

Response to Reviewers' Comments

Reviewer #1

Comment 1: First of all, the incident cases were chosen between 1999 to 2003, which has passed about 20 years. So is the conclusion of this paper still instructive for current cases? Is there any possibility that the authors could use more recent data or expand the number of samples?

Response: We identified incident patients diagnosed with type 2 DM from 1999 to 2003 and followed them until 2011. In 2011, the Taiwanese health authority initiated a quality control campaign of diabetes care, in which the care indicators of each hospital are compared with the whole country. Since then, Chi-Mei medical center began to regularly provide tests for diabetic patients with the assistance of a computer program. Because the frequency of care indicators is an important component of the quality of care in our study, this campaign will interfere the study results. Therefore, we used the data before 2011 for this study. On the other hand, the indicators are still in use nowadays, and so the conclusions of this paper still instructive for current cases. In response to the Reviewer's comment, we added this information to **2.2 Data Collection** of the revised manuscript.

Comment 2: Secondly, present study aimed to construct a summary quality-of-care score with process indicators, intermediate outcome indicators, and co-morbidity of hypertension, but failed to explain the relationship between them. Could the authors provide some formulas or other methods to explain the specific relationship between the "quality-of-care score" and other indicators?

Response: All the six indicators (HbA1c, BP, LDL, urine examination, foot examination, and retinal examination) adopted in our scoring system are also included the criteria used in the Pay for Performance (P4P) programs for DM supported by the Taiwanese government. These indicators were consistent with the American Diabetes Association's current clinical practice recommendations. As stated in the original manuscript, we constructed our scoring system on the basis of the scoring systems used in previous studies, namely References 26 (Rossi et al. 2011) and 27 (De Berardis et al. 2008). While we used 1-point increments to assign the score (Table 1), the other method used 5-point increments, but the items are the same (Table 4). In response to the Reviewer's comment, we added two footnotes to Table 4 in the revised manuscript.

Comment 3: Finally, although present article had been revised by a native English speaker, the authors should pay more attention to the format of the text and references.

Response: As requested by the Reviewer, we check the format of the text and references again and made corrections.

Reviewer #2

Comment 1. The study included patients from 1997 to 2011, and the follow-up duration ends at 2011. Since the therapeutic strategy evolves greatly in the past decades, does the finding remain applicable in 2023?

Response: We identified incident patients diagnosed with type 2 DM from 1999 to 2003 and followed them until 2011. In 2011, the Taiwanese health authority initiated a quality control campaign of diabetes care, in which the care indicators of each hospital are compared with the whole country. Since then, Chi-Mei medical center began to regularly provide tests for diabetic patients with the assistance of a computer program. Because the frequency of care indicators is an important component of the quality of care in our study, this campaign will interfere the study results. Therefore, we used the data before 2011 for this study. On the other hand, the indicators are still in use nowadays, and so the conclusions of this paper still instructive for current cases. In response to the Reviewer's comment, we added this information to **2.2 Data Collection** of the revised manuscript.

2. Guidelines vary across countries, was the Italy-based score validated in Taiwan, China?

Response: Through a literature search, we did not find any study in Taiwan or China validating the Italy-based score. While the purpose of our study is not to validate the score, we found that the scoring system had a poor correlation with the risk of AMI in Taiwanese and stated that "Results of this comparison showed that the same scoring system may not work well in prediction of CVD in different countries." This is in agreement with the Reviewer's comment that guidelines vary across countries.

3. Parameter variability, especially for fasting glucose and HbA1c, is the main contributor for quality of care on adverse outcomes (Diabetes Care 2019, 42, 514–519). Mediator analysis could be helpful in detecting the relationship between HbA1c

variability, quality of care and cardiorenal outcomes in the current study (J Clin Med. 2022;11(22):6692; Chin Med J (Engl). 2022;135(19):2294–2300) in company with deep discussion.

Response: While it is true that the blood sugar level, as indicated by fasting glucose or HbA1c, is the main contributor for quality of care on adverse outcomes and that mediator analysis could be helpful in detecting the relationship between HbA1c variability, quality of care and cardio-renal outcomes in some studies, it does not applied to the current study, because HbA1c is a component of our scoring system. In the causal inference of epidemiology, a mediator is something else other than the proposed cause or proposed outcome, and since blood sugar is included in the score (the proposed cause), it had better not be treated as a mediator, even though it is not exactly the proposed cause.

4. The crude ORs could be removed from the tables and results.

Response: It is a common practice to present both the crude and adjusted ORs because the crude ORs indicating the apparent associations and are useful to some readers. But, if the editorial office insists, we can take them out.