

# Beyond test accuracy: Data collection helps address some uncertainties in positron emission tomography (PET)

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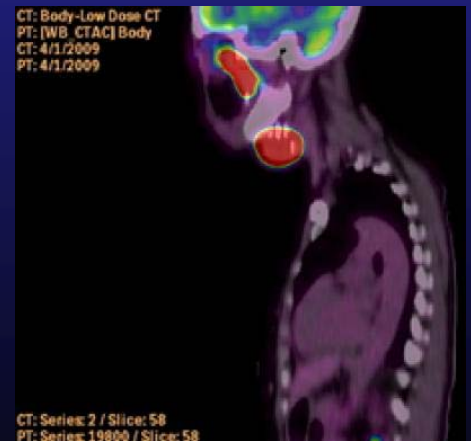
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# Outline

- Positron emission tomography (PET)
- Early HTAs of PET
- Linked evidence – our framework
- Australian review of PET
- Primary data collection
- Conclusions / challenges

# Positron emission tomography

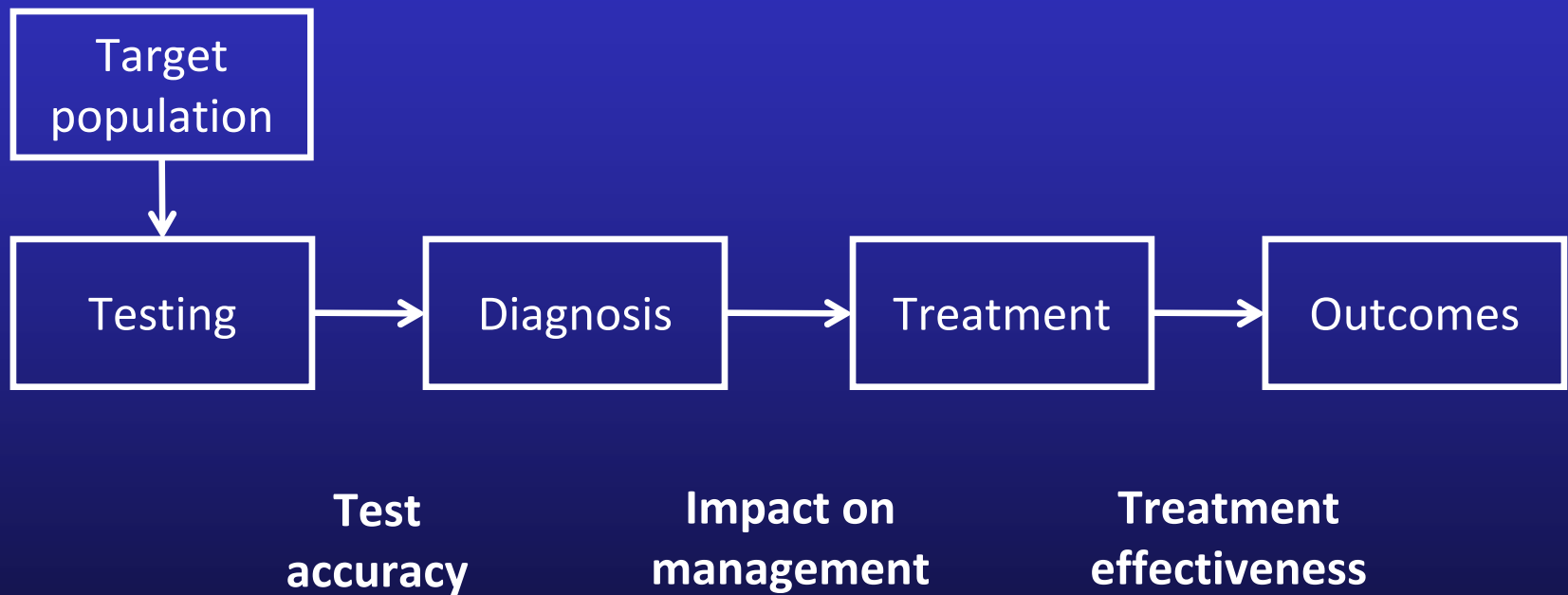
- Since early 1990's
- Radiolabelled glucose
- Metabolic activity of tissues
- Detection and staging of cancer



