

Economic Evaluations and Health Economic Models of Gliomas: A Systematic Review of the Literature (ISPOR poster code: SA56)

PRISMA flow diagram

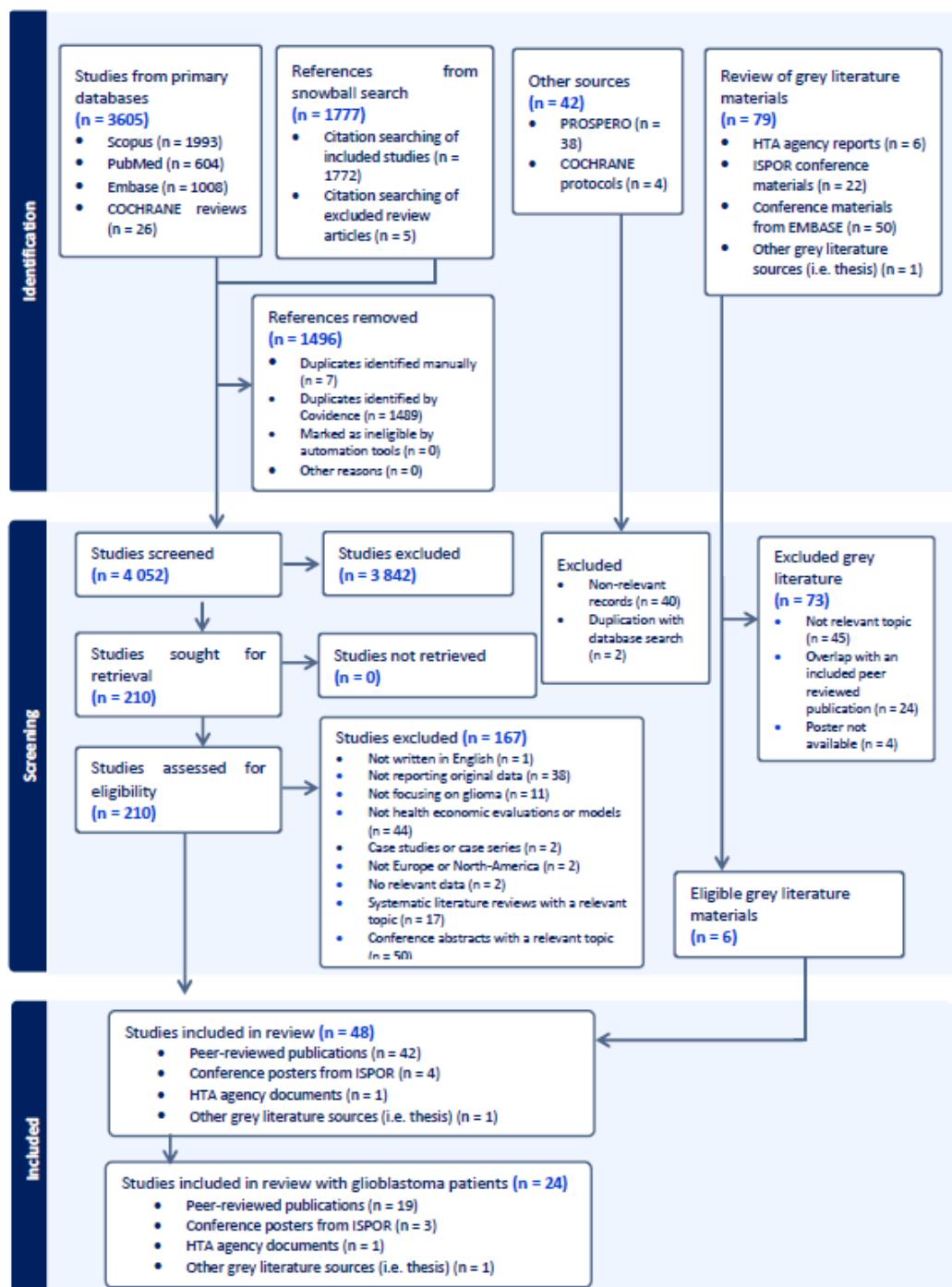


TABLE 4.: STUDIES INVESTIGATING OTHER TYPES OF INTERVENTIONS

Reference	Study country	Model type	Health states (if relevant)	Investigated technologies	Patient population
Baguet, 2019	Belgium	Decision tree cohort model	Responder; Real responder; Non-responder; Real non-responder; Non-real responder; Non-real non-responder; False responder; False non-responder	Follow-up [18F] FET PET vs. MRI	Patients with newly diagnosed GB who underwent resection
Chandra 2019	USA	The model type is not specified, but it is assumed to be a decision tree cohort model.	No data	Medicaid group vs. Non-Medicaid group (Medicare and private insurance)	Patients with newly diagnosed GB undergoing their first resection
Voigt, 2016	USA	Decision tree cohort mode	No data	Brain laser interstitial thermal therapy vs. Current treatments (collectively craniotomy ± gliadel wafer, plus biopsy)	Patients with primary or recurrent GB

18F-FET PET: O-(2-18F-fluoroethyl)-L-tyrosine Positron Emission Tomography; MRI: Magnetic Resonance Imaging; QALY: quality-adjusted life years; LYG: Life years gained; GB: glioblastoma

References

1. Baguet, T., Verhoeven, J., De Vos, F., & Goethals, I. (2019). Cost-Effectiveness of [18F] Fluoroethyl-L-Tyrosine for Temozolomide Therapy Assessment in Patients With Glioblastoma. *Frontiers in Oncology*, 9, 814.
2. Bernard-Arnoux, F., Lamure, M., Ducray, F., Aulagner, G., Honnorat, J., & Armoiry, X. (2016). The cost-effectiveness of tumor-treating fields therapy in patients with newly diagnosed glioblastoma. *Neuro-oncology*, 18(8), 1129–1136.
3. Chandra, A., Young, J. S., Dalle Ore, C., Dayani, F., Lau, D., Wadhwa, H., Rick, J. W., Nguyen, A. T., McDermott, M. W., Berger, M. S., & Aghi, M. K. (2020). Insurance type impacts the economic burden and survival of patients with newly diagnosed glioblastoma. *Journal of Neurosurgery*, 133(1), 89–99.
4. Chen J, Tong X, Han M, Zhao S, Ji L, Qin Y, He Z, Pan Y, Wang C, Liu A. Cost-Effectiveness of Short-Course Radiation Plus Temozolomide for the Treatment of Newly Diagnosed Glioblastoma Among Elderly Patients in China and the United States. *Front Pharmacol*. 2021 Sep 27;12:743979.
