Supplementary materials: Long-Term Nightshift Work and Breast Cancer Risk: An Updated Systematic Review and Meta-Analysis with Special Attention to Menopausal Status and to Recent Nightshift Work

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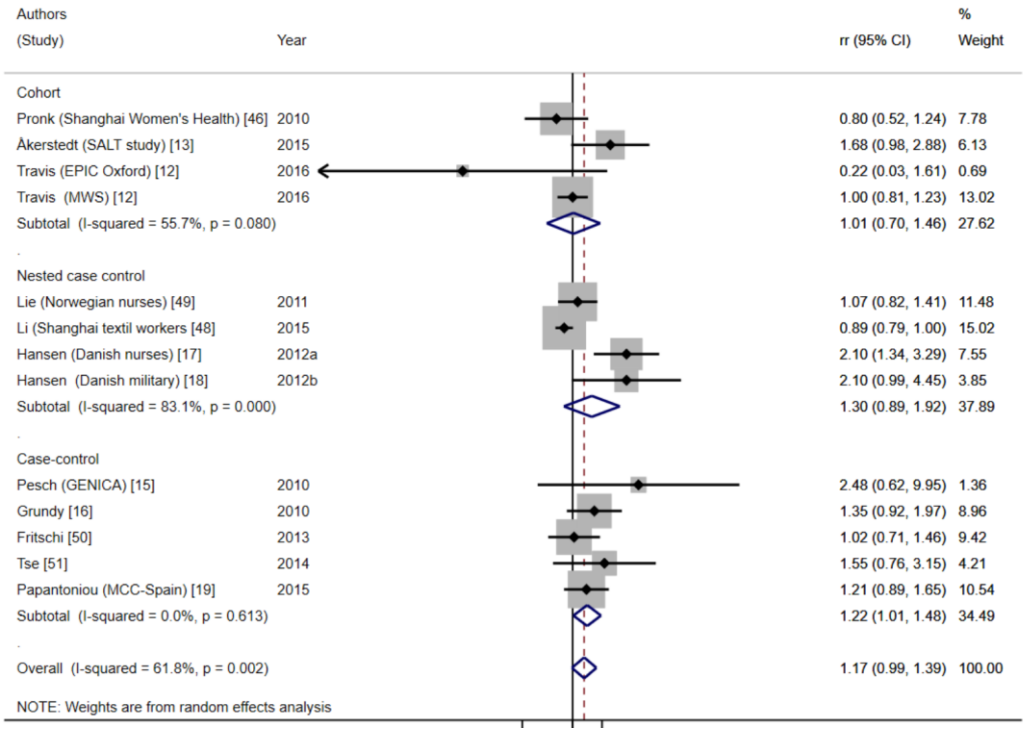

Figure S1. Analysis excluding five studies with uncertain exposure definitions.

