Reviewer’s report

Title: A review of spline function procedures in R.

Version: 0 Date: 15 Oct 2018

Reviewer: Giorgos Bakoyannis

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The paper provides an excellent overview of spline methods as well as of the general packages for splines in R. The only major comment for this manuscript is that there is a limited overview of regression packages that utilize splines. I feel that it would be very useful for practitioners to have a broader overview of packages that deal with particular regression problems in areas commonly encountered in medical research, such as packages for survival analysis that utilize splines. Specific comments are listed below:

1) Page 2, lines 3-5: It would be useful to note that splines can also be used to avoid distributional assumptions, such as in the case of survival analysis.

2) Reported figures for articles including the term "splines" and also number of R packages are almost 2 years old. These figures need to be updated.

3) Page 6, line 2: A spline f(X) will be a smooth function (satisfying certain differentiability properties as mentioned a few lines below), not just a continuous function.

4) The paper provides an overview of the general packages for splines in R as well as packages for linear and generalized linear models in R but not models for survival data. Nevertheless, the latter kind of data is obviously very common in medical research. Also, splines have been proven to be a very important tool for semiparametric analysis of interval-censored survival, competing risks and multistate process data in medical research. An overview of such regression packages is an important addition to the paper.

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