

929<sup>Q28</sup>**Appendix 1*****Cause of Death***

Survival status was assigned using research-specific mortality files created by the strategic programming group at the Kaiser Permanente Division of Research. The mortality file concatenates data from the SEER program, Kaiser Permanente membership files, California state death certificates, and the Social Security Death Index. It uses probabilistic matching on data elements such as name, date of birth, and social security number to assign mortality status.

Cause of death assignment used physician medical record review; the reviewer was blinded to the surveillance status of the patient. In-hospital deaths were attributed to

esophageal cancer if the patient had documented widely metastatic disease without another apparent cause of<sup>Q29</sup> death or if, after review, the death was reported to result from a cancer-related treatment (eg, sepsis during chemotherapy). Out-of-hospital deaths were attributed to esophageal cancer using data from recent admissions and outpatient notes in the electronic medical record. For example, if a patient with advanced cancer was discharged home on hospice, a diagnosis of a cancer-related death was assigned. Patients with deaths attributable to other causes (eg, stroke, myocardial infarction, chronic obstructive pulmonary disease) or patients in whom a cause of death was unclear were assigned as non-cancer-related deaths.

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**Supplementary Table 1.** Distribution of Cases and Controls by Year of Cancer Diagnosis

Year of case cancer diagnosis	Cases	Controls
1998-1999	5	15
2000-2001	9	22
2002-2003	15	40
2004-2005	3	8
2006-2007	6	15

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