Article details: 2013-0095		
Title	Identification of undiagnosed diabetes and quality of diabetes care in the US: Cross-sectional survey of 11.5 million primary care electronic records	
Authors	Tim Holt, Candace Gunnarsson, Paul Cload, Susan Ross	
Reviewer 1	**Ellen Louise Toth**	
Institution	Walter C. MacKenzie Hospital, Medicine	
General comments	This paper is interesting but lacks clinical or public health perspective. The statistics from the American Diabetes Association in the introduction refer to the entire population of the US. The authors do not refer to the uninsured, where the undiagnosed have to be over-represented. Neither do they discuss controversies regarding screening for the undiagnosed and or the associated costs of such strategies. They also do not discuss clinical screening strategies within the GE database, so that this reviewer does not understand if this is simply a dataset, or a group of clients who receive standardized care . This might lend a lot more interest to the paper, with a more detailed comparison between US providers and UK providers, but a discussion that makes this relevant to Canada is missing. Overall this paper is interesting re the IT but the objectives seem to be driven only by the availability of the IT rather than clinical or population health questions.	
Reviewer 2	**R. Jaakkimainen**	
Institution	Institute for Clinical Evaluative Science	
General comments	I think this paper bring an important discussion about using EMR data for chronic disease research. I do have a few comments. 1. The UK database include general practitioners as they are the main providers of primary care in the UK. Family physicians are the main providers of primary care in Canada. Is the GE Centricity database used only by family physicians in the US? or does it include internists as well? 2. Page 5 the first paragraph in the method mentions respresentative of national norm. Sorry, not sure what you mean. Is that by age, sex, insurance coverage? 3. The algorithm to identify people with (and without) diabetes is based on codes and medications. We find in the Canadian context, EMRs used by family doctors use free text. In fact only using codes and meds misses many cases. We there any other validation methods uses to compare different algorithms to pick up cases? Sometimes looking at the full chart is needed as a reference standard. This may have been done, but is not clearly described in the methods section. 4. One of the concerns I have are related to the possible loss of information from specialists who manage diabetes care. While in Canada, the majority of diabetes care is done with family physicians. Not sure this is the same in the US. There are potential differences between the UK and the US in the involvement of specialist care for DM management. A comment was made in the discussion about not using the diabetes audit as in includes specialist care, but no comment is made about the direction of this potential bias. 5. The Canadian context is missing from this paper. EMR use amongst Canadian family physicians has increased substantially over the past decade and research on using their EMR for chronic disease surveillance or performance measurs is missing. 6. Statistical testing should be described in the methods section 7. Not sure figure 1 is needed. ? More a table to compare the GE centricity population to the US population to assess generalizability? 8. The flowchart is OK, but I think another page orientation may make it easier to follow. 9. The table (not number) needs some statistical testing	
Author response	1. Please add a sentence or two to the	We have added two sentences on the

	methods section specifically addressing the quality and validity of the Centricity database (i.e., from ref 7).	validity and quality of the Centricity database, giving more detail from reference 7.
	2. For those unfamiliar with the Centricity database, could you please add a sentence (if information available) as to how primary care practices come to participate in Centricity, as opposed to a competing EHR system. For example, in Canada, Practice Solutions from MD, a subsidiary of the Canadian Medical Association, was widely used by its members, rather than alternate products. Is there any factors like this in play for Centricity?	We have not found a source comparing uptake of alternative systems that we considered sufficiently reliable for academic publication. However we have stated that Centricity is one of a number of options available to office based physicians, and have added a new reference [8] to the phenomenon of increasing adoption of such systems between 2001-2012.
	3. Could you please add a comment to the limitation section that patients lacking insurance may choose not to treat their diabetes?	Thank you. We have added a statement to this effect.
	4. We would prefer a table comparing the GE Centricity population to the US population, in addition to the current Figure 1, as this would add to the generalizability of the study. Are these data available?	Yes. However our study concerns the population visiting primary care rather than the total US population. The most appropriate comparison is with our reference 7, whose Table 1 directly compares the age/sex distribution of those visiting Centricity practices with those included in the NAMCS survey. We have uploaded a new Table (Table 1), using data from the Table in our reference 7, and citing it. Please advise over whether additional permission to reproduce these data are required from the publishers of reference 7.
	5. Please add a footnote to the Table to indicate that p values are less than 0.01, as you have indicated in your response.	We have added this as suggested.
	6. Upon rereading your paper, we thought a few additional subtitles and modifications to current subtitles might be useful as sign posts to readers. These are:	
	6a. Methods: First paragraph could be divided into "Study design" and "Sources of data". The former would elaborate on the development of the cohort, while the latter would elaborate on the quality of the database.	Thank you. We have added text as suggested.
	6b. Expansion of titles in Methods and Results: "Prevalence of uncoded diabetes", "Detection of undiagnosed diabetes" and "Quality of diabetes management."	We have made these expansions as suggested.
	7. Could you please supply original files, rather than PDFs of Figures 1,3, 4, as this will allow us to edit them to fit in the CMAJ Open template?	We have now provided the original files for Figures 1 and 3 as JPGs. Figure 2 is provided as a Ppt file and Figure 4 in Excel. Table 1 is provided as an Excel file and Table 2 is a Docx file.