# Early HTAs of PET

- Several HTAs assessing the role of PET in the late 1990s – early 2000
- Focused on test accuracy
- Many noted uncertainties around the impact of PET on health outcomes

# Linked evidence – our framework

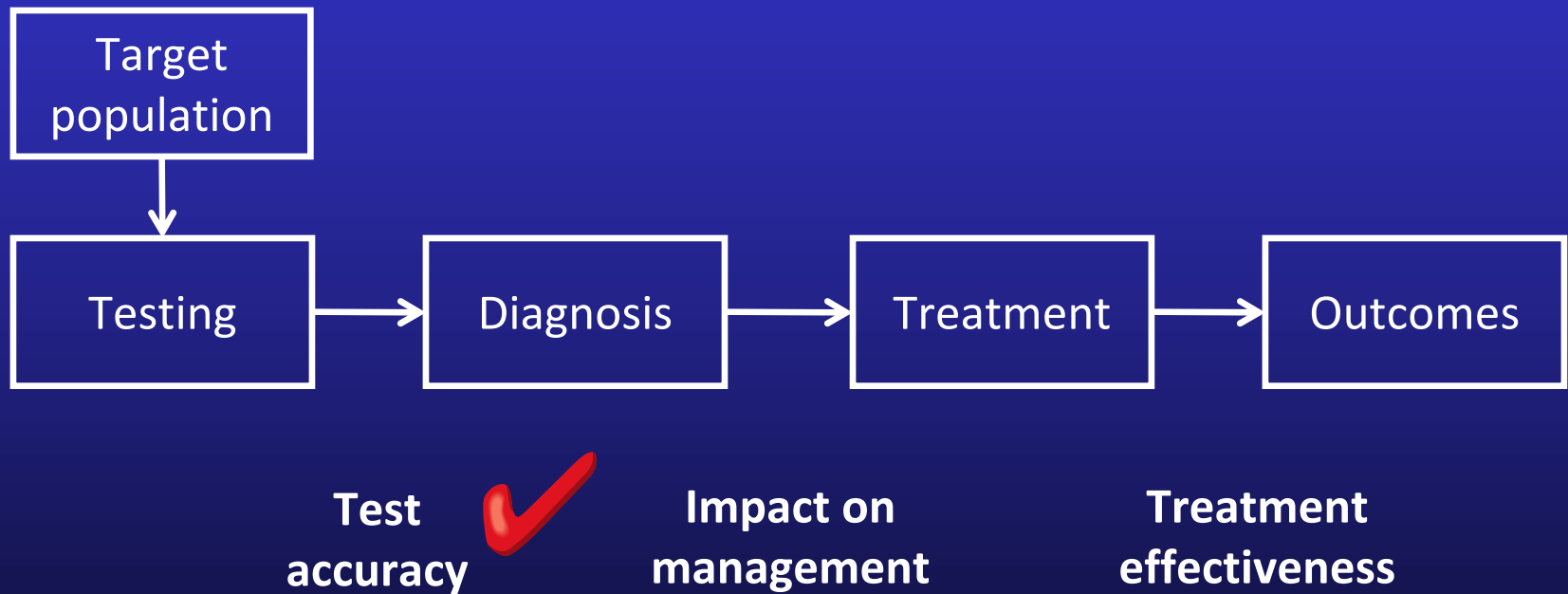


\* Lord et al. MSAC Guidelines for the assessment of diagnostic technologies

