

NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Centre for Clinical Practice – Surveillance Programme

Surveillance review consultation document

8-year surveillance review of Cancer service guidance: Improving outcomes for people with brain and other CNS tumours

Background information

Guidance issue date: June 2006

8-year review: 2014

Surveillance review recommendation

Surveillance review proposal for consultation:

The cancer service guidance on improving outcomes for people with brain and other CNS tumours should not be considered for an update at this time.

The guidance should be transferred to the static guidance list because it fulfils the following criteria:

- No evidence was identified that would impact on the current guidance and no major ongoing studies or research has been identified as due to be published in the near future (that is, within the next 3-5 years).

Main findings of the current 8 year surveillance review

Two focused searches to identify new evidence were carried out and relevant abstracts were assessed. One focused search aimed to identify studies on multidisciplinary team (MDT) functioning and was restricted to studies published 1 January 2009 to 2 June 2014 as it was felt that the recommendations in this area are unlikely to have been implemented prior to 2009. The second focused search evaluated the volume-outcome relationship (the impact of hospital/surgeon volumes on quality of decision making and outcomes) with the search being conducted on 2 June 2014 and going back to 30 April 2005 (the end of the search period for the guidance).

Due to the nature of the evidence being sought, the search strategies included observational studies in addition to randomised controlled trials (RCTs) and systematic reviews. Clinical feedback was also obtained from members of the guideline development group (GDG) through a questionnaire survey. Three responses were received with two respondents stating that they were unsure whether the guidance needed updating and one respondent stating that increasing complexity of diagnosis due to advances in our understanding of the biology of CNS tumours means that a lot of the guidance is outdated, however, no references were provided.

New evidence was identified for the current 8-year surveillance review relating to both of the focussed clinical areas of the cancer service guidance on improving outcomes for people with brain and other CNS tumours.

Clinical area: Multidisciplinary team (MDT) functioning		
Evidence summary	GDG/clinical perspective	Impact
<p>Three studies were identified relating to multidisciplinary team (MDT) functioning.</p> <p>One study¹ evaluated the change in practice as a result of implementing the Improving Outcomes Guidance from NICE. Patients were identified from the local cancer registry and hospital databases. Time from diagnosis to treatment, proportion of patients discussed at MDT meetings, treatment received, length of inpatient stay, survival and inpatient and imaging costs were compared. Results showed that service reconfiguration and implementation of NICE guidance resulted in significantly more patients being discussed by the MDT, reduced emergency admission in favour of elective surgery, reduced median hospital stay, increased use of post-operative MRI facilitating early discharge and treatment planning, and reduced cost of inpatient stay. The authors concluded that implementation of the neuro-oncology service reconfiguration in accordance with NICE guidance provided enhanced clinical care for patients.</p> <p>One study² investigated the safety of referral of people with suspected brain tumours to a</p>	<p>One GDG member indicated that they were not sure if all neuroscience centres have capacity for a neuropsychologist to be a core part of the main MDT. However, no references were provided.</p>	<p>The new evidence suggests that MDTs lead to improved outcomes for patients with brain tumours in terms of more patients being discussed by the MDTs, reduced emergency admission in favour of elective surgery, reduced median hospital stay, increased use of post-operative MRI facilitating early discharge and treatment planning, and reduced cost of inpatient stay. Patients' and staff's experiences of MDT follow-up for high-grade glioma after radical radiotherapy were also positive. This is consistent with the evidence presented in the guideline which advocated that multimodal treatment is often necessary for people with brain and other CNS tumours.</p>

