Reviewer's report

Title: Patient accounts of diagnostic testing for familial hypercholesterolemia: comparing responses to genetic and non-genetic testing methods

Version: 1 Date: 18 April 2012

Reviewer: Kate Weiner

Reviewer's report:

The article reports on a study that addresses an important question and seems to be appropriately designed. The longitudinal element ie interviews at three time points, is particularly welcome. In my view, some clarification of the methods and analysis are necessary in order to understand fully the results and their implications. Once this is addressed, the paper has the potential to provide a coherent and sound addition to knowledge in the area of the implications of genetic testing.

Major compulsory revisions

1. The methods section needs to spell out the diagnostic process - what clinical interactions led up to this? What did receiving results of the diagnostic test consist of? How were results delivered? What does providing a ‘formal FH diagnosis’ entail? This particularly needs clarification for non-DNA diagnosis – especially in the light of your earlier paper (Will et al, 2010). This will help readers to make sense of what interviewees might know at T1 and T2 interviews. Also, what was the clinical history of the participants? eg How many already knew they had high cholesterol? How many were already being treated for high cholesterol? This is very important contextual information, given the levels of acceptance reported in the findings. Without an indication of prior clinical experience, it’s difficult to interpret the lack of apparent impact of the diagnosis of FH, which is the main conclusion of the paper.

2. In my view, the analysis could be expanded/clarified in parts. The data segments need more context throughout in order for the reader to make sense of the data. This might mean including the questions that people were responding to, or expanding the cited segment eg p8 ‘well I would know that anyway, so it wouldn’t surprise me’ – know what? P11 ‘they’re peace of mind you know’ – what does ‘they’ refer to here? Etc.

Further points for clarification: page 8 - explain ‘normalisation and continuity’ and ‘realistic expectations’-realistic in what sense? page 8 - ‘very few patients expressed much surprise at the outcome of their diagnostic assessment’ – this statement doesn’t make sense here as all the data cited comes from T1, so they hadn’t had the results yet? Page 11 - discussion of reduction of uncertainty, the last quote doesn’t seem to belong here as it is from T1- doesn’t fit with the analytic account of the data. Page 14 - the point relating to the quote from the person with psoriasis is not clear to me – suggest expand on significance of this
data.

3. Other specific comments: P4 last line ‘genetic diagnosis’ – meaning here not immediately clear. P7 hospital sites are numbered 01-10 – is this a typo? Earlier, methods section stated that there were 11 participating hospitals.

Discretionary revisions
1. P5 FH is probably better described as a genetic or inherited condition rather than a genetic mutation?
2. P5 might include a brief discussion of questions about the relationship between genotype and phenotype – see for example Damgaard et al (2005) Atherosclerosis 80, 155-160.
3. P6-7 first para of methods section is confusing – suggest rewrite to clarify
4. P11 in relation to reduction of uncertainty – were DNA diagnostic results ever equivocal in this study ie high cholesterol, but mutation negative; low cholesterol but mutation positive? Was the non-DNA diagnosis ever equivocal? If so, how did participants speak about this?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests