Reviewer's report

Title: Decreasing the number of arthroscopies in knee osteoarthritis – the Personalised Knee Improvement Programme (P-KIP). A service evaluation of a de-implementation strategy

Version: 0 Date: 08 Nov 2019

Reviewer: Wei Yang

Reviewer's report:

The statistical methods used in this studied were reviewed. I have the following concerns.

1. The analysis was based on the number of arthroscopies instead of the percentage of patients that had arthroscopies. This could not rule out the possibility that the total numbers of patients might be changing during the studied period, and play as a confounding factor that lead to the changes in number of arthroscopies.

2. Line 258. "Normality was assessed informally using histograms". Histogram is a crude way of assessing normality. There are more advanced methods to perform such analysis, for example, QQ plot, or statistical tests like Kolmogorov-Smirnov test or Shapiro-Wilk test

3. Autoregressive integrated moving average (ARIMA) is a flexible and complex modeling regime that combine the 3 features of auto-regression, integration, and moving averages, and has a set of 3 parameters to tune upon to result in vastly different models. This study did not include sufficient modeling details to see what parameters were used, how these parameters had been chosen, and what were estimations of coefficients in the final models.

4. Line 287-289 "Paired T-tests were also conducted for non-parametric data as this test is robust against deviations from normality." T-test is based on the assumption of normal distributions, and generally considered a parametric test method. There are many non-parametric tests for such circumstances, like Mann-Whitney U test and Wilcoxon signed-rank test.

5. Line 319-326. Why the estimations are inconsistent between tests based on 1-month intervals and 6-month intervals? How to interpret the difference? Also, "95% CI=5.469" and "95% =6.000" are not shown as "intervals", and might be hard to understand.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes
Are the conclusions drawn adequately supported by the data shown?  
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