-point response to each of the received comments in this letter.

If you submit a revision, we will assume that it has been developed in consultation with your co-authors and that each author has given approval to the final form of the revision.

Again, your paper will be maintained in active status for 14 days from the date of this letter. If we have not heard from you by Oct 19, 2020, we will assume you wish to withdraw the manuscript from further consideration.

Sincerely,

The Editors of Obstetrics & Gynecology

2019 IMPACT FACTOR: 5.524
2019 IMPACT FACTOR RANKING: 6th out of 82 ob/gyn journals

CHERP
CENTER FOR HEALTH EQUITY RESEARCH AND PROMOTION

December 4, 2020

Nancy C. Chescheir, MD
Editor-in-Chief
Obstetrics & Gynecology

Dear Dr. Chescheir,

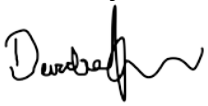
Thank you for the opportunity to revise our manuscript (ONG-20-2359), titled "Measuring women Veterans' preconception wellness using Veterans Administration health record data", for consideration for publication in *Obstetrics & Gynecology*. We appreciate the reviewers' thoughtful, substantive comments. At your recommendation, we provide our detailed response to each comment in the attached table.

Guidelines from *Obstetrics & Gynecology* were used in the preparation of this manuscript. This manuscript is not currently under review for publication elsewhere and will not be submitted for publication elsewhere until you complete your review. All authors listed have contributed sufficiently to the project to be included as authors as defined by the ICJME guidelines for authorship, and all those who are qualified to be authors are listed in the author byline. To the best of our knowledge, no conflict of interest, financial or other, exists. This study was conducted as a quality improvement initiative and therefore did not require institutional review board approval. Preliminary findings from this study were presented at the *Society of General Internal Medicine* Annual Meeting (May 2019, Washington DC) and the *American Public Health Association* Annual Meeting (October 2019, Philadelphia PA).

As lead author, I affirm that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned have been explained.

Please let us know if any other information would be helpful in your deliberations. Thank you for considering this revised submission.

Sincerely,



Deirdre A. Quinn, PhD, MSc, MLitt
Advanced Research Fellow, Women's Health
Center for Health Equity Research & Promotion (CHERP)
VA Pittsburgh Healthcare System

Attachment: Response to Reviews
ONG-20-2359, "Measuring women Veterans' preconception wellness using Veterans Administration health record data"

Reviewer 1

Comment	*Response*	*Location of Response*	
		Page No.	*Line No.*
Summary: The current study uses VA data to examine rates of compliance with preconception wellness factors. It is an interesting subject, but the data quality remains questionable.			
1. **Abstract:** Line 70 is confusing. It does not have a reference to one third of what (?).	This line has been edited for clarity.	3	76
2. **Intro:** I think it might be helpful to include a description of the nine preconception wellness measures	We have amended the introduction to include the list of nine preconception wellness measures, which we describe in detail in the methods section (lines 162-174).	4	106-109
3. In lines 112 and 113, you reference a study that focused on live births. Can you describe that study in the intro?	The paper referenced here[1] is a review of estimation methods to determine beginning and duration of pregnancy in health care databases. We have clarified the referenced statement in lines 112-113 to indicate that it summarizes some of the review paper's findings.	5	126-127
4. **Methods:** There are a lot of assumptions and issues in the formation of the dataset. I am all about using secondary and EMR data, but our findings are only as good as our data's quality. Can more be done with this section to describe how the data were merged to create the main data? How were the data reviewed and cleaned?	The data were merged using common VA identifiers across source tables. Details on the decisions made to clean the data are provided under each outcome and measure. In addition, Table 2 contains entries that quantify the extent to which data were conflicting or indeterminant for measures for which issues still remained after the application of the stated decision process.		
5. I don't understand the dataset specific to pregnancy intention. Was this merged in to the main dataset or entirely different with different people?	The dataset specific to pregnancy intention was an entirely separate dataset with a different cohort; we included these data to provide a snapshot of pregnancy intention among women Veterans using the only current	8	215-216

