

# Epidemiology of cancer of unknown primary site in Scotland, 1961-2010

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# Outline

- Background (definitions of CUP)
- Data and methods
- Selected results
- Conclusions

# Definitions of CUP vary between studies...

Study	Definition of CUP
Brustugun and Helland (2013)	ICD-10 C39, C76, C80
Urban <i>et al</i> (2013)	ICD-O(3) C80.9 (Excluding autopsy only cases, multiple primaries, haematological malignancies [M-9590/3 - M-9989/3], and isolated anatomically specified lymph node involvement [C77.0 - C77.5])
Riihimäki <i>et al</i> (2013)	ICD-9 195.1-195.3, 196, 197.0-197.3, 197.6-197.7, 198.2-198.5, 199
Bevier <i>et al</i> (2012)	ICD-9 195-199
Hemminki <i>et al</i> (2012); Levi <i>et al</i> (2002); Van de Wouw <i>et al</i> (2002)	ICD-9 196-199
Shu <i>et al</i> (2012); Randén <i>et al</i> (2009)	ICD-7 199
Luke <i>et al</i> (2008)	ICD-O(3) C80
Muir (1995)	ICD-O(1) 165, 169.0-169.1*, 169.3-169.9*, 195, 196*, 199

\*Excluding lympho-haematopoietic neoplasms

# NICE Guideline Definitions

1. Malignancy of undefined primary origin (MUO), defined as metastatic malignancy identified on the basis of a limited number of tests, without an obvious primary site, before comprehensive investigation.
2. Provisional carcinoma of unknown primary origin (provisional CUP), defined as metastatic epithelial or neuro-endocrine malignancy identified on the basis of histology or cytology, with no primary site detected despite a selected initial screen of investigations, before specialist review and possible further specialised investigations.
3. Confirmed carcinoma of unknown primary origin (confirmed CUP), defined as metastatic epithelial or neuro-endocrine malignancy identified on the basis of final histology, with no primary site detected despite a selected initial screen of investigations, specialist review, and further specialised investigations as appropriate.