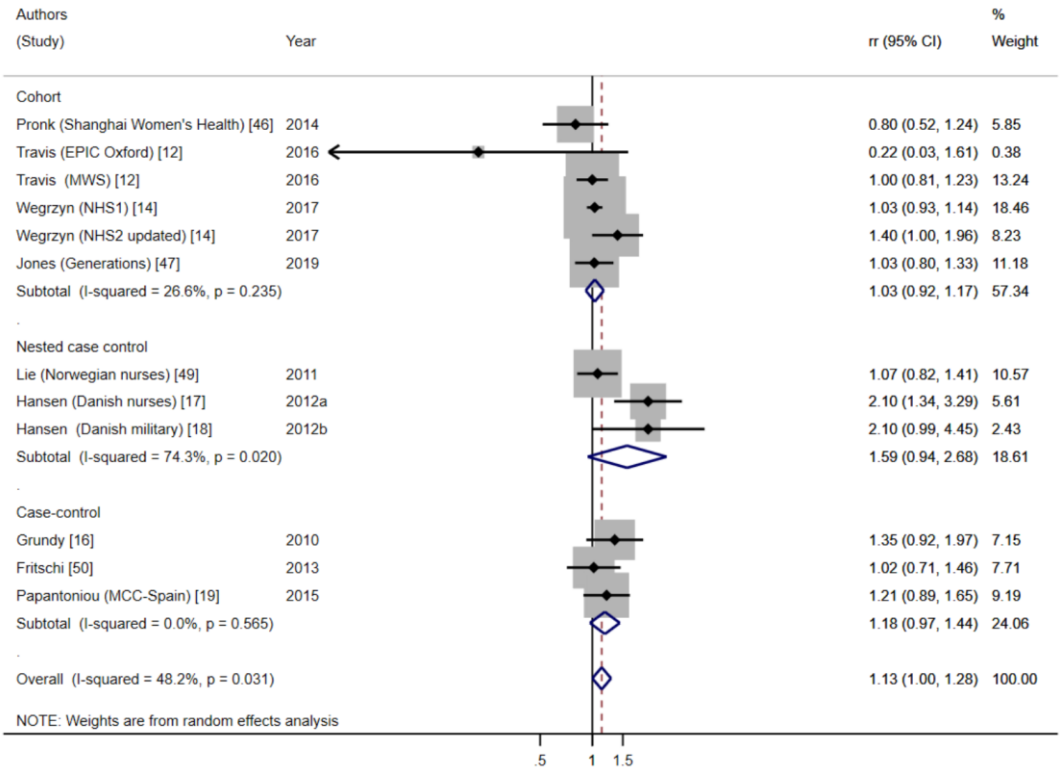

Figure S2. Analysis of long-term NSW and BC restricted to those studies that reached at least seven. points in the Newcastle Ottawa Scale (NOS ≥ 7).

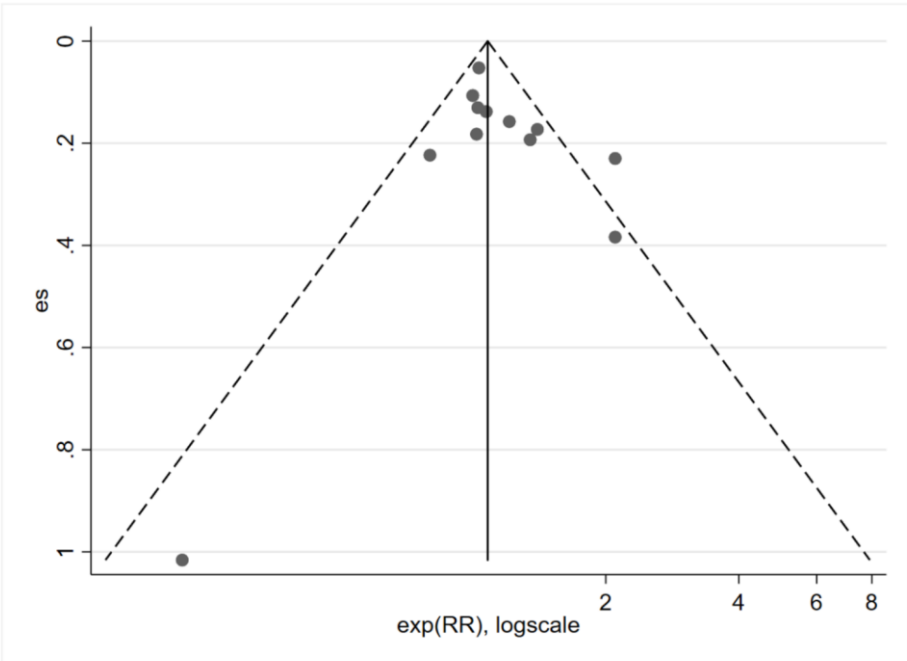

Figure S3. Funnel plot limited to studies of high quality (NOS ≥ 7).