	data on this measure within VA. Based on all the reviewers' comments we have removed these data from the manuscript and amended the methods section to reflect the lack of data on pregnancy intention in current VA administrative data.		
6. What stats/data management program was used?	Data cleaning and descriptive analyses were completed using SAS Enterprise Guide 7.1. We have amended the Methods section to include this information.	8	213
7. **Results:** How were the multiple occurrences (multiple pregnancies) handled? Was only one pregnancy selected? Were robust estimates used? The number of prior diabetes seems low. Is this correct?	All results are presented at the pregnancy level rather than the woman level; multiple pregnancies to the same woman are presented as separate events. In response to the reviewers' queries, we conducted a sensitivity analyses wherein we randomly selected one pregnancy per woman (results presented below this table). After careful consideration, we retained in the manuscript our original sample of all pregnancies with evidence of a VA primary care visit, including multiple pregnancies to the same woman. We feel strongly that presenting each pregnancy, rather than randomly selecting only 1 pregnancy per woman, provides the truest snapshot of pre-pregnancy health in VA and avoids biasing our findings towards women who only had one pregnancy. We found that 1.4% of pregnancies in our sample had a prior diabetes diagnosis within 2 years prior to LMP. This number is lower than prior work which found that 2.8% of women Veteran VA-users ages 18-44 in FY00 and 2.9% in FY15 had diabetes. The lower prevalence of diabetes in our data		

	may reflect the fact that our sample only includes women ages 18-44 who became pregnant and may therefore reflect an overall younger and/or healthier group of women Veterans.		
8. **Discussion:** How does this study compare to other work that uses VA data to study other outcomes? How did they handle the data quality and assumption issues? It might be good to place your study within the context of already published VA data work.	VA is the largest integrated health system in the country. The data captured in the EHR provides a richer data source compared to standard claims data. These data have contributed to a vast array of research across many domains, as evidenced by the huge body of literature based on VA data.		

Reviewer 2

Comment	***Response***	***Location of Response***	
		Page No.	***Line No.***
Major Issues:			
1. I think including those with no record of VA primary visit within one year prior to LMP would make the study more robust. (a) Would be great to know if this group is different from those who received care; (b) Is there difference in-terms of outcomes based on status of preconception wellness? (This could be added as third aim in this study if the authors agree to analyses data from those excluded from the current analyses).	Because a primary goal of this work was to present a snapshot of women Veteran VA-users' preconception wellness in order to inform programmatic strategies for women Veterans receiving primary care in VA, we purposely excluded women with no record of a recent visit to VA primary care. We have revised the beginning of the Methods section to clarify this goal as a motivator for the selection of the study's cohort of pregnancies. In response to the reviewers' queries we conducted a sensitivity analysis with all pregnancies, including among those who did not receive VA primary care within one year prior to LMP (results presented at the end of this document), but chose not to present these data in the manuscript for several reasons: (1) Unlike in the private sector, many	5	132-136

	women Veterans enrolled in VA (especially those who are not receiving primary care within VA) have multiple sources of insurance and do not rely solely on VA care; (2) We cannot capture documentation of care received by these women utilizing other insurance sources; because we are relying only on VA data, it may appear that these women are missing care metrics in the pre-pregnancy period when in fact they simply received care that was paid for by alternate insurance. These issues with documentation are expected to be worse in the full sample that includes pregnancies not preceded by recent VA primary care (this expectation was confirmed by the results of our sensitivity analysis). Comparing pregnancies with recent primary care visits to those without, the screening rates for some measures in the group with recent primary care is on the order of 50% higher (relative difference, not absolute) than in the group without recent primary care. Because we cannot determine from our data whether these women without recent VA primary care are actually missing screenings, or whether those screenings simply took place outside the VA system, we feel strongly that our analyses must be limited to pregnancies with evidence of recent interactions with VA primary care. We have included an explanation of the above rationale in the Discussion section.	15	385-392
2. In the last paragraph of the discussion section, the authors claim this is the first comprehensive assessment and their findings "suggest that health systems approach that integrates reproductive healthcare services with other aspect of health care across VA will be essential for improving women veterans' health before, during, and after pregnancy. " This is little confusing	This statement has been amended to specify that this paper is the first comprehensive assessment of *women Veterans'* preconception wellness using these measures.	18	448

