Title **HTA Positron Emission Tomography in Belgium**

Agency **KCE, Belgian Health Care Knowledge Centre**
Résidence Palace, 10th floor, Wetstraat 155, Block A, B-1040 Brussels Belgium
Tel: +32 2 287 3397, Fax: +32 2 287 3385; hta@kenniscentrum.fgov.be, www.kenniscentrum.fgov.be

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www.kenniscentrum.fgov.be/documents/D20051027329.pdf

Aim

- To evaluate the clinical utility and cost effectiveness of PET for different indications.
- To describe PET in Belgium, including regulation, utilization, and costs and to compare Belgium with other western countries.
- To formulate recommendations for organizing and financing PET services in Belgium.

Conclusions and results

The evidence of improved clinical patient outcome of PET is limited to a few indications. The most solid evidence for clinical effectiveness was found for the initial staging of non-small cell lung carcinoma (NSCLC) and for detecting and localizing recurrence of colorectal cancer. For other indications, there is only evidence about the sensitivity and specificity of PET compared to other diagnostic methods.

Compared to many Western countries, Belgium has the most PET scanners and the highest annual throughput. Belgium has 13 approved PET scanners (1.26/million pop.) and probably several non-approved units are still in operation. About 20 000 PET scans are done per year (about 12 000 are for reimbursed indications). The high number of scanners, and overcapacity, in Belgium cannot be justified based on scientific evidence or demographic data. Based on indications for which PET has proven therapeutic impact, 3 PET scanners would be sufficient in Belgium. A more lenient approach leads to an estimate of no more than 10 scanners. (The full report also presents the arguments to maintain overcapacity.) The financing system should stimulate the efficient use of PET scanners. Indications for which PET imaging is reimbursed under the current reimbursement scheme in Belgium appear to be similar to the indications found in our review. For possible future expansion of reimbursed indications, the impact on therapeutic management and patient outcomes should be considered.

Recommendations

- A legal framework is needed for outsourcing fluorodeoxyglucose (FDG) production to non-commercial, academic PET centers with a cyclotron on-site.
- The fee per dose of FDG delivered is lower than the price charged for FDG by the companies with a marketing authorization in Belgium. Reimbursement of FDG should be in line with requirements imposed by the government.
- Maintaining or creating an overcapacity for the sake of uncertain future benefit is not only costly, but also not useful given the ongoing technological advancement in this field.
- Full use of existing (over)capacity and efficient use of healthcare resources are not compatible in the context of PET. Full capacity use of all approved PET scanners implies higher costs that are not proportional to possible improvements in therapeutic planning or patient outcome.
- Healthcare policy makers need to make a tradeoff between efficiency (implying the closure of some PET scanners) and other policy objectives, eg, ensuring accessibility to PET services.
- If the option of maintaining overcapacity of PET is chosen, there is an important opportunity for research with PET in Belgium. As public resources will be used, this research must have clear objectives that are relevant for society. If financial resources for research come from the healthcare budget, this should be publicly transparent and should not overlap with other financial streams toward hospitals for research.

Further research/reviews required

The KCE recommends an update of this study in a few years.

Written by Cleemput I, Dargent G, Poelmans J, Camberlin C, Van den bruel A, Ramaekers D, KCE, Belgium