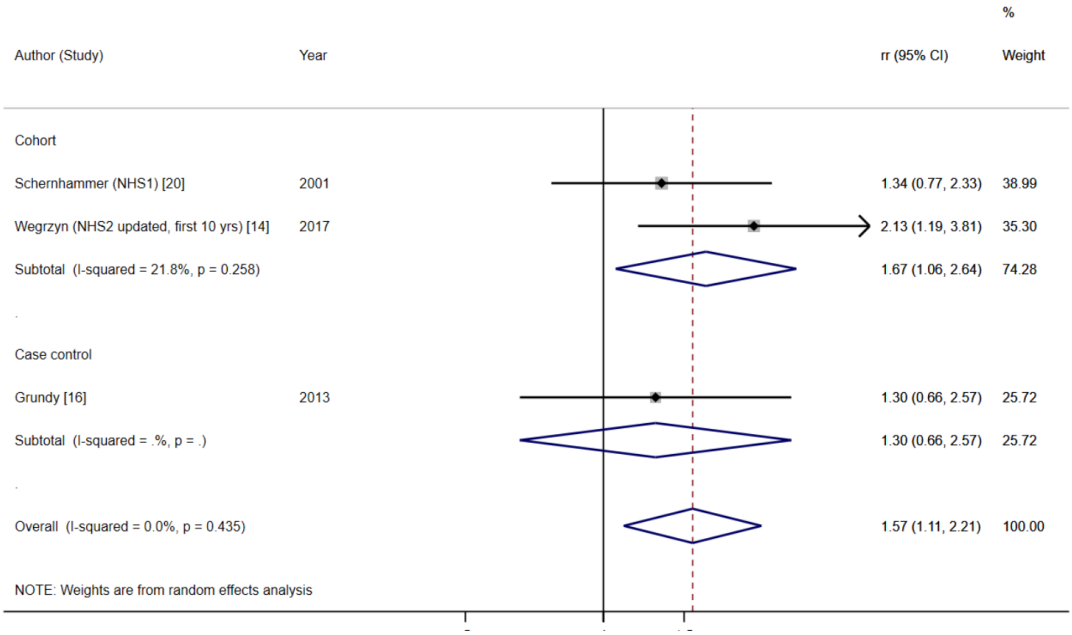

Figure S4. Analysis of long-term NSW and premenopausal BC limited to studies of high quality (NOS ≥ 7).