because it is not clear which aspect of their finding support this claim. I think the authors need to keep the discussion and conclusion to their findings and refrain from statements such as "the first comprehensive assessment of preconception…." Unless they are very certain about this claim.	We feel that our findings related to women Veterans' prepregnancy management of chronic health conditions (specifically obesity and pregestational diabetes), as well as our findings around documentation of routine health screenings in the prepregnancy period, suggest that reproductive healthcare (in this case, prepregnancy planning) should be integrated with other healthcare services to help optimize women's pregnancy-related health.	18	448-459
3. In the discussion section, the authors need to emphasize limitations associated with the use of ICD-9/10 codes.	We have added to the Discussion section as suggested.	15-16	398-401 & 408-410
4. Discuss the findings in this study in relation to similar outcomes in non-VA population (if available). Do you expect the results to be similar or different (why)?	There are currently no published studies using these nine metrics of preconception wellness in non-VA populations.		
Minor Issues:			
5. In the first paragraph of the introduction, the authors presented lack of consensus in the medical community about how and when to implement such care and how to determine preconception care quality as the reason for suboptimal clinical implementation of preconception care. I believe this sentence oversimplifies the complexity of the problem. The problems are diverse and complex. For example access to insurance and whether insurance covers such services need to be stated. As authors admitted in the method section (under measures of preconception wellness), significant (37% to 40%) portion pregnancies are unintended. Thus, the latter could also be an additional reason for the sub optimal implementation.	Thank you for this important comment. We have revised this statement in the introduction to indicate this and other possible reasons for suboptimal clinical implementation of prepregnancy care, including inconsistent insurance access and high rates of unintended pregnancy.	4	94-99
6. Under the subtitle "materials and methods", the authors claimed that their study is the first to consider pregnancies resulting in other outcomes. I think the authors need to reconsider this statement carefully.	Thank you for noting this; we have revised this statement.	5	129-131
7. The authors hinted that there were some elective abortion codes reported in the dataset, which they said could be due to coding error. I think it is important they report the number (%) of those excluded because of this reason to give readers some insight	We excluded codes for elective abortion both because abortions are not provided in VA and also because a review of these codes, when present, showed strong indications that they were miscoded (see response below). Unfortunately, we are unable to report how many claims had		

	these codes because we never captured them in our data pull.		
8. Along this section in line #125, the authors gave some evidence to support their claim that there is miscoding related to elected abortion. One of the reasons was that the code was assigned to women who are not child bearing age. What age range are they referring here? Some clarification is needed.	Codes for elective abortions had strong indications that they were miscoded – for example, they were predominantly assigned either to men or to women over age 65; we have edited the manuscript text to clarify this point.	6	153
9. The 210 days and 60 days cut point used to identify codes relevant to the same pregnancy is a little bit questionable. Perhaps, the authors might consider using additional criteria. For example, parity or gravida reported.	The 60-day span for spontaneous abortions/ectopic pregnancies represents the minimum number of days after a pregnancy termination that subsequent pregnancies were likely to be identified. The 210-day span between live births/stillbirths was chosen (as opposed to a longer 280-day span) to avoid excluding a closely spaced full-term pregnancy and a pre-term birth. We chose these cut points to align with prior literature[2,3] using administrative data to identify pregnancy outcomes; we have added these citations to the manuscript text.	6	158-159

Reviewer 3

Comment	***Response***	***Location of Response***	
		Page No.	***Line No.***
1. Please abbreviate your précis to be more precise.	We have abbreviated the précis.	2	51-52
2. Why was the ECUUN study data included if not part of this cohort? This study stands well enough on its own. I would not include this additional information.	We included these data to provide a snapshot of pregnancy intention among women Veterans using the only current data on this measure within VA. Based on all the reviewers' comments, however, we have removed these data from the manuscript and amended the methods section and tables to reflect the lack of data on pregnancy intention in current VA administrative data.		
3. Table 2 – Again, remove the ECUUN data as different cohort and not utilized to stratify the patients included here.	We have revised Table 2 and removed the ECUUN data.	23	n/a

Reviewer 4

Comment	*Response*	*Location of Response*	
		Page No.	*Line No.*
Summary: The authors presented two objectives: 1) to give a snapshot of the VA system users' preconception wellness, and 2) offer a guide for using administrative data for this purpose. To improve their work, the authors may consider the following points -- grouped by their two stated objectives.			
Objective 1:			
1. All measures are subject to bias, thus very likely do not truly reflect the actual preconception wellness status of women in their system.	We agree with the reviewer that all measures are subject to bias, and have included this as a limitation.	15	397-398
2. A quarter of pregnancies were excluded because they had no record of a preconception care within the last year before pregnancy. Women not seeking care are more likely to be healthy than those who visit a PCP, in particular if all are equally ensured/have access.	We agree with the reviewer that women with no evidence of a primary care visit in the past year may be a healthier group overall, and have included this information as a possible limitation of our data. In the VA data context, however, it is also likely that women not accessing VA primary care are simply accessing outside care paid for by alternate insurance coverage. For more details, please see our response above to Reviewer 2 (comment #1).	15	386-393
3. Of those they included, another quarter had repeated episodes in their data set. Why did the authors include multiple episodes from the same woman? The results are likely to cause over-representation.	Please see our response above to Reviewer 1 (comment #7).		
4. Similarly, I suspect that women who screened for conditions like smoking were more likely to be smokers given the increased likelihood of documenting a positive response than a negative.	Within VA, smoking status is part of a standard battery of questions asked of (and documented for) all VA patients every 1-2 years. Rather than an issue of positive response bias, we suspect that individuals with no documented screening may be less frequently accessing care.		
5. Why were gonorrhea/chlamydia/HSV not considered in the STI screening measure? These are likely much more common than the conditions they examined.	We did not include screening for Herpes Simplex Virus (HSV) because (1) it was not part of the original recommended measure (Frayne et		