<p>dedicated neuro-oncology MDT in accordance with NICE guidance. Results showed that pre-operative MDT did not lengthen time to operation for patients with brain tumour, however there was a delay in time to operation for abscesses that were inadvertently referred via the MDT route. Also, no lesion imaged with MRI was misdiagnosed. The authors advocated the use of MRI to minimise the risk of misdiagnosis of cerebral abscesses</p> <p>One UK study³ explored the experiences of patients and staff at one UK centre where regular MDT clinics and brain scanning was provided for high-grade glioma after radical radiotherapy. In-depth interviews were conducted with patients and staff. These were transcribed and analysed qualitatively. Patients reported supportive, individualised care with familiar staff; good communication; and that regular scanning was reassuring. Staff believed that team follow-up facilitated immediate decision-making and referral, and reduced visits; they felt that patients valued seeing their scans.</p>		
<p>Clinical area: Volume-outcome relationship</p>		
<p>Evidence summary</p>	<p>GDG/clinical perspective</p>	<p>Impact</p>
<p>Three studies were identified which examined the impact of surgeon and hospital case volume on risk of death/survival, complications after surgery and length of stay.</p> <p>One US retrospective cohort study⁴ showed that larger-volume centres had lower mortality rates for patients who underwent craniotomy for meningioma. Complications following discharge were also less likely at high-volume hospitals. With respect to surgeon caseload,</p>	<p>No clinical feedback was identified through the GDG questionnaire for this section of the guidance.</p>	<p>The new evidence suggests that high-volume hospitals and surgeons lead to improved outcomes for brain and other CNS tumour patients in terms of improved survival/reduced risk of death, fewer complications and decreased length of stay. This is consistent with the evidence presented in the guideline linking higher patient volumes and better surgical care and lower mortality rates.</p>

<p>there was a trend toward a lower rate of mortality after surgery when higher-caseload providers were involved, and a tendency towards significantly less frequent adverse discharges. The authors concluded that mortality and rates of complication following hospital discharge were lower when meningioma surgery was performed by high-volume providers.</p> <p>One US study⁵ analysed the effect of centralisation of caseload for primary brain tumour surgeries. Length of stay (LOS), mortality and discharge status were the main outcomes of interest. Results showed that surgeries in high-caseload hospitals increased, while those in low-caseload centres declined. Overall, there was a decrease in mortality but the rate of decrease was higher in high- as compared to low-caseload hospitals; high-caseload centres had lower LOS than hospitals with lower caseload centres. Multivariate analysis showed that patients treated in low-volume hospitals had an increased risk of death and complications following discharge. The authors concluded that there was a trend towards improved in-hospital mortality, LOS and discharge status for all hospitals, however, the trend was convincingly favourable for high-caseload hospitals.</p> <p>A retrospective cohort study⁶ investigated recent trends in surgical volume and associated patient outcomes in the treatment of acoustic neuromas in the US. Among others, results showed that high surgical caseload significantly reduced the risk of non-routine discharge and complications.</p>		
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For the following areas of the guidance no new evidence was considered:

- Presentation and referral
- Diagnosis: radiology and pathology
- Treatment and follow-up: pituitary, spinal cord and skull base tumours
- Treatment and follow-up: primary CNS lymphoma, medulloblastoma, pineal tumours and optic gliomas
- Supportive care
- Specialist palliative care
- Information management

Ongoing research

None identified.

Anti-discrimination and equalities considerations

None identified.

Conclusion

Through the 8-year surveillance review of the Improving outcomes for people with brain and other central nervous system tumours cancer service guidance no new evidence which may potentially change the direction of the recommendations was identified. The proposal is not to update the guidance at this time and to move this guidance onto the static list because it fulfils the following criteria:

- No evidence was identified that would impact on the current guidance and no major ongoing studies or research has been identified as due to be published in the near future (that is, within the next 3-5 years)

References

1. Guilfoyle MR, Weerakkody RA, Oswal A et al. (7-6-2011) Implementation of neuro-oncology service reconfiguration in accordance with NICE guidance provides enhanced clinical care for patients with glioblastoma multiforme. *British Journal of Cancer* 104:1810-1815.
2. Rittman T, Corns R, Kumar A et al. (2012) Is referral to the neuro-oncology MDT safe? *British Journal of Neurosurgery* 26:321-324.
3. Catt SLA. (2011) Patients' and staff's experiences of multidisciplinary follow-up for high-grade glioma after radical radiotherapy. *Psychology, health & medicine* 16:357-365.
4. Curry WT, McDermott MW, Carter BS et al. (2005) Craniotomy for meningioma in the United States between 1988 and 2000: decreasing rate of mortality and the effect of provider caseload. *Journal of Neurosurgery* 102:977-986.
5. Nuno M, Mukherjee D, Carico C et al. (2012) The effect of centralization of caseload for primary brain tumor surgeries: trends from 2001-2007. *Acta Neurochirurgica* 154:1343-1350.
6. Patel S, Nuno M, Mukherjee D et al. (2013) Trends in surgical use and associated patient outcomes in the treatment of acoustic neuroma. *World Neurosurgery* 80:142-147.