FDG-PET-CT FOR ONCOLOGICAL INDICATIONS: A PRAGMATIC APPROACH TO GUIDE SUBSIDY DECISIONS

ACE agency for care effectiveness
Driving better decision-making in healthcare

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INTRODUCTION

- PET-CT uses radiopharmaceuticals (e.g. 18F-fluorodeoxyglucose (FDG)) as tracers for imaging. PET-CT scans provide both functional and anatomical imaging information, potentially resulting in higher accuracy than CT alone.
- PET-CT is used in the management of multiple oncological indications. Due to the large volume of available evidence on PET-CT use, a pragmatic approach was taken to balance between resources required and robustness of the review.

OBJECTIVE

To assess the safety and effectiveness of FDG-PET-CT for different oncological indications to guide subsidy decisions.

METHOD

A two-step approach:

- **Step 1.** Categorise the conclusions and recommendations for a specific indication from respective HTA agencies (e.g. NICE, MSAC, CADTH) by PET-CT functions (e.g. diagnosis, staging, or monitoring).
- **Step 2.** For each PET-CT function within an indication, combine recommendations and conclusions within each HTA agency and then across different agencies using decision rules (See panel on the right).

Decision rules

√ = Sufficient positive evidence supporting appropriate use of PET/PET-CT

X = Either evidence against or a lack of evidence on the use of PET/PET-CT

? = Uncertain or conflicting evidence supporting appropriate use of PET/PET-CT

RESULTS

Evidence: 28 HTA reports and NICE guidelines

- Effectiveness of PET-CT varied across oncological indications and among different PET-CT functions.
- Evidence is generally stronger to support PET-CT in staging than diagnosing and monitoring.
- Positive recommendations for the following oncological indications for staging:

✓ Non-Hodgkin's lymphoma
✓ Myeloma
✓ Melanoma
✓ Oesophageal & oesophagogastric junction cancer
✓ Head and neck cancer
✓ Non-small cell lung cancer
✓ Solitary pulmonary nodules
✓ Hodgkin's lymphoma

CONCLUSION

Deriving evidence-based subsidy decisions through a systematic review of primary evidence is resource intensive. With clear decision rules, the approach presented here is efficient to support evidence-based subsidy decision-making, most suitable for mature medical technologies where large volume of evidence exists.

LIMITATIONS

- Does not consider the latest primary evidence on FDG-PET-CT.
- Heterogeneous evidence due to differences in research questions, type of HTA product, rigour in the assessment, and reporting.