	al, 2016) and (2) generally, recommendations emphasize that HSV should be assessed during pregnancy to determine need for prophylaxis and for delivery planning, but preconception assessment is less critical. Gonorrhea and chlamydia were not included in our analysis, though they were part of the original recommended measure, because (1) both screenings are only universally recommended for women under age 25, who represent a small subset of our population, and (2) we have no ability within our data to assess 'high risk' for these conditions, which is the indication for screening for those over age 25. We have edited the Methods section to clarify why these two screenings from the original paper were not assessed in our data.	11	282-286
6. In general, I do not find the actual numbers in Table 2 to be truly reflective of the preconception wellness of their population for many of the reasons listed above and in their own discussion. Similarly, I caution the authors from making assumptions about specific or individualized care improvement strategies for their population.	We agree that the data presented here have limitations and have addressed them in the Discussion section. Though our findings may not inform individualized care improvement strategies, we believe that they can and do offer insights into potential broad areas for further investigation and improvement in women Veterans' pre-pregnancy health; we discuss these implications in the Discussion section.	14-18	
7. In my opinion, I think this paper is a better example of a proof of concept, highlighting the possible role and challenges for this type of preconception health monitoring in health systems / populations. I would suggest the authors refocus their framing a bit to focus more on Objective 2.	We appreciate this comment and agree that our objective around providing a guide for VA and other health systems to using administrative data in this context) is the key contribution of this paper. We have attempted to frame the study by focusing on the broader methodological questions and presenting our VA-specific findings as examples of the types of findings a health system might expect from conducting similar work.		
Objective 2:			
8. The authors describe that they use "administrative data" to assess for preconception wellness. This is a bit misleading because their metrics relied on patient survey data (pregnancy intention), lab data	In the VA context, all of these data points (e.g., lab, pharmacy, vital stats) are considered administrative data; VA does have more data in	4	103

(STIs), med data (teratogens), and vital data (weight, height) -- I would consider many of these to be EHR data elements and not routinely available in discharge or claims data, which I would consider administrative data. In reality, a health system needs to access more than just administrative data to compute these metrics -- would the authors agree?	this category than other discharge or claims systems. Other health systems will need access to EHR data to fully assess the nine recommended measures of preconception wellness. We have edited the introduction to clarify that our use of the term 'administrative data' throughout the manuscript refers to both health record and claims data. We also removed the patient survey data on pregnancy intention (see comment #9 below).		
9. While I commend the authors on linking to a pregnancy intention survey, is this feasible to implement in practice? It seems like without explicit documentation of this in the EHR, the metric would be near impossible to calculate and lacks generalizability.	We included these data to provide a snapshot of pregnancy intention among women Veterans using the only current data on this measure within VA. Based on all the reviewers' comments, we have removed these data from the manuscript and amended the methods section and tables to reflect the lack of data on pregnancy intention in current VA administrative data.	8 23	215-216 Table 2
10. How do the authors propose that health systems treat missing data? Exclude it from their denominator? How would deal with the issues of bias raised above?	In other health systems contexts, missing data may indicate a potential care deficit because it may be reasonable to assume that all of a patient's care occurs within the same system; decisions around missing data will require individual system-level assessments of the potential reasons for missingness, including whether it represents care outside the system. When the missing data element is one that should be present (such as a demographic characteristic) then standard missing data methods could be applied, including imputation or deletion of such cases if the level of missing data is trivial. The VA context is different from other health systems in that many enrollees report having some other private or public insurance; a nationally representative survey of women Veterans of reproductive age found that 52% reported having additional non-VA insurance.[4] Missing data may simply mean that care is taking place outside our system. This context		

	further supports our decision to limit our sample to women Veterans with a recent history of accessing VA primary care so that we can more confidently expect to see documentation of routine care within our data.		

