Reviewer's report

Title: The Economic Costs of Diabetes Complications in the United Arab Emirates

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Reviewer: Nigel Unwin

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This is a well structured and well written paper, which describes a study to estimate the direct costs of diabetes treatment in one city in the United Arab Emirates. I am not well qualified to assess the costing methodology, and as I know that other reviewers have done this, I will largely limit my comments to issues concerning the collection of data on diabetes and the selection of the study participants.

Selection of the study participants

The stated aim of the study is, “to estimate the overall patient treatment costs of DM in UAE; including direct management costs of the disease and its chronic macro and micro vascular complications”. The study population chosen to meet this aim is from two hospital outpatient clinics in a city of half a million people. At present the authors give little idea of how typical the patients participating in the study are likely to be of all people with diabetes in Al Ain. For example, it seems plausible that patients attending hospital outpatient clinics will be systematically different to patients attending other types of facilities (e.g. primary health care, private doctors/facilities, non-governmental organisations), and so will not be representative of all, or perhaps even most people with diabetes in Al Ain.

I think that the following additions are required to the manuscript:

1. A short paragraph in the methods section providing an overview of the health care arrangements for diabetes in UAE/Al Ain, what proportions of patients receive their care in different types of facilities, and how access to care is influenced by such factors as ability to pay and nationality;

2. More detail in the methods section on how the study participants were chosen. At present we are told only that “subjects, selected randomly, …….”. How were subjects selected, was it from a patient register, or clinic lists, or by approaching patients actually attending the clinic? How was it done randomly? How were patients approached and asked if they would participate in the study?;

3. In the first part of the results section it needs to be described how many patients were approached to participate in the study and what proportion agreed, and what is known about the characteristics of those who agreed compared to those who did not agree;

4. Consideration needs to be given in the discussion as to how typical the findings are likely to be of diabetes patients in UAE – given the stated aim of the
study.

Definitions of diabetes and its complications

At present there are no definitions/descriptions for the how the different types of diabetes (type 1 or 2) and diabetes related complications were determined. This is essential information, and needs to be part of the methods section. For example, how was type 1 diabetes distinguished from type 2? How were nephropathy, retinopathy, and neuropathy defined and diagnosed? Clearly, it is not expected in a pragmatic study of this nature that state of the art approaches to definition and diagnosis will have been used, but what was done needs to be made available to the reader, and is important information if the results are to be compared to other studies.

Presentation of results

A small and obvious comment on the presentation of the results is that summary statistics of mean and standard deviation (as in table 2) are clearly inappropriate (as the results are highly skewed) and should be substituted with medians and ranges (or interquartile ranges).