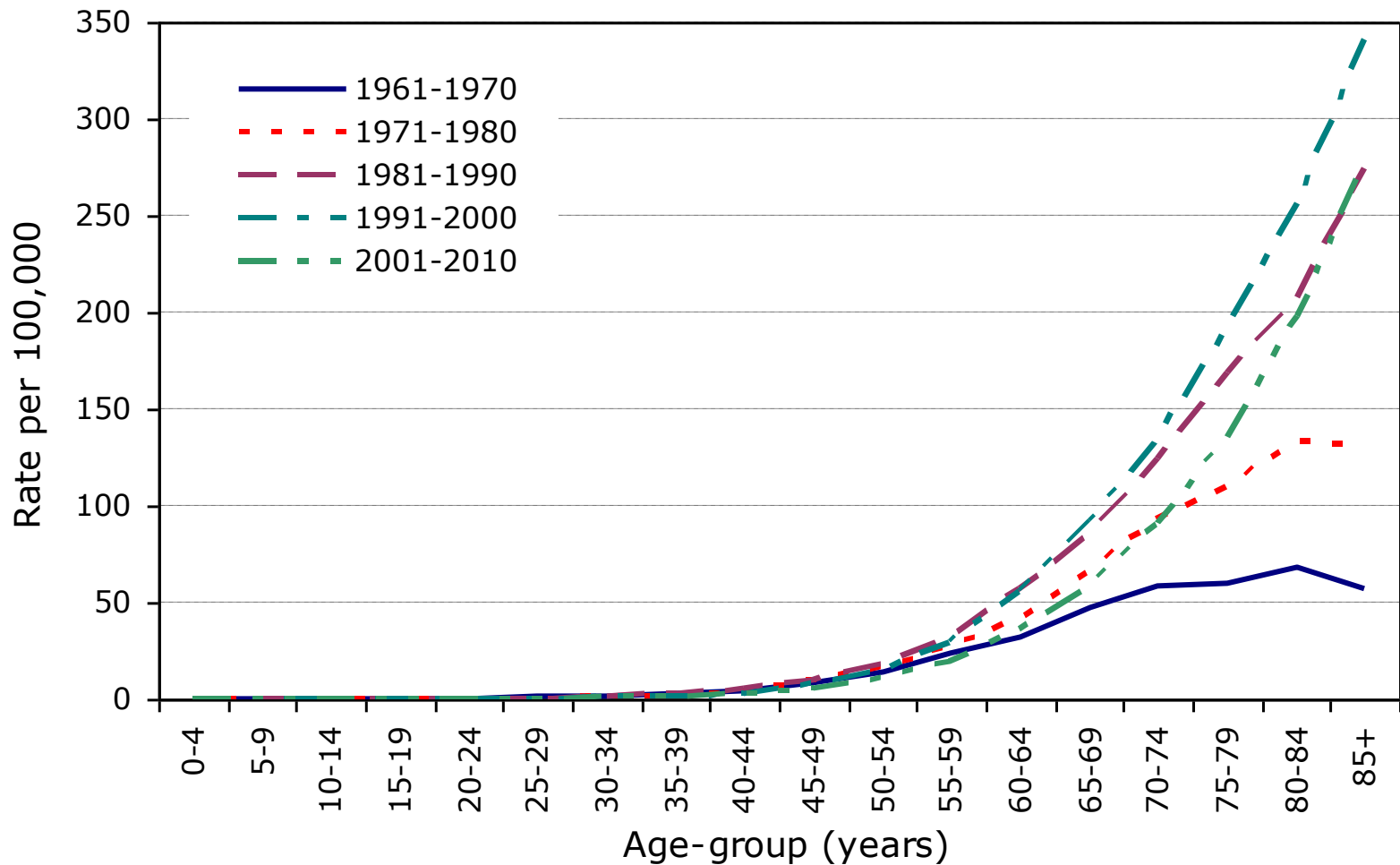
# Our definition

- ICD-10 codes C26, C39, C76-C80
- But excluding C26.1 (spleen)
- Not restricted to carcinoma or to microscopically verified neoplasms

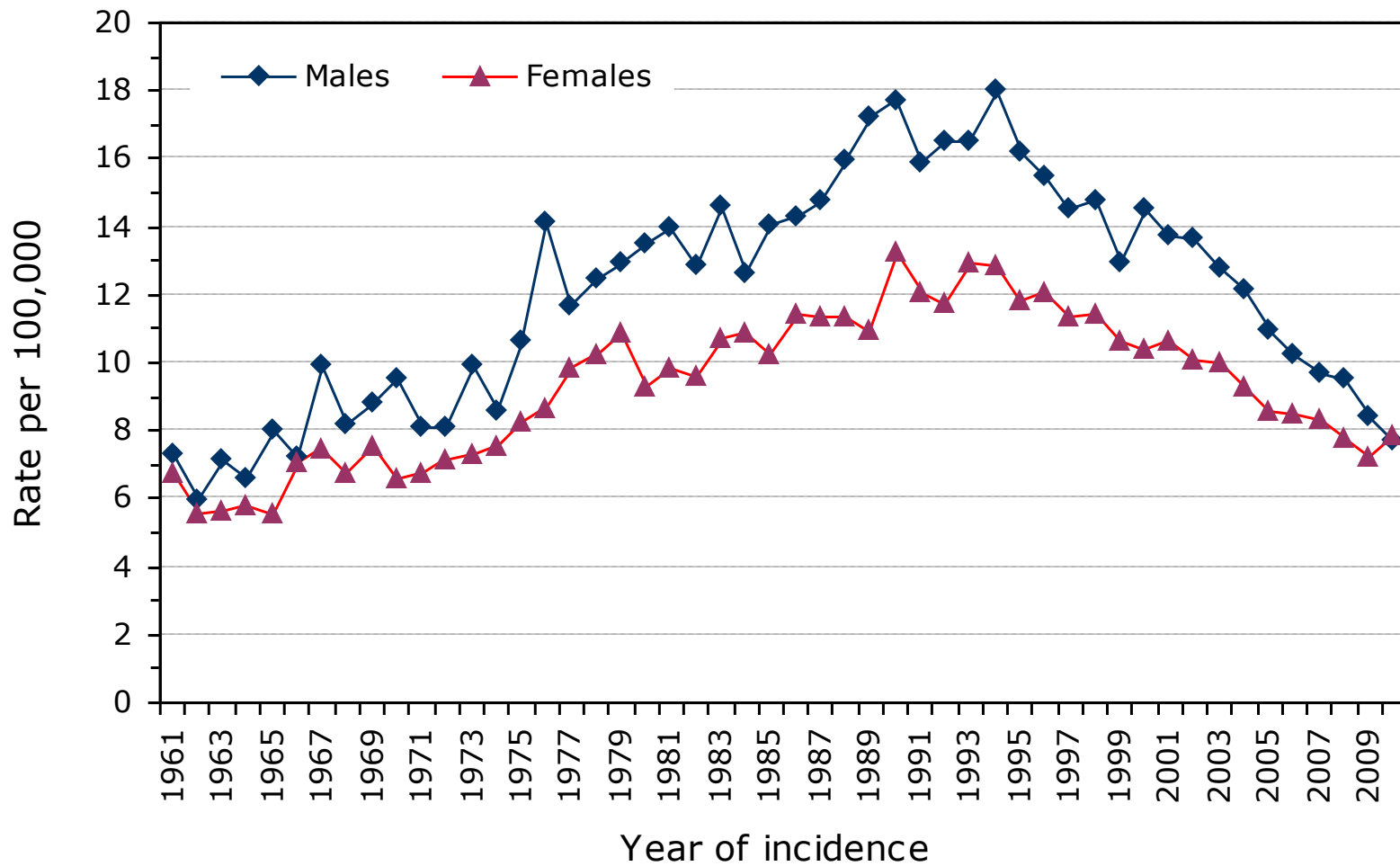
# CUP numbers as a percentage of all cancers registered in Scotland, by decade of incidence, 1961-2010