Statistical Editor Comments

Comment	*Response*	*Location of Response*	
		Page No.	*Line No.*
1. Table 1, lines 67: There were > 19,000 births among ~ 16,000 women. Therefore, the births are not independent events, since some women had > 1 pregnancy counted. The n(%)s in Table 1 need to be corrected, since there is double counting (or more) for some women. Furthermore, the pregnancy outcomes and the preconception indicators for a specific woman are correlated, not independent events, yet the methodology assumes independence. Simplest solution would be to randomly select one pregnancy from among women with > one pregnancy during 2010-2015.	N(%)s in Table 1 are intentionally presented at the pregnancy-level rather than at the woman-level; of the data presented in Table 1, only race/ethnicity could be presented at the woman-level – the rest of the data points (i.e., age at last menstrual period, last menstrual period year, pregnancy outcome) are specific to each pregnancy. We carefully considered the reviewer's suggestion to randomly select one pregnancy for each woman but ultimately decided against this analytic change. As stated above in response to Reviewer 1 (comment #7), we feel strongly that presenting data on each pregnancy provides the truest snapshot of pre-pregnancy health in VA and avoids biasing our findings towards women who only had one pregnancy.		
2. Table 2: Again, these are calculated incorrectly, since some women had multiple events.	As stated above, N(%)s in Table 2 are intentionally presented at the pregnancy-level; multiple pregnancies to the same woman are presented as separate events. Results presented in Tables 1 and 2 are purely descriptive. We do not report any comparisons or tests of statistical significance; it is possible that data on		

	multiple pregnancies to the same woman may be correlated rather than independent but in the absence of comparison testing, this potential correlation is not problematic. To provide the truest snapshot of preconception wellness prior to pregnancies among women Veteran VA-users, we present findings for all qualifying pregnancies.		
3. Lines 262-265: What were the demographic and clinical characteristics of the women who had not VA primary care visit within one year of LMP? In other words, how representative is the 16,034 women included in the study compared to the entire cohort of 21,234 women?	We observed differences across clinical outcomes between included pregnancies and those excluded due to a lack of evidence of VA primary care in the year prior to LMP – for example, excluded pregnancies had lower rates of recommended screenings. These differences are not surprising, as we do not have access to data on care these women may be receiving in non-VA settings paid for by alternate insurance. Because a primary goal of this work was to present a snapshot of women Veteran VA-users' preconception wellness in order to inform programmatic strategies for women Veterans receiving primary care in VA, we purposely excluded women with no record of a recent visit to VA primary care.	15	386-393

Editorial Office Comments

Comment	***Response***	***Location of Response***	
		Page No.	***Line No.***
1. The Editors of Obstetrics & Gynecology are seeking to increase transparency around its peer-review process, in line with efforts to do so in international biomedical peer review publishing. If your article is accepted, we will be posting this revision letter as supplemental digital content to the published article online. Additionally, unless you choose to opt out, we will	OPT-IN		

also be including your point-by-point response to the revision letter. If you opt out of including your response, only the revision letter will be posted. Please reply to this letter with one of two responses: A. OPT-IN: Yes, please publish my point-by-point response letter. B. OPT-OUT: No, please do not publish my point-by-point response letter.			
2. Obstetrics & Gynecology uses an "electronic Copyright Transfer Agreement" (eCTA). When you are ready to revise your manuscript, you will be prompted in Editorial Manager (EM) to click on "Revise Submission." Doing so will launch the resubmission process, and you will be walked through the various questions that comprise the eCTA. Each of your coauthors will receive an email from the system requesting that they review and electronically sign the eCTA. Please check with your coauthors to confirm that the disclosures listed in their eCTA forms are correctly disclosed on the manuscript's title page.	Completed.		
3. If your study is based on data obtained from the National Center for Health Statistics, please review the Data Use Agreement (DUA) for Vital Statistics Data Files that you or one of your coauthors signed. If your manuscript is accepted for publication and it is subsequently found to have violated any of the terms of the DUA, the journal will retract your article. The National Center for Health Statistics may also terminate your access to any future vital statistics data.	n/a		
4. For studies that report on the topic of race or include it as a variable, authors must provide an explanation in the manuscript of who classified individuals' race, ethnicity, or both, the classifications used, and whether the options were defined by the investigator or the participant. In addition, the reasons that race/ethnicity were assessed in the study also should be described (eg, in the Methods section and/or in table footnotes). Race/ethnicity must have been collected in a formal or validated way. If it was not, it should be omitted. Authors must enumerate all missing data regarding race and ethnicity as in some cases, missing data may comprise a high enough proportion that it compromises statistical precision and bias of analyses by race. Use "Black" and "White" (capitalized) when used to refer to racial categories. The nonspecific category of "Other" is a convenience grouping/label that should be avoided, unless it was a prespecified formal category in a database or research instrument. If you use "Other" in your study, please add detail to the manuscript to describe which patients were included in that category.	Race and ethnicity are presumed self-reported in VA data; this fact is included in the Table 1 footnotes. A definition for our ‘Other’ category is included in the Table 1 footnotes.	22	Table 1

