

Do PET-CTs Save Lives? An Empirical Assessment in French Departments

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Abstract

National Cancer Plans implemented since 2003 in France aim to reduce territorial inequalities in healthcare access, emphasizing the installation of PET-CT equipment for cancer diagnosis. While PET-CT adoption in France has progressed since 2002, some departments still lack this technology, potentially causing diagnosis delays and compromising patient survival.

In this paper, we estimate the treatment effect of the presence of PET-CT on the mortality caused by cancer at the department level. Mortality data, from 1990 to 2020, categorized by gender, cause of death, and department of residence, are sourced from CépiDc. Information on PET-CT presence in each department is obtained from the French SAE database for the period 2004-2020 (Statistique Annuelle des Établissements de santé 2022). We apply a difference-in-differences (DiD) methodology from Callaway and Sant'Anna (2021) to account for variations in treatment timing.

Our results suggest that installing a PET-CT in a department causes an overall fall in mortality by 2.7 lives per 100k inhabitants for the trench, bronchial, and lung cancers. However, i- the strongest treatment effects are measured for the first departments where PET-CTs were installed, and ii- the benefit appears subject to a long learning curve.

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