



Implementing an enhanced recovery after thoracic surgery programme: just having a protocol is not enough

Erik M. von Meyenfeldt^{1,2}, Femke van Nassau²

¹Department of Thoracic Surgery, Lung Cancer Centre, Albert Schweitzer Hospital, Dordrecht, The Netherlands; ²Department of Public and Occupational Health and Amsterdam Public Health research institute, Amsterdam UMC, Vrije Universiteit Amsterdam, Amsterdam, The Netherlands

Correspondence to: Erik M. von Meyenfeldt. Albert Schweitzer Hospital, PO box 444, 3300 AK Dordrecht, The Netherlands.

Email: e.m.von.meyenfeldt@asz.nl.

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Introduction

The appeal of enhanced recovery after surgery (ERAS) programmes is obvious: better education and preparation of patients and their care givers before surgery, combined with implementation of standardised care pathways after surgery, results in shorter hospital length of stay (LOS), less complications, subsequent reduced health cost and improved patient satisfaction (1,2).

Several publications on the effectiveness of enhanced recovery after thoracic surgery (ERATS) protocols, based on clinical outcomes, have been published, especially since the first formal European Society of Thoracic Surgeons (ESTS)/ERAS society guidelines on perioperative care for anatomical lung resection patients were published in 2019 (3-5). These guidelines describe 45 evidence-based protocol elements of perioperative care in detail, which need to be executed to produce the synergetic effects essential to ERAS programmes (3). These effects depend on consistent, rigorous adherence to implementation of the ERAS protocol elements (4-6). However, just having the ERAS protocol developed and handed out to professionals is not enough. In order to have patient impact, these protocol elements need to be implemented in practice by a multitude of healthcare professionals. This implementation process is influenced by the constraints of their institutions and healthcare systems and shaped by patients' and care givers'

preferences.

High levels of protocol adherence have repeatedly been demonstrated to be paramount in producing the desired effects; however, descriptions of the processes and the applied implementation strategies are scarce, yet necessary to tackle potential barriers for implementation by involved healthcare professionals and promote implementation as intended to achieve consistent application of these protocol elements (7,8).

In their recent paper "*Development of a universal thoracic enhanced recovery after surgery protocol for implementation across a diverse multi-hospital health system*", Dyas and colleagues describe their implementation journey, consisting of designing an ERATS protocol suited to their context and moreover, they also describe the actual implementation process of this protocol (9).

We very much welcome this aspect of their publication and with this commentary advocate for more implementation-related publications in clinical journals.

Publication of implementation processes

It is important for clinical journals to publish quality improvement and implementation science papers to help understand the processes necessary to bring new evidence, such as innovations or protocols into daily practice, in order to benefit as many patients as possible.

Theory and models

Essential to the implementation of new protocols is the acknowledgement of different steps and accompanying resources to support this process (10). Since implementing a protocol is dependent on the context in which it is implemented, generalized descriptions or consensus papers are generally not sufficient. Several frameworks, like the one by Kotter used by Dyas *et al.*, are available to guide and structure an implementation process for a specific context (11). The model described by Grol *et al.* or Implementation Mapping by Fernandez *et al.* are other examples (12,13). Websites like www.dissemination-implementation.org can help choose the best model or framework for specific implementation situations.

Determinants for implementation

Invariably, these frameworks address the determinants that can help or hinder implementation of a protocol, so called determinants of implementation. These facilitators and barriers need to be addressed, if and when they occur in the implementation process, as is described by Dyas *et al.*, following Kotters model of change (11).

Facilitators and barriers are often context specific and can be found at different levels, with many frameworks helping to structure these different areas. This can be achieved by, for example, looking at the protocol itself, the patient groups involved, healthcare professionals and organizations, up to the wider, societal context (14,15).

Asking relevant stakeholders whether a protocol is straightforward enough to be usable in daily practice, what amount of time is needed for use in practice, what type of support (such as a training) healthcare professionals need to be empowered to help drive change, whether management and insurance companies are willing to support a different multidisciplinary approach, and what patients and care givers need for a protocol to be successfully executed to their benefit are all possible determinants that influence implementation processes.

While the paper by Dyas *et al.* provides a clear description of the building of their “Powerful Coalition” of relevant stakeholders, an explanation on why no patients were included in the process would provide an additional insight (11). It would also be helpful to know which facilitators and barriers were identified at what level, if they appeared across settings and if all stakeholders had the same view (data triangulation).

From determinants to implementation strategies

Based on knowledge of facilitators and barriers within the context of the specific healthcare system, an implementation plan can be developed. An implementation plan consists of a series of implementation strategies, each devised to address one or more specific contextual barriers or reinforce a known facilitator (12,16). Implementation strategies are defined as ‘methods or techniques used to enhance the adoption, implementation, and sustainability of a clinical program or practice’ (17). While examples of barriers and the specific implementation strategies are mentioned throughout the paper, the readership would have benefitted greatly from a more concise description of this linking process: How were implementation strategies selected? Dyas *et al.*’s choices for implementation strategies for specific barriers could have informed us more on the causality between implementation strategies and their intended effect (9,18). In addition, recommendations for specifying and reporting implementation are available and will support transparency and better understanding of strategies used (19).

Evaluation of the implementation process

While effect on clinical outcomes on the patient level is always important, the focus of implementation research will lie on the sustained adoption or implementation of an innovation. Either pre-post cohort studies, stepped wedge or otherwise randomized trials, with subsequent process evaluations, such as hybrid design trials, will be able to evaluate the efficacy of implementation strategies (17,20,21).

In the Implementation Science field, the outcomes as defined by Proctor *et al.* are often applied (22). Only with the information on pre and post implementation protocol adherence, in relation to the execution of these strategies, true success of an implementation process can be judged. This information is lacking in Dyas *et al.*’s manuscript, leaving it impossible to comment on the success of the presented approach. Also, maybe even more important, the relation between implementation process, protocol adherence and patient outcomes needs to be addressed: If a protocol does not work, even a highly successful implementation process with subsequent high protocol adherence, will not translate into improved patient outcomes (23).

Transparency in reporting

Lastly, it is important to report implementation studies

transparently. Through platforms like the equator network (<https://www.equator-network.org/>), reporting guidelines can be found, like the Standards for Reporting Implementation Studies (StaRI) Statement, or the Standards for QUality Improvement Reporting Excellence (SQUIRE) statement to improve the quality of reporting in quality improvement efforts (24,25).

Transparent reporting will aid the readership to understand and replicate an implementation process. It will also force authors to describe their steps and the rationale behind them, the outcome measures on which the implementation effort is to be judged, as well as the limitations of the implementation process (24,25).

While Dyas *et al.* describe an impressive implementation effort, and the *Journal of Thoracic Disease* is to be commended for publishing this paper in a clinical journal, several questions have remained unanswered. In order to improve the translation of evidence into practice, we look forward to reading more publications on ERAS protocol adherence, in relation to their implementation strategies, as well as the effects on clinical outcome. Just having a protocol is not enough; Its impact depends on consistent and sustained use in daily practice. Through a structured approach, thorough evaluation and transparent reporting we can all learn and improve our implementation processes.

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