Reviewer's report

Title: The Implications of Regional and National Demographic Projections for future GMS costs in Ireland through to 2026.

Version: 3 Date: 2 May 2014

Reviewer: Ciaran O'Neill

Reviewer's report:

The paper estimates the future costs of one of Ireland's publicly funded drugs scheme. It combines population trends with drug utilization data and uses Monte Carlo to address uncertainty.

Major compulsory revision

The methods section of the paper could be clarified by the presentation of an estimation equation together with a table detailing the parameter estimates and sources for these. Not only would this facilitate comprehension but it may afford the authors additional space to explore their findings.

The authors could also usefully discuss in more detail the limitations of PCRS data in terms of the absence of a unique user identifier and the implications of this for research.

Minor essential revision

In a number of areas I was confused by the text:

The authors state: "CDS expenditure accounted for approximately 85 per cent of total health expenditure in Ireland in 2007" is this correct?

"An adjustment factor based on the 2006 Census was applied to form the North-West, North-East and Eastern regions." What was this adjustment for?

"If the >75 age cohort for each region and gender exceeded 1.00, an adjustment factor was applied with lambda taking any value between 0 and 0.99." I'm not sure what this means - does it mean the proportion of a population aged over 75 could exceed 1?

"MCS generates all possible outcomes of your decisions and assesses the impact of risk, allowing for better decision making under uncertainty." All possible or probable?

"A Normal distribution was applied to estimate costs to allow for uncertainty in the model." Why a normal distribution were others considered or examined?

"More expensive co-payment charges exist in the UK [26]," Equates the UK with England I think.
"More than 96 per cent of all GMS eligible persons availed of services in 2007 with an average pharmacy cost of €856.14 per person [13]." The authors might usefully relate their findings to this statement if possible.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare I have no competing interests