5. In order for an administrative database study to be considered for publication in Obstetrics & Gynecology, the database used must be shown to be reliable and validated. In your response, please tell us who entered the data and how the accuracy of the database was validated. This same information should be included in the Materials and Methods section of the manuscript.	Data for this study were primarily drawn from VA's Corporate Data Warehouse and include ICD-9 diagnosis and procedure, current procedural terminology (CPT), and Diagnosis Related Group (DRG) codes for inpatient, outpatient, and fee-based services (visits to non-VA providers that are paid for by VA). These data would have been entered by providers and/or medical claims coders.		
7. Responsible reporting of research studies, which includes a complete, transparent, accurate and timely account of what was done and what was found during a research study, is an integral part of good research and publication practice and not an optional extra. Obstetrics & Gynecology supports initiatives aimed at improving the reporting of health research, and we ask authors to follow specific guidelines for reporting observational studies (ie, STROBE), observational studies using ICD-10 data (ie, RECORD), meta-analyses and systematic reviews of randomized controlled trials (ie, PRISMA), meta-analyses and systematic reviews of observational studies (ie, MOOSE), economic evaluations of health interventions (ie, CHEERS), quality improvement in health care studies (ie, SQUIRE 2.0), and studies reporting results of Internet e-surveys (CHERRIES). Include the appropriate checklist for your manuscript type upon submission. Please write or insert the page numbers where each item appears in the margin of the checklist. Further information and links to the checklists are available at http://ong.editorialmanager.com. In your cover letter, be sure to indicate that you have followed the CONSORT, MOOSE, PRISMA, PRISMA for harms, STARD, STROBE, RECORD, CHEERS, SQUIRE 2.0, or CHERRIES guidelines, as appropriate.			
8. Your study uses ICD-10 data, please make sure you do the following: a. State which ICD-10-CM/PCS codes or algorithms were used as Supplemental Digital Content. b. Use both the diagnosis and procedure codes. c. Verify the selected codes apply for all years of the study. d. Conduct sensitivity analyses using definitions based on alternative codes. e. For studies incorporating both ICD-9 and ICD-10-CM/PCS codes, the Discussion section should acknowledge there may be disruptions in observed rates related to the coding transition and that coding errors could contribute to	Our study uses only ICD-9 diagnosis and procedure codes; no ICD-10 codes were used.		

limitations of the study. The limitations section should include the implications of using data not created or collected to answer a specific research question, including possible unmeasured confounding, misclassification bias, missing data, and changing participant eligibility over time. f. The journal does not require that the title include the name of the database, geographic region or dates, or use of database linkage, but this data should be included in the abstract. g. Include RECORD items 6.3 and 7.1, which relate to transparency about which codes, validation method, and linkage were used to identify participants and variables collected.			
9. Standard obstetric and gynecology data definitions have been developed through the reVITALize initiative, which was convened by the American College of Obstetricians and Gynecologists and the members of the Women's Health Registry Alliance. Obstetrics & Gynecology has adopted the use of the reVITALize definitions. Please access the obstetric data definitions at https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-obstetrics-data-definitions and the gynecology data definitions at https://www.acog.org/practice-management/health-it-and-clinical-informatics/revitalize-gynecology-data-definitions. If use of the reVITALize definitions is problematic, please discuss this in your point-by-point response to this letter.	n/a		
10. Because of space limitations, it is important that your revised manuscript adhere to the following length restrictions by manuscript type: Original Research reports should not exceed 22 typed, double-spaced pages (5,500 words). Stated page limits include all numbered pages in a manuscript (i.e., title page, précis, abstract, text, references, tables, boxes, figure legends, and print appendixes) but exclude references.	Our manuscript falls within these guidelines: Word count: 4171 Page count: 22 (excluding references)		
12. The most common deficiency in revised manuscripts involves the abstract. Be sure there are no inconsistencies between the Abstract and the manuscript, and that the Abstract has a clear conclusion statement based on the results found in the paper. Make sure that the abstract does not contain information that does not appear in the body text. If you submit a revision, please check the abstract carefully. In addition, the abstract length should follow journal guidelines. The word limit for Original Research articles is 300 words. Please provide a word count.	Abstract word count: 300		

14. The journal does not use the virgule symbol (/) in sentences with words. Please rephrase your text to avoid using "and/or," or similar constructions throughout the text. You may retain this symbol if you are using it to express data or a measurement.	This symbol has been removed from sentences with words.		
15. ACOG is moving toward discontinuing the use of "provider." Please replace "provider" throughout your paper with either a specific term that defines the group to which are referring (for example, "physicians," "nurses," etc.), or use "health care professional" if a specific term is not applicable.	We have replaced the term provider throughout our manuscript where appropriate.		
16. In your Abstract, manuscript Results sections, and tables, the preferred citation should be in terms of an effect size, such as odds ratio or relative risk or the mean difference of a variable between two groups, expressed with appropriate confidence intervals. When such syntax is used, the P value has only secondary importance and often can be omitted or noted as footnotes in a Table format. Putting the results in the form of an effect size makes the result of the statistical test more clinically relevant and gives better context than citing P values alone. If appropriate, please include number needed to treat for benefits (NNTb) or harm (NNTh). When comparing two procedures, please express the outcome of the comparison in U.S. dollar amounts. Please standardize the presentation of your data throughout the manuscript submission. For P values, do not exceed three decimal places (for example, "P = .001"). For percentages, do not exceed one decimal place (for example, 11.1%").	n/a		
17. Your manuscript contains a priority claim. We discourage claims of first reports since they are often difficult to prove. How do you know this is the first report? If this is based on a systematic search of the literature, that search should be described in the text (search engine, search terms, date range of search, and languages encompassed by the search). If it is not based on a systematic search but only on your level of awareness, it is not a claim we permit.	We have removed the priority claim from the manuscript.		
18. Please review the journal's Table Checklist to make sure that your tables conform to journal style. The Table Checklist is available online here: http://edmgr.ovid.com/ong/accounts/table_checklist.pdf.	Our tables adhere to the journal's Table Checklist.		
19. Please review examples of our current reference style at http://ong.editorialmanager.com (click on the Home button in the Menu bar	Our references adhere to these recommendations.		

and then "Reference Formatting Instructions" document under "Files and Resources). Include the digital object identifier (DOI) with any journal article references and an accessed date with website references. Unpublished data, in-press items, personal communications, letters to the editor, theses, package inserts, submissions, meeting presentations, and abstracts may be included in the text but not in the reference list. In addition, the American College of Obstetricians and Gynecologists' (ACOG) documents are frequently updated. These documents may be withdrawn and replaced with newer, revised versions. If you cite ACOG documents in your manuscript, be sure the reference you are citing is still current and available. If the reference you are citing has been updated (ie, replaced by a newer version), please ensure that the new version supports whatever statement you are making in your manuscript and then update your reference list accordingly (exceptions could include manuscripts that address items of historical interest). If the reference you are citing has been withdrawn with no clear replacement, please contact the editorial office for assistance (obgyn@greenjournal.org). In most cases, if an ACOG document has been withdrawn, it should not be referenced in your manuscript (exceptions could include manuscripts that address items of historical interest). All ACOG documents (eg, Committee Opinions and Practice Bulletins) may be found at the Clinical Guidance page at https://www.acog.org/clinical (click on "Clinical Guidance" at the top).			

Table 2. Measures of Preconception Wellness (unique at pregnancy-level) with Sensitivity Analyses

	PCW Measure (FY 2010-FY 2015)	Level of Measurement	n (%) N = 19,839 outcomes (pregnancies with evidence of VA primary care visit in prior year)	n (%) N = 26,556 outcomes (all pregnancies in the study timeframe)	n (%) N = 21,234 outcomes (1 pregnancy per woman)
1	**Pregnancy intention**	Not captured in VA administrative data			
2	**Access to prenatal care**	Within 14 weeks from LMP	9,368 (60.8)[a1]	11,921 (56.3)[a2]	9,803 (56.1)[a3]
3	**Preconception folic acid use**	At least one active prescription for prenatal vitamin or vitamin/ folic acid (3 months prior to 3 months post LMP)	9,668 (48.7)	11620 (43.8)	9316 (43.9)
4	**Tobacco avoidance**	**Any Smoking status (Closest value to LMP, 12 months prior to 3 months post)**	15,500 (78.1)	18,832 (70.9)	15,098 (71.1)
		Not screened	4,339 (21.9)	7,724 (29.1)	6,136 (28.9)
		Any screening			
		Nonsmoker	10,908 (70.4)	13,548 (51.0)	10,753 (50.6)
		Smoker	4,520 (29.2)	5,284 (19.9)	4,345 (20.5)
5	**Absence of uncontrolled depression**	**Any Screening (Closest value to LMP, 12 months prior to 3 months post LMP)**	15,024 (75.7)	18336 (69.0)	14523(68.4)
		Not screened	4815 (24.3)	8220 (31.0)	6711(31.6)
		Any screening			
		Negative screening	10692 (71.2)	13212 (72.1)	10374 (71.4)
		Positive screening	4268 (28.4)	5046 (27.5)	4087 (28.1)
		PHQ-9 only	549 (12.9)	588 (11.7)	494 (12.1)
		PHQ-2/BDI-II + PHQ-9	421 (9.9)	510 (10.1)	420 (10.2)
		PHQ-2/BDI-II only	3298 (77.3)	3948 (78.2)	3173 (77.6)
		Both positive and negative screens	64 (0.42)	78 (.43)	62 (.43)
6	**Healthy weight[b]**	**BMI (Closest value to LMP, 12 months prior to 3 months post LMP)**			
		Not measured	363 (1.8)	3,073 (11.6)	2,687 (12.7)
		Measured			
		Underweight <18.5	250 (1.3)	313 (1.3)	251 (1.4)
		Normal weight 18.5-24.9	6690 (34.4)	8,263 (35.2)	6,579 (35.5)