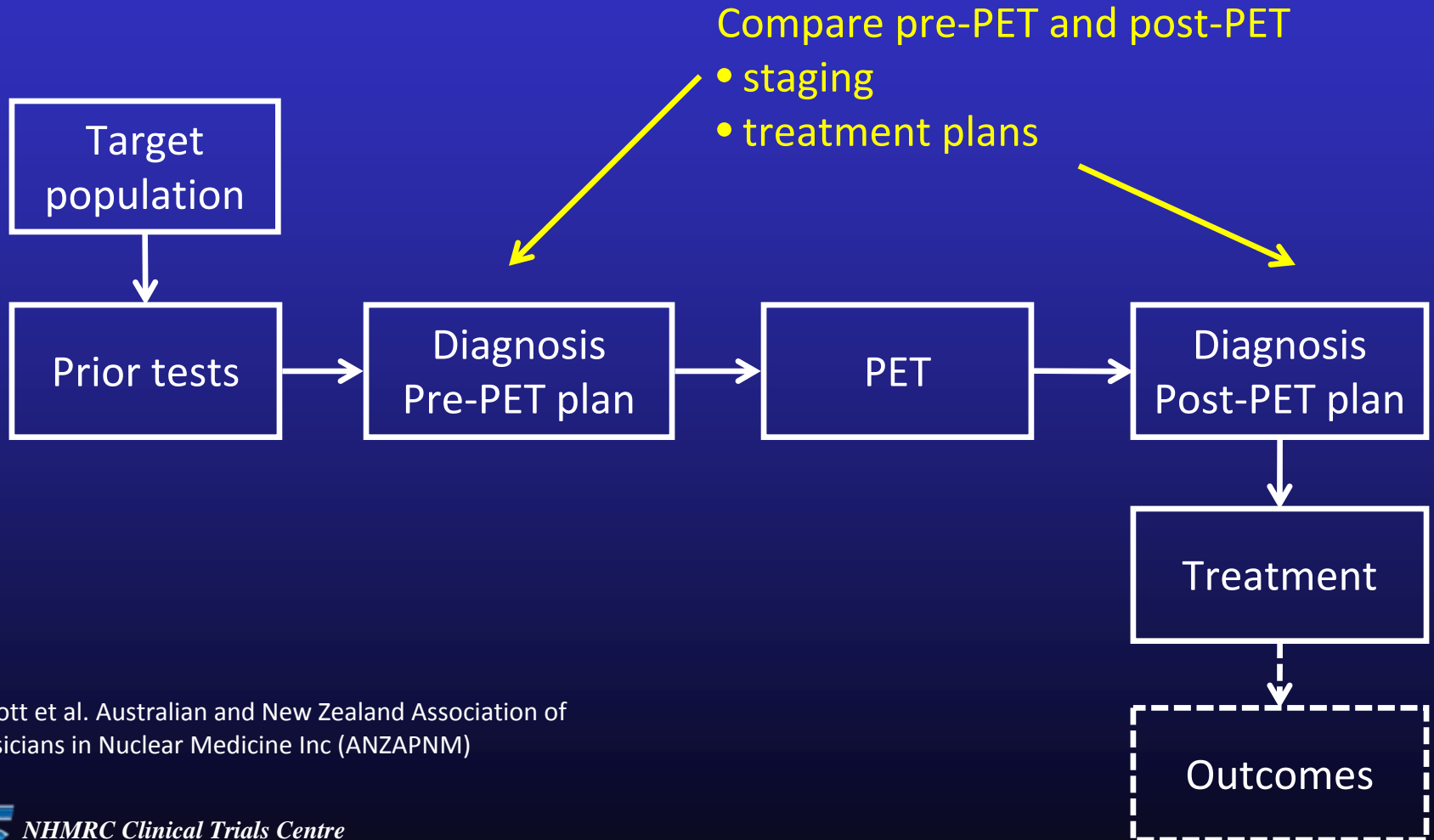
# Australian HTA in 2001

- Medical Services Advisory Committee (MSAC)
- In 2001, MSAC concluded that PET
  - is safe
  - has good diagnostic accuracy
  - is *potentially* effective and cost-effective in head and neck cancer staging
- Interim funding subject to provision of data

