

PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (<http://bmjopen.bmj.com/site/about/resources/checklist.pdf>) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

ARTICLE DETAILS

TITLE (PROVISIONAL)	Environmental and social benefits of the targeted intraoperative radiotherapy for breast cancer: data from UK TARGIT-A trial centres and two UK NHS hospitals offering TARGIT IORT
AUTHORS	Coombs, Nathan; Coombs, Joel; Vaidya, Uma; Singer, Julian; Bulsara, Max; Tobias, Jeffrey; Wenz, Frederic; Joseph, David; Brown, Douglas; Rainsbury, Richard; Davidson, Tim; Adamson, Douglas; Massarut, Samuele; Morgan, David; Potyka, Ingrid; Corica, Tammy; Falzon, Mary; Williams, Norman; Baum, Michael; Vaidya, Jayant

VERSION 1 - REVIEW

REVIEWER	Hiram S Cody III MD Memorial Sloan Kettering Cancer Center New York, NY USA
REVIEW RETURNED	15-Dec-2015

GENERAL COMMENTS	Here the authors estimate the environmental impact of the travel required for breast cancer patients to receive breast radiotherapy. The TARGIT-A trial previously observed comparable oncologic outcomes for TARGIT single-dose intraoperative RT (IORT) vs conventional external beam RT (EBRT). The authors draw on the pre-pathology cohort of the TARGIT-A trial (n=485) and 22 additional patients from Swindon and Harlow. Making reasonable assumptions, they estimate substantial reductions in travel time, travel distance, and estimated CO2 emissions, for TARGIT IORT compared to conventional EBRT. This study is novel, timely, very well done, and opens the way to further study worldwide.
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REVIEWER	Dennis Ricky Holmes Los Angeles Center for Women's Health California Hospital Medical Center Los Angeles, CA
REVIEW RETURNED	12-Jan-2016

GENERAL COMMENTS	The article appears well written. I feel it may be published as is.
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REVIEWER	Kenneth Geving Andersen Rigshospitalet, University of Copenhagen, Copenhagen, Denmark
REVIEW RETURNED	17-Feb-2016

GENERAL COMMENTS	The present paper analyses the potential environmental benefit of
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	<p>intraoperative radiotherapy (IORT) vs. standard external radiotherapy of the residual breast after breast cancer. It is not often to see the environmental aspect of a treatment which makes the study quite original. IORT is obviously beneficial to the patient in terms of less travelling to receive treatment, and in that way also beneficial for the environment in reduced CO₂ and NO_x emissions. I have some minor comments:</p> <ul style="list-style-type: none">- for the international reader it would be helpful to add SI-units.- the generalisability could be discussed more in detail in relation to the usage of public transportation or methods of transport such as bicycles and walking. Perhaps a table with the percentage of people using car vs. potential gain in reduced CO₂ could be helpful illustrating the point.
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VERSION 1 – AUTHOR RESPONSE

To add SI units as well as a paragraph about use of public transport in the discussion.

We have chosen not to add SI units to every number in the abstract to avoid the clutter it would cause.