Decade of incidence	All cancers	CUP	%
1961-70	156,219	5,365	3.4
1971-80	199,440	8,085	4.1
1981-90	252,576	11,803	4.7
1991-00	312,449	14,020	4.5
2001-10	369,492	11,668	3.2

# Age-specific incidence rates of CUP by decade of incidence, Scotland, males

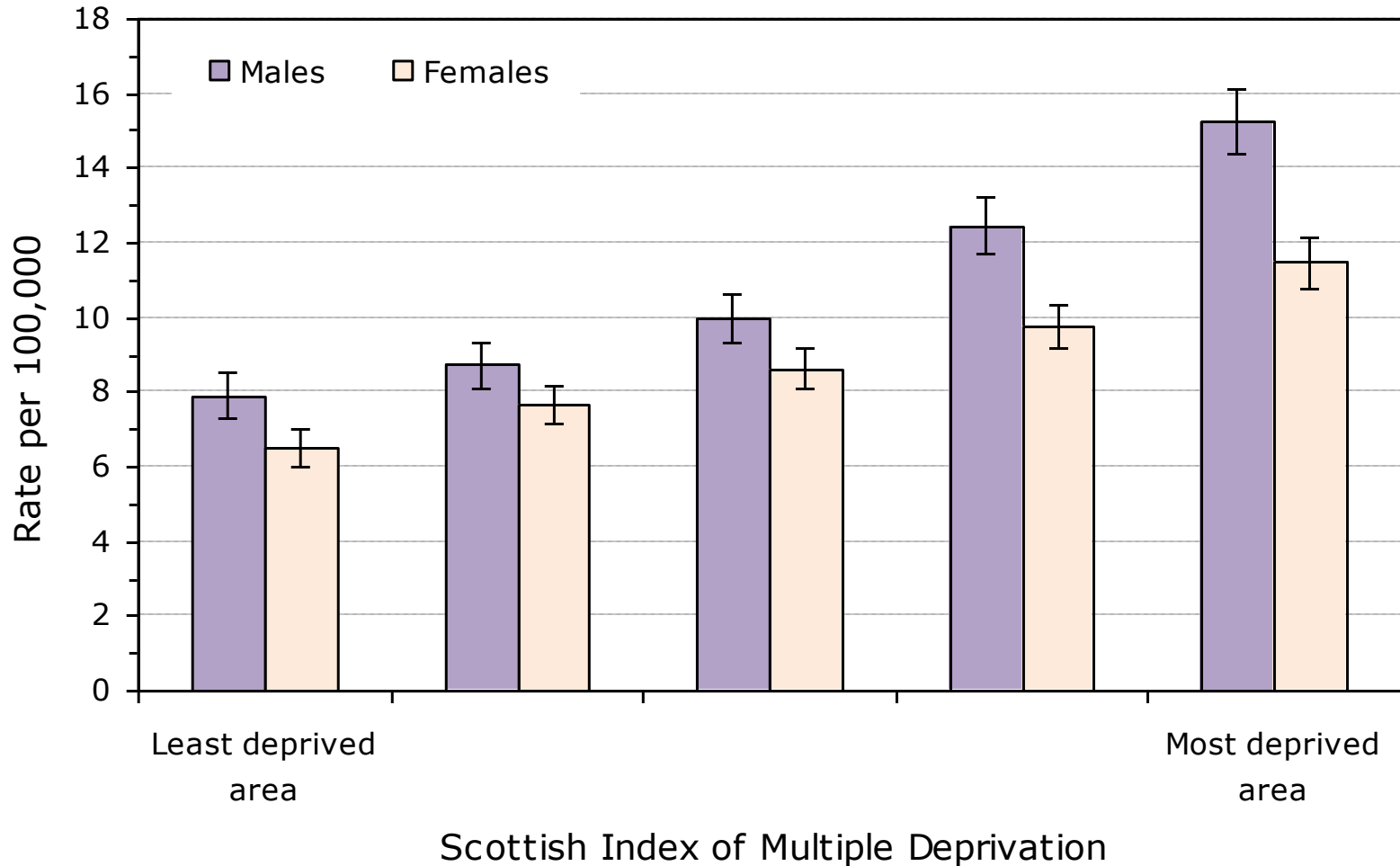


# Annual age-standardised incidence rates of CUP by sex, Scotland, 1961-2010

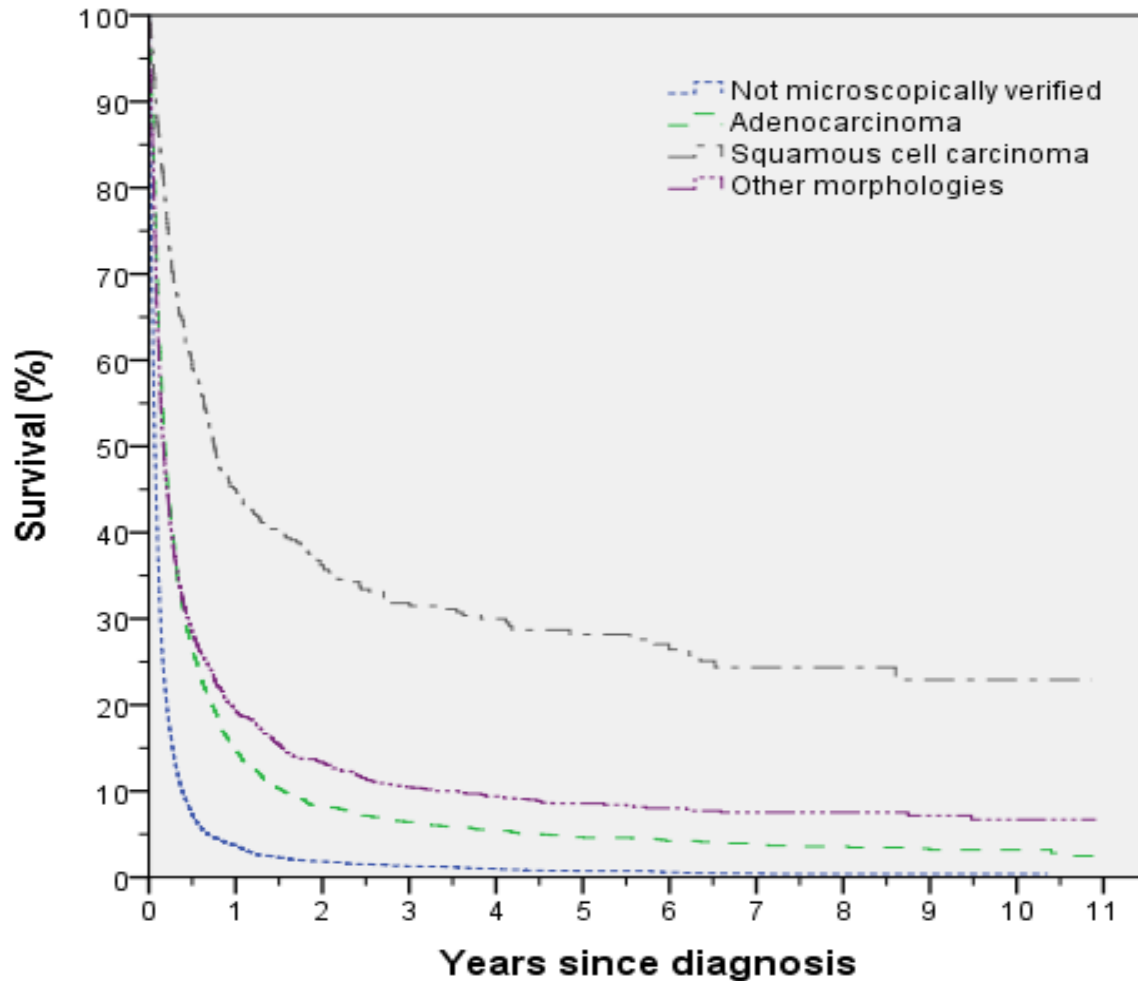




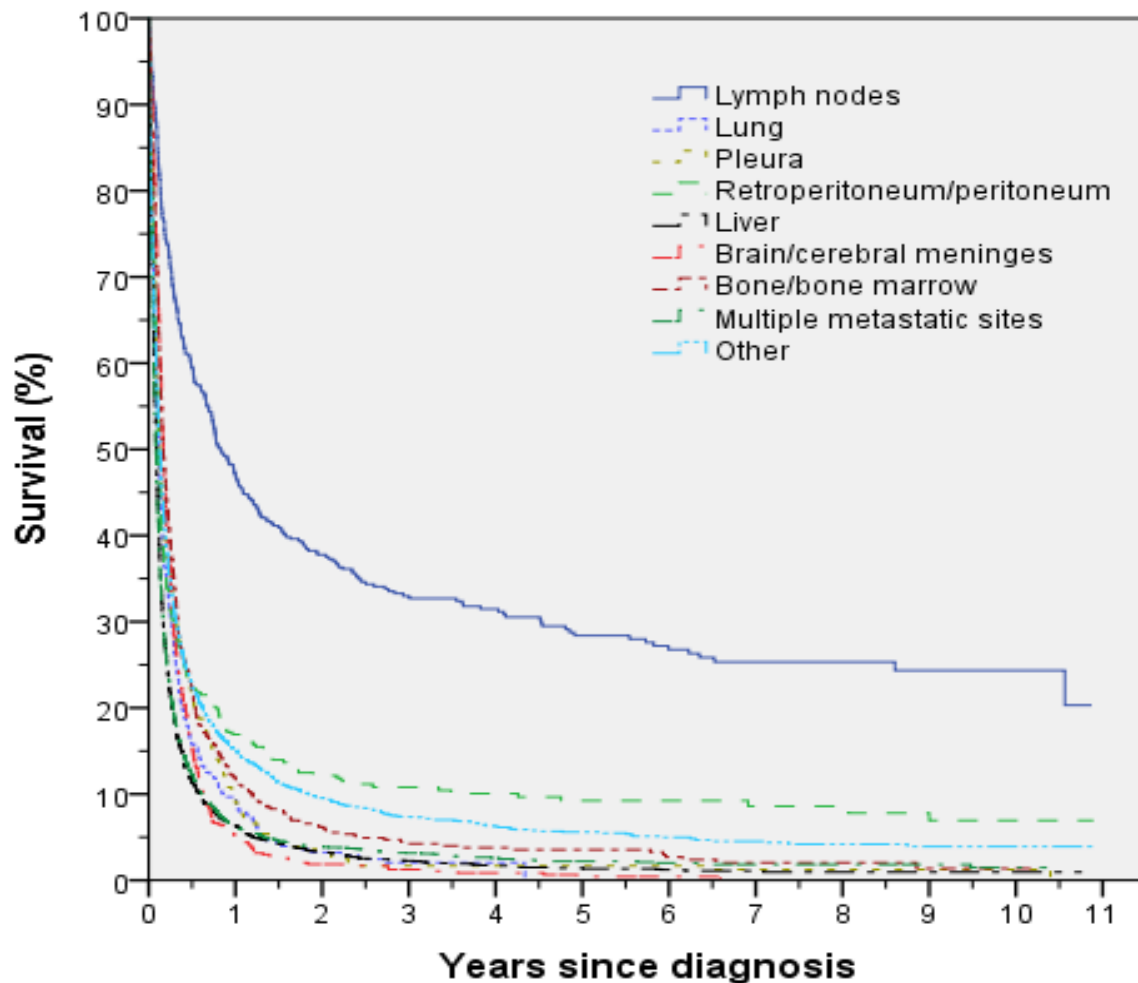
# Age-standardised incidence rates of CUP, by sex and deprivation fifth, Scotland, 2001-2010



# Observed survival from CUP by histological sub-type, Scotland, 2001-10



# Observed survival from CUP by anatomic sub-site of metastases and other sub-sites, Scotland, 2001-10



# Summary of findings

- Definition dictates proportion/ranking of CUP
- Incidence rates increased to mid-90s then decreased
- Incidence higher in males, elderly, and deprived
- Liver is the most common single site of mets
- Adenocarcinoma most common when histology is established (but almost 60% not MV<sup>ed</sup>)
- Median observed survival < 6 weeks
- Survival higher in younger patients, squamous cell carcinoma, and lymph node mets
- CR audit trail suggests that CUP diagnosis is reasonably stable

# Conclusions

- Despite advances in diagnosis, there remains a small proportion (but a substantial number) of malignant tumours for which it is not possible to determine the primary site of origin.
- Variation in the definition of CUP between different epidemiological studies suggests that there would be merit in seeking international agreement on guidelines for the registration of CUP as well as a standard grouping of diagnostic codes for analysis.

*For further information, see...*

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