

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

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](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).