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Invited Commentary

A commentary on "Cost-effectiveness of a national quality improvement programme to improve survival after emergency abdominal surgery, health economic evaluation" [Int. J. Surg. 2019; Epub ahead of print]

Fan Yang and colleagues analysed the cost-effectiveness of a national quality improvement (QI) programme for patients undergoing emergency abdominal surgery versus usual care from a UK health service perspective. The authors found the QI programme was not cost-effective at standard cost-effectiveness thresholds within the trial period, but might be cost-effective over a lifetime for high-risk patients (patients with multiple surgical indications). However, the findings appeared quite uncertain [1].

Limited health resources mean that any country should consider cost-effectiveness when designing an improved health care system. However, as a clinician the primary concern is to extend the patient's life expectancy and improve long-term survival. When a health improvement programme is established, from a clinician's perspective, it should be evaluated initially to verify its effective implementation as originally intended. Since the launch of the National Emergency Laparotomy Audit (NELA) in 2013 [2], concerns on various problems encountered in the implementation, such as nursing staff's training, proficiency and concept change, have been raised, which are also considered to have certain impact on nursing cost and nursing quality.

As the authors mentioned in the article, many clinical staff involved held negative feelings towards the programme due to factors such as working hours and traditional ideas. Therefore, whether QI carried out under such circumstances can truly reflect the effectiveness of the programme and negate the cost-effectiveness needs further investigation.

This study also showed that the implementation cost of the programme was not high, but the expected effect was not achieved. The subjective factors, such as executive force, may change with change in environment and time. Moreover, the quality adjusted life years (QALYs), an important reference index used in this study, is still controversial in serving as a measurement method [3,4].

Furthermore, for patients undergoing potentially curative surgery or emergency surgery, one of the most important influencing factors is the experience of the surgeons, and the quality of surgery [5]. Though the improvement in nursing quality is also an important factor, comparisons should only be made under the same premise of background level of patient care.

From the statistical perspective, the authors have used traditional indictors to measure cost-effectiveness, such as costs, QALYs and incremental cost-effectiveness ratios (ICERs). However, some details including the baseline adjustments should be taken into consideration. Moreover, two limitations on the statistical analysis should not be overlooked. First, as is mentioned in the study, the EPOCH subsample is a convenience sample from the EPOCH trial rather than it is a random sample, which means that the measured and unmeasured baseline covariates of the two arms may not be balanced. Another limitation is about using the model based on the subsample to predict the cost-effectiveness of the whole EPOCH population. How is the performance of the model based on the subsample? Has the prediction model been validated in the EPOCH subsample by bootstrapping procedure or by any other validation methods?

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Zubing Mei: manuscript writing/editing. Hao Wang: manuscript writing/editing.

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Provenance and peer review

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Declaration of competing interest

None.

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Zubing Mei
Department of Anorectal Surgery, Shuguang Hospital, Shanghai University of Traditional Chinese Medicine, 201203, Shanghai, China
Anorectal Disease Institute of Shuguang Hospital, 201203, Shanghai, China

Hao Wang*
Department of Colorectal Surgery, Changhai Hospital, Second Military Medical University, 200433, Shanghai, China
E-mail address: wanghaohh@vip.126.com.

* Department of Colorectal Surgery, Changhai Hospital, Second Military Medical University, 168 Changhai Road, Shanghai, 200433, China.