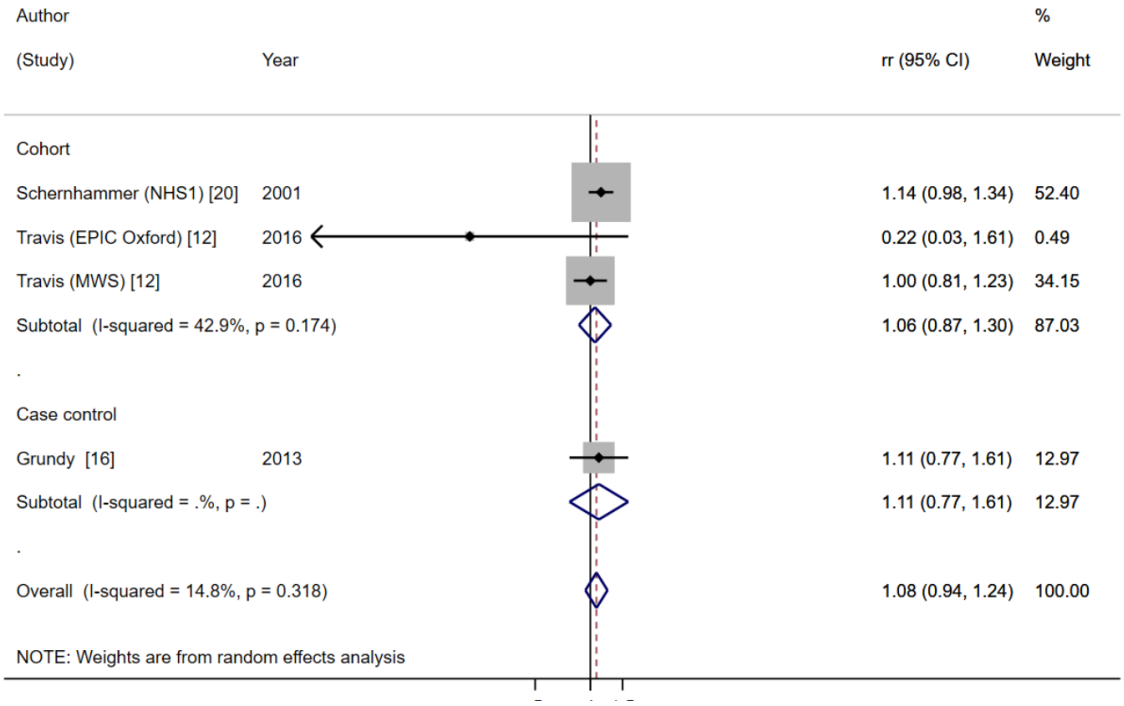

Figure S5. Analysis of long-term NSW and postmenopausal BC limited to studies of high quality (NOS ≥ 7).

Table S1. Results of the risk of bias assessment by the Newcastle-Ottawa Scale.

Cohort Studies	**I. Representativeness/Selection**				**II.Comparability**	**III. Outcome**			
Author, study, publication date	**I.1. Exposed cohort**	**I.2 Non exposed cohort from the same community**	**I.3 Exposure Ascertainment**	**I.4 Outcome not present at start**	**II. Control of covariables**	**III.1 Outcome Assessment**	**III.2. Follow-up length (>15 yrs)**	**III.3. Follow-up adequacy (<15% of difference in lost to follow-up)**	**Q**
Wegrzyn (2017) NHS I [14]		☼	☼	☼	☼☼	☼	☼	☼	8
Wegrzyn (2017) NHS II [14]		☼	☼	☼	☼☼	☼	☼	☼	8
Pronk (2010) SHWS [46]	☼	☼	☼	☼	☼	☼	☼		7
Koppes (2014) Dutch Labor Force [22]	☼	☼		☼		☼			4
Åkerstedt (2015) SALT [13]	☼	☼	☼	☼	☼	☼			6
Travis (2016) EPIC-Oxford [12]	☼	☼	☼	☼	☼☼	☼			7
Travis (2016) MWS UK [12]	☼	☼	☼	☼	☼☼	☼			7
Jones (2019) Generations Study [47]	☼	☼	☼	☼	☼☼	☼			7
Nested case-control and case control studies	**I. Selection**				**II. Comparability**	**III. Ascertainment of exposure**			
Author, study, publication date	**I.1 Adequate case definition**	**I.2 Representativeness of the cases**	**I.3 Controls selection**	**I.4 Controls definition**	**II. Control of covariables**	**III.1 Exposure ascertainment**	**III.2 Same method for cases & controls**	**III.3 Non-response-rate (<15% of difference)**	**Q**
Nested case- control studies									
Lie (2006) Norwegian nurses [21]	☼		☼	☼			☼	☼	5
Lie (2011) Norwegian nurses [49]	☼		☼	☼	☼	☼	☼	☼	7
Hansen (2012a) Danish nurses [17]	☼		☼	☼	☼☼		☼	☼	7
Hansen (2012b) Danish military [18]	☼		☼	☼	☼☼	☼	☼	☼	8
Li (2015) Shanghai textile worker [48]	☼		☼	☼			☼	☼	5
Case- control studies									
Pesch (2010) GENICA [15]	☼	☼	☼	☼	☼		☼		6
Fritschi (2013) BCEES [50]	☼	☼	☼	☼	☼	☼	☼		7
Grundy (2013) [16]	☼	☼	☼	☼	☼☼		☼	☼	8
Tse (2014) [51,55]	☼	☼		☼	☼		☼	☼	6
Papantoniou (2015) MCC [19]	☼	☼	☼	☼	☼☼		☼		7