5. Connock, M., Auguste, P., Dussart, C., Guyotat, J., & Armoiry, X. (2019). Cost-effectiveness of tumor-treating fields added to maintenance temozolomide in patients with glioblastoma: an updated evaluation using a partitioned survival model. *Journal of Neuro-oncology*, 143(3), 605–611.
6. Connock, M., Auguste, P., & Armoiry, X. (2021). A comparison of published time invariant Markov models with Partitioned Survival models for cost effectiveness estimation; three case studies of treatments for glioblastoma multiforme. *The European Journal of Health*. 22(1), 89–100.
7. de Rivera Guzman, J. Nino, et al. "EE363 Cost-Effectiveness Analysis of Adding Tumor Treating Fields Therapy to Temozolomide Versus Temozolomide Only in Patients with Glioblastoma in France." *Value in Health* 26.12 (2023): S121.
8. Diebold, G., Ducray, F., Henaine, A.-M., Frappaz, D., Guyotat, J., Cartalat-Carel, S., Breant, V., Fouquet, A., Aulagner, G., Honnorat, J., & Armoiry, X. (2014). Management of glioblastoma: Comparison of clinical practices and cost-effectiveness in two cohorts of patients (2008 versus 2004) diagnosed in a French university hospital. *Journal of Clinical Pharmacy and Therapeutics*, 39(6), 642–648.
9. Fischer, A. Cost-Effectiveness Of Bevacizumab Concomitant With The Standard Of Therapy For Newly Diagnosed Glioblastoma. Diss. The University of Western Ontario (Canada), 2016.
10. Garcia Lopez, J. L., Rodriguez, B. J., Puig-Junoy, J., & Carrato, M. A. (2014). Cost-Effectiveness Analysis of Bevacizumab, Fotemustine and Extended-Dose Temozolomide in Patients with Recurrent Glioblastoma in Spain. *Value in Health*. 17(7), A638.
11. Ghosh, S., Baker, S., De Castro, D. G., Kepka, L., Kumar, N., Sinaika, V., Matiello, J., Lomidze, D., Dyttus-Cebulok, K., Rosenblatt, E., Fidarova, E., & Roa, W. (2018). Improved cost-effectiveness of short-course radiotherapy in elderly and/or frail patients with glioblastoma. *Radiotherapy and Oncology*, 127(1), 114–120.
12. Guauskas, G. F., Pollom, E. L., Stieber, V. W., Wang, B. C. M., & Garrison, L. P., Jr (2019). Tumor treating fields and maintenance temozolomide for newly-diagnosed glioblastoma: a cost-effectiveness study. *Journal of Medical Economics*, 22(10), 1006–1013.
13. Kovic, B., & Xie, F. (2015). Economic Evaluation of Bevacizumab for the First-Line Treatment of Newly Diagnosed Glioblastoma Multiforme. *Journal of Clinical Oncology: Official Journal of the American Society of Clinical Oncology*, 33(20), 2296–2302.

