Author's response to reviews

Title: From Design To Implementation - The Joint Asia Diabetes Evaluation (JADE) Program: A Descriptive Report of An Electronic Web-based Diabetes Management Program

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Author's response to reviews: see over
22\textsuperscript{nd} Jan 2010
Hannah Clark, PhD
Senior Scientific Editor
BMC-series Journals
BioMed Central

Dear Dr. Clark,

\textbf{Re: MS: 1699931853100915: An Electronic Web-based Diabetes Management Program: From Design To Implementation: Joint Asia Diabetes Evaluation (JADE) Program}

Thank you very much for your reply dated 14 Jan 2010. We are grateful that you and your Editorial board are interested in our paper and kindly agree to consider our re-submission. We values comments from the 2 referees and amended the paper accordingly. Please find a summary with point-by-point response.

We look forward to having your favorable reply.

Yours sincerely,

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Response to reviewers

Reviewer 1

General Comments:
You describe a bold and potentially valuable project ... Your manuscript needs more of that detail and it should be arranged in an appropriate structure for a description of an application of information technology.

Major Compulsory Revisions
1. The structure is in the format of a traditional research study ... Yours is not a scientific study, but rather a description of the design and development ... Freeing yourself to use a structure more appropriate for describing ...
   - The structure of the paper is revised with sections catered for Background, Objective and Design, Implementation, Discussion. Further details please see below.

2. Title
Your title includes implementation... please specify.
   - The title is revised to the current one. We have information on implementation and this is further highlighted. (please see below)

3. Abstract
Claims such as ‘first’ Web based program of its kind and ‘state of the art’ information technology are not grounded ...
   - These terms have all been deleted or modified.

4. Background
While the program has unique aspects, it is not the first to provide protocol driven recommendations for diabetes care ... Highlight your programs unique aspects ...
   - We have referenced more previous works on this area (new ref. 19-24, 44-45) and highlighted further on the unique aspects of JADE Program such as international focus, integrated system, central support office, risk stratification engine, etc. Please see Background section, p.4, 2nd paragraph to p.5, 1st paragraph.

5. Design objectives
Your design objectives are not clearly stated or supported... Each of these needs more detail.

5a. For improving clinical care, you describe guiding clinical care management based on four categories of risk ... how the proposed JADE risk stratification system would change care for the different risk groups.
5b. I was also not convinced of the additional value of this risk engine for guiding clinical care … Focusing more intense follow-up in the group with established complications of diabetes and higher risk of mortality at 5 years may actually be less effective than focusing intense follow-up on those who are out target range for lipid, blood pressure and glycemic control but have fewer complications. …
- The care level is a reference for the management direction and helps the decision on frequency of follow-up and complication assessment. For individual follow-up, “ABC” targets (i.e. glycemia, blood pressure and cholesterol levels) remain the major parameters for therapy adjustment. The ABC targets are highlighted to patients and doctors using graphic reports with trends on these variables. The Care level and ABC targets are complimentary to each other hoping to optimize quality care and cost-effectiveness. Please see elaboration in p.7, 2nd paragraph; and p.4, 1st paragraph.

5c. Self management support:
I did not see adequate specification for the targets of self management support …
- This is discussed with a specific short section on p.7, last paragraph. This element of the JADE Program can be further enhanced, which is discussed in p.16, Limitations section.

5d. As part of describing your design objectives, please define user groups of the JADE system…
- The program is applicable to both primary care physicians and specialists. This is elaborated in Objective section, p.6, lines 3-7.

6. System Description
Although figure 1 provides some over view of how the system works, more detail is needed on system architecture.
6a. Your claim of ‘state of the art’ technology is confusing,… let your description of how you use these technologies show the strength of your approach.
- The description of the portal is revised and expanded to highlight the IT functionality. Please see JADE e-portal section, p.12, 1st and 2nd paragraph.

6b. ... flow of clinical care … data can be entered during or after a clinic visit. This suggests some risk to successful implementation due to double data entry by clinicians.
- Data collection and entry can be done during point-of-care or offline using paper format. Risk of double entry and data locking system are discussed in JADE e-portal section, p.13, first paragraph.

6c. Please describe how the system will or will not incorporate current or evolving healthcare data standards.
- The Program management team and portal support office will modify the treatment targets depending on evolving international standards (p.14, 1st paragraph, last 2 lines).
6d. Governance, technical support and data security
Please provide more detail including ownership, licensing, liability, and funding issues associated with JADE.
- JADE Program is governed and owned by Asia Diabetes Foundation. Background of ADF and relevant ownership, liability and funding issues are stated in p.7, Governance section, 1st paragraph.

6e. Your proposal of using a centralized and anonymous database with identifiers retained at the local level is novel…. Please clarify.
- The ADF code is case-sensitive. It is known to the patient and the caring physicians for data retrieval. This is discussed in p.9, 1st paragraph.

6f. I am not clear on the clinical implications of having a monitoring team check the validity of the clinical information … raises concerns if a monitor is changing data that may impact clinical care decisions…
- The monitor can only check and see the data but not modify them. Any suspicious data will be raised to JADE supporting team and the physicians for double checking. Please see p.9, 2nd paragraph.

