

Appendix 4 (as supplied by the authors): Quality assessment according to Newcastle–Ottawa Scale*

Assessment of quality of a cohort study Newcastle–Ottawa Scale	Retrospective Cohort Studies					Cohort Before-and-after studies			
	Fraser et al ¹	Keele et al ²	Dussel et al ³	Knapp et al ⁴	Ward-Smith et al ^{9†}	Arland et al ⁵	Postier et al ⁶	Gans et al ⁷	Pascuet et al ⁸
Selection (tick one box in each section)									
1. Representativeness of the intervention cohort									
a) truly representative of the average (child) recipient of palliative care ★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	★	<input type="checkbox"/>	★
b) somewhat representative of the average (child) recipient of palliative care (only 1 disease category; e.g. cancer) ★	★	★	★	★	<input type="checkbox"/>	★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) selected group of patients, e.g. certain insurance coverage, age specific	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) no description of the derivation of the cohort	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Selection of the non intervention cohort									
a) drawn from the same community as the intervention cohort ★	★	★	★	★	<input type="checkbox"/>	★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) drawn from a different source	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) no description of the derivation of the non intervention cohort, or no controls	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Ascertainment of intervention									
a) secure record (eg healthcare record, claims/billing system) ★	★	★	<input type="checkbox"/>	★	★	★	★	★	★
b) structured interview ★	<input type="checkbox"/>	<input type="checkbox"/>	★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) written self report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) other / no description	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Demonstration that outcome of interest was not present at start of study									
a) yes ★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) no	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

continued

Assessment of quality of a cohort study Newcastle Ottawa Scale	Retrospective Cohort Studies					Cohort Before-and-after studies			
Comparability (tick one or both boxes, as appropriate)	Fraser et al ¹	Keele et al ²	Dussel et al ³	Knapp et al ⁴	Ward-Smith et al ^{9†}	Arland et al ⁵	Postier et al ⁶	Gans et al ⁷	Pascuet et al ⁸
1. Comparability of cohorts on the basis of the design or analysis									
a) study controls for age, sex, exposure to the program (survival), disease ★	★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	★	★	<input type="checkbox"/>
b) study controls for any additional factors (e.g., socioeconomic status, education, geography) ★	<input type="checkbox"/>	★	<input type="checkbox"/>	★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outcome (tick one box in each section)									
1. Assessment of outcome									
a) independent blind assessment ★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) record linkage ★	★	★	★	★	★	★	★	★	★
c) self report	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) other / no description	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Was follow up long enough for outcomes to occur?									
a) yes, if median duration >= 2 months ★	★	<input type="checkbox"/>	<input type="checkbox"/>	★	★	★	★	<input type="checkbox"/>	<input type="checkbox"/>
b) no, if median duration < 2 months, or unclear	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3. Adequacy of follow up of cohorts									
a) complete follow up: all subjects accounted for length of exposure to PPCP (survival bias) ★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	★	<input type="checkbox"/>	<input type="checkbox"/>
b) subjects lost to follow up unlikely to introduce bias: number lost <= 20%, all ages included, all diseases, or description of those lost suggesting no difference from those followed ★	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) follow up rate < 80% (select an adequate %) and no description of those lost, or description suggesting differences from those followed	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
d) no statement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Note: PPCP = pediatric palliative care program. *The case series of 3 patients ¹⁰ and the conference abstract ¹¹ were not included in the quality assessment. †Described by the authors as a case-control study but technically it was a cohort comparison.									

If the article meets a criterion followed by a ★, the box will appear as a ★. If the article meets a criterion that is not followed by a ★, then the box will appear ticked . If the article does not meet any criteria in the checklist the boxes will not appear ticked . References and manual on how to use the scale from the Ottawa Hospital Research Institute available at http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp

References

1. Fraser LK, van Laar M, Miller M, et al. Does referral to specialist paediatric palliative care services reduce hospital admissions in oncology patients at the end of life? *Br J Cancer* 2013;108:1273-9.
2. Keele L, Keenan HT, Sheetz J, et al. Differences in characteristics of dying children who receive and do not receive palliative care. *Pediatrics* 2013;132:72-8.
3. Dussel V, Kreicbergs U, Hilden JM, et al. Looking beyond where children die: determinants and effects of planning a child's location of death. *J Pain Symptom Manage* 2009;37:33-43.
4. Knapp CA, Shenkman E, Marcu M, et al. Pediatric palliative care: describing hospice users and identifying factors that affect hospice expenditures. *J Palliat Med* 2009;12:223-9.
5. Arland LC, Hendricks-Ferguson VL, Pearson J, et al. Development of an in-home standardized end-of-life treatment program for pediatric patients dying of brain tumors. *J Spec Pediatr Nurs* 2013;18:144-57.
6. Postier A, Chrastek J, Nugent S, et al. Exposure to home-based pediatric palliative and hospice care and its impact on hospital and emergency care charges at a single institution. *J Palliat Med* 2014;17:183-8.
7. Gans D, Kominski GF, Roby DH, et al. *Better outcomes, lower costs: palliative care program reduces stress, costs of care for children with life-threatening conditions*. Los Angeles: UCLA Center for Health Policy Research; 2012.
8. Pascuet E, Cowin L, Vaillancourt R, et al. A comparative cost-minimization analysis of providing paediatric palliative respite care before and after the opening of services at a paediatric hospice. *Healthc Manage Forum* 2010;23:63-6.
9. Ward-Smith P, Korphage RM, Hutto C. Where health care dollars are spent when pediatric palliative care is provided. *Nurs Econ* 2008;26:175-8.
10. Belasco JB, Danz P, Drill A, et al. Supportive care: palliative care in children, adolescents, and young adults-model of care, interventions, and cost of care: a retrospective review. *J Palliat Care* 2000;16:39-46.
11. Smith A, Andrews S, Maloney C, et al. Pediatric palliative care in high cost patients. In: Poss WB, editor. *Pediatric critical care medicine. Conference: American Academy of Pediatrics, Section on Critical Care National Conference and Exhibition*. Vol 26. Orlando (FL): Lippincott Williams and Wilkins; 2013. Available: <https://aap.confex.com/aap/2013/webprogram/Paper21649.html> (accessed 2015 Jan. 8).