14. Krysanov, I., & Kryanova, V. (2013). Pharmacoeconomic analysis of intravenous temozolomide for the treatment of newly diagnosed glioblastoma multiforme in Russia. *Value in Health*, 16(7), A413.
15. Lamers, L. M., Stupp, R., Van Den Bent, M. J., Al, M. J., Gorlia, T., Wasserfallen, J., Mittmann, N., Jin Seung, S., Crott, R., & Uyl-de Groot, C. A. (2008). Cost-effectiveness of temozolomide for the treatment of newly diagnosed glioblastoma multiforme: A report from the EORTC 26981/22981 NCI-C CE3 Intergroup Study. *Cancer*, 112(6), 1337–1344.
16. Martikainen, J. A., Kivioja, A., Hallinen, T., & Vihinen, P. (2005). Economic evaluation of temozolomide in the treatment of recurrent glioblastoma multiforme. *PharmacoEconomics*, 23(8), 803–815.
17. Messali, A., Hay, J. W., & Villacorta, R. (2013). The cost-effectiveness of temozolomide in the adjuvant treatment of newly diagnosed glioblastoma in the United States. *Neuro-oncology*, 15(11), 1532–1542.
18. NICE. Carmustine implants and temozolomide for the treatment of newly diagnosed high-grade glioma. 2017. Available at (Last accessed on 08.11.2024.): <https://www.nice.org.uk/guidance/ta121>
19. Norum, J. (1996). Radiotherapy costs in glioblastoma. *Oncology Reports*, 3(4), 777–780.
20. Ranjan, T., Yu, A., Elhamdani, S., Howard, C. M., Lurette, S. T., Denning, K. L., Valluri, J., & Claudio, P. P. (2023). Treatment of unmethylated MGMT-promoter recurrent glioblastoma with cancer stem cell assay-guided chemotherapy and the impact on patients' healthcare costs. *Neuro-Oncology Advances*, 5(1), vdad055.
21. Roussakow, S. V. (2017). Clinical and economic evaluation of modulated electrohyperthermia concurrent to dose-dense temozolomide 21/28 days regimen in the treatment of recurrent glioblastoma: A retrospective analysis of a two-centre German cohort trial with systematic comparison and effect-to-treatment analysis. *BMJ Open*, 7(11), e017387.
22. Ruiz-Sánchez, D., Peinado, I. I., Alaguero-Calero, M., Sastre-Heres, A. J., Diez, B. G., & Peña-Díaz, J. (2016). Cost-effectiveness analysis of the bevacizumab-irinotecan regimen in the treatment of primary glioblastoma multiforme recurrences. *Oncology Letters*, 12(3), 1935–1940.
23. Voigt, J. D., & Barnett, G. (2016). The value of using a brain laser interstitial thermal therapy (LITT) system in patients presenting with high grade gliomas where maximal safe resection may not be feasible. *Cost effectiveness and Resource Allocation*, 14(1), 6.
24. Waschke, A., Arefian, H., Walter, J., Hartmann, M., Maschmann, J., & Kalff, R. (2018). Cost-effectiveness of the long-term use of temozolomide for treating newly diagnosed glioblastoma in Germany. *Journal of Neuro-oncology*, 138(2), 359–367.