7. In the Human Subjects description, … provide further details on how patients were recruited and consented …
- Patients provide written consent for future pooled data collection and analysis. This is elaborated in Objective section, p.5, last 4 lines.

8. Please state how this work was funded and what if any relationship the authors have to the funder.
- The JADE Program was supported by the Chinese University of Hong Kong Foundation and an education grant of MSD. This is stated in the Acknowledgement section, p.18.

Minor Essential Revisions:
1. Please also clarify the data elements to be collected …
- Data collected include clinical and demographic information and laboratory tests (Stated in p.5, last 2 lines to p.6, first line).

2. Please describe which countries are in involved and what languages are supported. …
- The 5 languages and 8 countries/areas participating are stated in p.14, first 2 paragraphs.
Reviewer 2

1. Is the question posed by the authors well defined?
The article is primarily descriptive. This is not explicitly stated until the end of the Background section. This could be more clearly indicated in the title.
- The title has been changed accordingly.

2. Are the methods appropriate and well described?
The ‘Methods’ section, in this case, contains all the description of the system. There is no ‘Results’ section. Perhaps this section could be labels ‘Describing the system’.
- The Sections have been relabeled accordingly.

3. Are the data sound?
As a descriptive article no data, in the usual sense, are presented. I do not have enough knowledge of the IT technicalities (Java, Apached, mySQL and Cocoon) to make any useful comment on these aspects.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
The e-portal cited (www.jade-adf.org) is not publicly accessible, so I cannot further comment on content. The screen shots give a useful idea of some functions although I would be interested to know more detail.
- The portal is elaborated a bit more under the Section of JADE e-portal, p.12. Some figures on JADE users and patients are stated in the same Section, p.14, first 2 paragraphs.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Each of the components of this work have been produced previously, ... Various regional computerised diabetes registers have existed from the 1980s or earlier. ...
- We have now referenced more previous works in this field (diabetes or cardiovascular disease), please see Background section, p.4, 2nd paragraph to p.5, 1st paragraph. We also elaborated further on the structure of the Program (p.5, 1st paragraph and Objective section).

The Background states that the system is also designed to improve patient self-management, ... perhaps the patient has on-line access to their own information?
- A section on Self management support is added in p.7. Patients themselves cannot directly access to the raw data. They collect their clinical and laboratory information through the JADE patients’ reports.

I am surprised by the need for written consent to store anonymous data. This suggests that this is primarily a research programme. Or does it mean that this is a prototype for a full electronic medical record?
- Patients provide written consent for future pooled data collection and analysis. This is elaborated in Objective section, p.5, last 4 lines.
6. Are limitations of the work clearly stated?
One limitation, not of article but of the project itself is that it is disease-specific. ... Furthermore, the biggest gap in diabetes care may be support for patient self management and adherence, ... I accept that good IT and decision support is fundamentally important, but not sufficient in itself.
- We have added a sub-section of Limitation in the Discussion (p.16-17). The 3 main points raised by the reviewer are stated and discussed.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
They acknowledge their own, impressive work. They do not acknowledge, or are unaware of, a large amount of similar and related work going on elsewhere.
- We have quoted more similar works on this field (ref 19-24). Elaboration is done in p.4, last paragraph. We also add some references commenting the overall value of IT related medical management tool (ref 44-45).

8. Do the title and abstract accurately convey what has been found?
The title might more accurately state that the article is descriptive…
- It is amended accordingly

9. Is the writing acceptable?
Yes

Overall comments
...
Governance and infrastructure details would be of interest, as would cost data.
- Information on governance is expanded. However, we do not have cost data at the moment.

More detail on the ‘role based access would be of interest. It is unclear how flexible this is, and in particular it is unclear if patients can see their own data and unclear if patients can assign access to whomever they specify.
- Data collected include clinical and demographic information and laboratory tests (Stated in p.5, last 2 lines to p.6, first line). Patients cannot access directly to the raw data. The ADF code is case-sensitive. It is known to the patient and the caring physicians for data retrieval. With consent to the doctor and passing the ADF code, patient can assign a deputy for collecting the patient’s report. This is discussed in p.9, 1st paragraph.

I would find it very helpful to have some basic numerical data. It would help the reader to provide numbers and/or names of countries, clinics, patients and numbers of consultations collected.
- Patients consented to the Program and the 8 countries/areas participating are stated in p.14, first 2 paragraphs.

This may or may not be available in some of the many cited publications from members of the same group. One of the key articles of interest, reference 24, is in press and therefore not accessible at present.
- Ref. 24 (now becomes ref. 26) is published. The details are now clearly stated.

What are future plans for this program?
I sound negative. This is not intended as such. I want to know more about what sounds like a great program from a highly productive team.
- Some limitations of the Program are stated. However, the Program is expanding (see p.14, 2nd paragraph) and we are just doing our best hoping our vision and mission can be optimally achieved.

Major compulsory revisions: clarify purpose of paper and expand significantly for example, in one of the directions listed above.
- We have tried our best to amend all the points raised above by the reviewers.