# Australian HTA in 2001



# Australian data collection

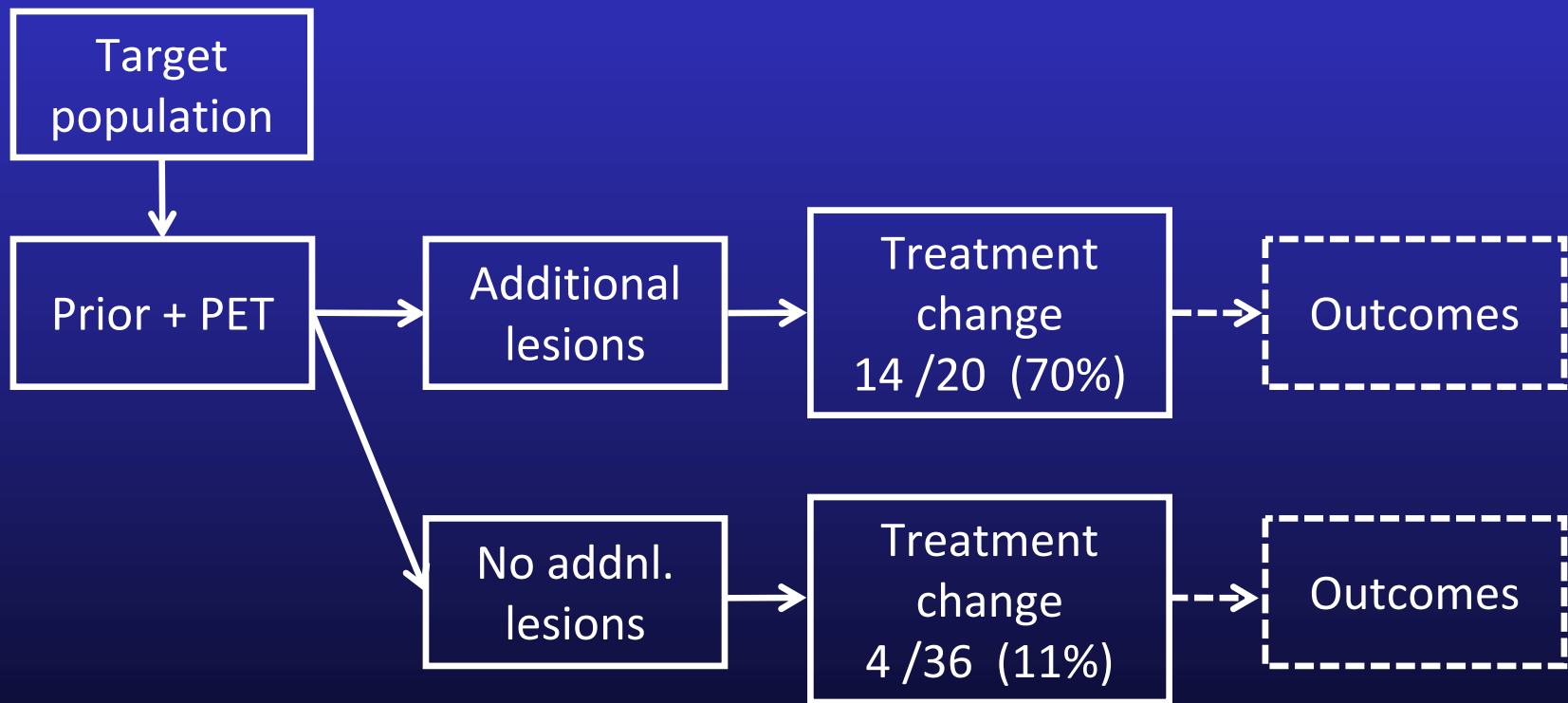


\* Scott et al. Australian and New Zealand Association of Physicians in Nuclear Medicine Inc (ANZAPNM)

