Novometric Temporal Analysis of Monthly Otolaryngology Service Consults Over Five Consecutive Years

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Statistically unmotivated exploratory parametric analysis reported that the *mean number* of monthly consults at an academic otolaryngology service in 2014-2015 was significantly lower than in 2017-2018, suggesting a trend involving increasing numbers of consults over time.[1] Evaluating these data, exploratory novometric temporal analysis[2-7] identified a globally optimal (*GO*) model achieving 100% accurate discrimination in training and leave-one-out (*LOO*) jackknife validity analysis: all 25 months before April 2016 had <125 consults/month, and all 33 months after March 2016 had >155 consults/month (ESS=100, $p<0.0001$). A *discontinuity* thus occurred in the series between March and April in 2016.

Figure 1 of the original article[1] illustrates the total number of consults between March 2014 (Month 1) and December 2018 (Month 58). Examining this temporal series reveals a *discontinuous increase* from <125 consults in March 2016 (Month 25) and earlier, to >155 consults in April (Month 26) and later. The number of consults is *always less* than the ODA model cutpoint of 140 consults in Month 25 and earlier, and is *always greater* than this cutpoint in Month 26 and later: ESS=100, $p<0.0001$. This is the GO solution in this application because no less-complex solution is possible (i.e., the minimum possible number of groups is two), model accuracy (ESS) is perfect, and no comparable alternative solution exists.[3]

References

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Author Notes