

# Cost Effectiveness of Dental Surgery Procedures: A Call for Strengthening the Evidence

Habib Benzian · Richard Niederman

© Société Internationale de Chirurgie 2014

To the Editor

We welcome the systematic review of essential cost-effective surgery for low- and middle-income countries (LMIC) by Grimes et al. [1]. This is an important and timely step towards expanding healthcare while focusing on highly effective public health choices that are possible even in LMICs. We recognize that this is an emerging field of global health, with much to be done.

Our concern is the conspicuous absence of oral diseases, and the most common dental surgery intervention – tooth extraction – in the available data. Untreated tooth decay (caries) is the most common of all 291 diseases and injuries assessed in the Global Burden of Disease, with prevalence rates between 70 and 90 % of populations [2]. Untreated caries is one of the most frequent reasons for extraction. If left unattended, it can lead to sepsis, and negatively impacts systemic health. As anyone who has had a toothache recognizes, untreated decay also negatively impacts productivity and quality of life.

Confirming our concern, a MEDLINE search using the same search terms as those of Grimes et al. [1] but replacing ‘surgery’ with ‘extraction’ (and its synonyms),

and combining this with ‘caries’ (and its synonyms), failed to identify any publications. The existing oral health cost-effectiveness studies only address aspects of caries prevention, third molar extractions, or complex interventions relevant in high-income countries.

The integration of basic oral healthcare is at the centre of the World Health Organization’s *Basic Package of Oral Care*. It gives first priority to emergency management of oral pain, infection, and trauma, complemented by disease prevention [3]. However, the lack of accessible and affordable basic oral care leads to common situations where tooth extractions are often provided in unsafe conditions, by unskilled or illegal providers, in the absence of basic hygiene and infection control procedures.

We believe that the absence of relevant cost-effectiveness studies for basic oral healthcare procedures reflects the general neglect of oral diseases in international public health contexts, particularly in LMICs. This absence perpetuates the perception that oral healthcare is costly [4]. High-income countries can and do spend between 7 and 20 % of their health expenditure on oral healthcare. Yet, the *Basic Package of Oral Care* highlights alternative and low-cost ways to meet the basic oral health needs of populations in LMICs. Good oral health has been recognized as a human right, thus basic oral healthcare should be part of any primary healthcare system.

A positive step toward improving oral healthcare is the inclusion in the surgery volume of the upcoming third edition of the World Bank’s *Disease Control Priorities* for LMICs. The new Lancet Commission on *Surgery and Global Health* will, hopefully, also take dental procedures into account [5].

To further these efforts, we call upon the international surgical, oral health, and public health communities to help bridge the obvious knowledge gaps. It will be crucial for

---

Letter to the Editor in response to: Grimes CE, Henry JA, Maraka J et al (2014) Cost-effectiveness of surgery in low- and middle-income countries: a systematic review. *World J Surg* 38:252–263

---

H. Benzian (✉)  
The Health Bureau Ltd, Hedingham Court, Shenley Church End,  
Milton Keynes MK5 6HP, UK  
e-mail: habib.benzian@health-bureau.com

R. Niederman  
Center for Evidence-Based Dentistry, Department of  
Epidemiology and Health Promotion, New York University,  
College of Dentistry, 250 Park Avenue South, New York,  
NY 10003, USA

the health, productivity, and quality of life of millions living in LMICs to have access to safe, evidence-based, effective, and affordable basic oral healthcare.

**Conflict of interest** The authors declare no conflicts of interest.

## References

1. Grimes CE, Henry JA, Maraka J et al (2014) Cost-effectiveness of surgery in low- and middle-income countries: a systematic review. *World J Surg* 38:252–263. doi:[10.1007/s00268-013-2243-y](https://doi.org/10.1007/s00268-013-2243-y)
2. Marcenes W, Kassebaum NJ, Bernabe E et al (2013) Global burden of oral conditions in 1990–2010: a systematic analysis. *J Dent Res* 92:592–597
3. Frencken JE, Holmgren C, van Palenstein Helderman W (2002) Basic Package of Oral Care (BPOC). University of Nijmegen, Nijmegen, WHO Collaborating Centre for Oral Health Care Planning and Future Scenarios
4. Benzian H, Hobdell M, Holmgren C et al (2011) Political priority of global oral health: an analysis of reasons for international neglect. *Int Dent J* 61:124–130
5. Meara JG, Hagander L, Leather AJ (2014) Surgery and global health: a Lancet Commission. *Lancet* 383:12–13