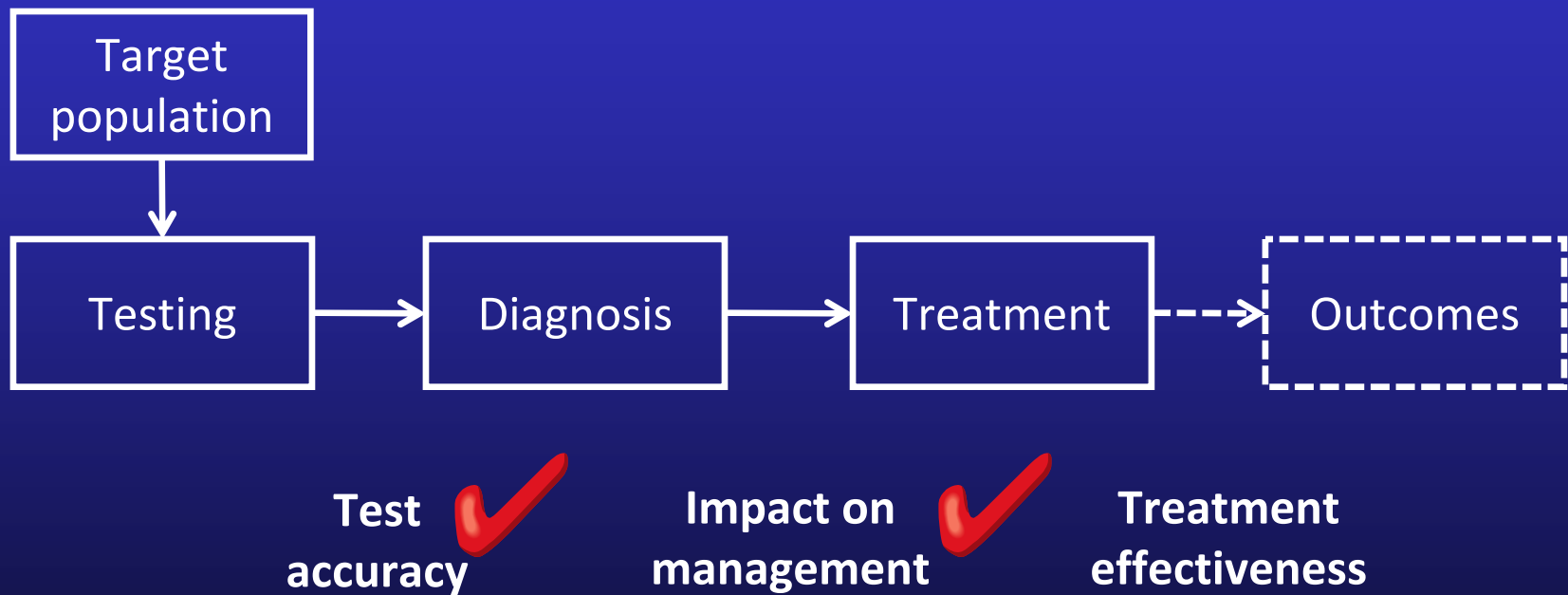
# Australian HTA 2008

- Literature review + reporting of individual patient data
- PET improves accuracy of staging head and neck cancer
- PET changed patient management in 18 of 56 patients (32%)

# Australian HTA 2008



# Australian HTA 2008



# Inferring patient outcomes

- Increased radiotherapy
  - improved local control
  - influences patient survival and quality of life
- Decreased radiotherapy
  - normal tissue spared
  - possibly decreases adverse effects

# Conclusions

- In most cases, accuracy is not enough
- Primary data collection can be useful when published literature does not answer relevant questions
- Data on patient management provide valuable but limited information on the impact of a test on patient outcomes

# Challenges

- Should future initiatives focus on the conduct of valid primary studies rather than HTAs?
- How can the communication between primary researchers and reviewers be improved?
- Is there a role for international collaboration in collecting data on patient management and health outcomes?

# Acknowledgements

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## Australian Data Collection

ANZAPNM, Australia

## MSAC Advisory Panel

A/Professor Frederick Khafagi (Chair)

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