		Overweight 25-29.9	6454 (33.1)	7,840 (33.4)	6,143 (33.1)
		Obesity Class I 30-34.9	3916 (20.1)	4,575 (19.5)	3,582 (19.3)
		Obesity Class II 35-39.9	1622 (8.3)	1,881 (8.0)	1,492 (8.0)
		Extreme obesity Class III 40+	544 (2.8)	611 (2.6)	500 (2.7)
7	**Absence of STI**	**Hepatitis B Surface Antigen (Closest value to LMP, 12 months prior to 3 months post LMP)**			
		Not screened	15,554 (78.4)	21535 (81.1)	17,245 (81.2)
		Any screening			
		Any positive screening	11 (0.25)	13 (0.26)	11 (0.28)
		Negative screening with no positive	4,134 (96.5)	4,848 (96.6)	3,849 (96.5)
		Only indeterminate/other result	140 (3.3)	160 (3.2)	129 (3.2)
		HIV Antibody Results (Closest value to LMP, 12 months prior to 3 months post LMP)			
		Not screened	13,011 (65.6)	18,583 (70.0)	14,807 (69.7)
		Any screening			
		Negative screening with no positive	6,664 (97.6)	7,778 (97.6)	6,264 (97.5)
		Any positive / only indeterminate/other result[c]	164 (2.4)	195 (2.4)	163 (2.5)
		Syphilis (Closest value to LMP, 12 months prior to 3 months post LMP)			
		Not screened	15,017 (75.7)	20,983 (79.0)	16,789 (79.1)
		Any screening			
		Any positive screening	11 (0.23)	12 (0.22)	10 (0.22)
		Only negative screening	4,533 (94.0)	5,243 (94.1)	4,168 (93.8)
		Negative and indeterminate/other	268 (5.6)	307 (5.5)	267 (6.0)
		Only indeterminate/other result	10 (0.21)	11(0.20)	--
8	**Optimal glycemic control**	**Prior Diabetes Diagnosis (24 months prior to LMP)**	277 (1.4**)**	286 (1.1)	225 (1.1)
		HbA1c measurement (Closest value to LMP, 12 months prior to 3 months post LMP)			
		No HbA1c	27 (9.8)	33 (11.5)	26 (11.6)
		HbA1c < 6.5%	118 (42.6)	119 (41.6)	89 (39.6)
		HbA1c ≥ 6.5% and < 8%	74 (26.7)	75 (26.2)	65 (28.9)
		≥ 8%	58 (20.9)	59 (20.6)	45 (20.0)
9	**Teratogen avoidance**	**Absence of any active prescription (3 months prior to 3 months post LMP)**	2246 (11.3)	5921 (22.3)	4851 (22.9)

	Evidence of Teratogenic medication use	872 (4.4)	914 (3.4)	757 (3.6)

Version 1 (pregnancies with evidence of VA primary care in prior year): n=19,839
[a1] n=15,403 (pregnancies ≥ 20 weeks)
[b] n=19,476
[c] Categories combined due to low number of any positive screenings

Version 2 (all pregnancies in the study timeframe): n=26,556
[a2]n=21,169 (pregnancies ≥ 20 weeks)
[b] n= 23,483
[c] Categories combined due to low number of any positive screenings

Version 3 (randomly selected 1 pregnancy for women with multiple pregnancies): n=21,234
[a3] n=17,469 (pregnancies ≥ 20 weeks)
[b] n=18,547
[c] Categories combined due to low number of any positive screenings

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