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## Global and regional estimates of maternal orphans attributed to cancer mortality in 2020: 1 million new maternal orphans due to cancer in 2020

**Lyon, France, 20 November 2022** – To mark World Children’s Day, a new study by researchers from the International Agency for Research on Cancer (IARC) and partners, published today in *Nature Medicine*<sup>1</sup>, estimates the number of maternal orphans due to cancer in 2020, globally and in 185 countries and territories.

These new estimates, which were also presented in a flash talk at the World Cancer Congress 2022 last month, suggest that as a result of the estimated 4.4 million women who died from cancer in 2020, about 1 million children became maternal orphans in that year.

“Each year a staggeringly large number of children lose their mother due to cancer,” says IARC scientist Dr Florence Guida, the first author of the article. “In addition to lives cut short, the death of a young or middle-aged woman due to cancer can have immense impacts on families, particularly on children who lose a parent due to cancer.”

### **Absolute burden of new maternal orphans due to cancer**

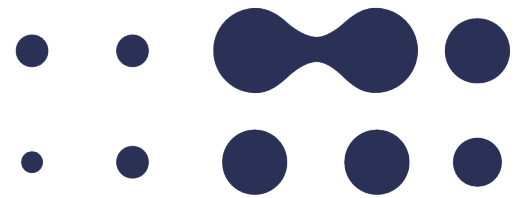
The researchers estimated that the 4 404 000 cancer deaths in women in 2020 resulted in 1 047 000 new maternal orphans globally. Almost half (48%, 508 000) of these children were in Asia, and more than one third were in Africa (35%, 370 000). The remaining 17% of new maternal orphans were in Europe (60 000), Latin America and the Caribbean (76 000), Northern America (28 000), and Oceania (6400).

In Asia and Africa, six countries accounted for two fifths of the worldwide total of maternal orphans: India (157 000), China (107 000), Nigeria (53 000), Indonesia (42 000), Ethiopia (39 000), and Pakistan (38 000).

The researchers also estimated the number of orphans by cancer type to determine the main cancer types contributing to these numbers. Deaths from breast cancer were the single largest cause of new maternal orphans globally (25%), followed by cervical cancer (20%) and cancers of the upper gastrointestinal tract (13%, of which most were gastric cancer or oesophageal cancer).

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<sup>1</sup> Guida F, Kidman R, Ferlay J, Schüz J, Soerjomataram I, Kithaka B, et al. (2022). Global and regional estimates of orphans attributed to maternal cancer mortality in 2020. *Nat Med*. Published online 20 November 2022. <https://doi.org/10.1038/s41591-022-02109-2>



The ranking of these top three cancer types varied between regions and with Human Development Index (HDI) categories, but deaths from breast cancer always ranked either first or second. In Eastern and Southern Africa, deaths from cervical cancer led to more maternal orphans than deaths from breast cancer did.

“This study estimates that 45% of the new maternal orphans in 2020 were due to breast cancer and cervical cancer; these cancer types can have high survival or can be eliminated, and they are targeted in two of the three World Health Organization cancer initiatives,” says Dr Valerie McCormack, Deputy Head of the Environment and Lifestyle Epidemiology Branch at IARC and a co-author of the article. “Our results are yet another eye-opener to the urgent need to pay attention to the growing burden of cancer worldwide and in low- and middle-income countries. A child’s risk of becoming a maternal cancer orphan was highest in the lowest-income countries worldwide. Ministries of health and global funders can be instrumental in expanding investment in cancer prevention, early detection, treatment, and vaccination programmes, which have the potential to not only prevent millions of cancer deaths in women but also prevent millions of maternal cancer orphans and disrupt the intergenerational cycle of poverty.”

#### **Note to Editors**

A breast cancer cohort study in Africa – the [African Breast Cancer - Disparities in Outcomes \(ABC-DO\) Study](#) – found that across five countries in sub-Saharan Africa the number of children left motherless due to breast cancer deaths exceeded the number of breast cancer deaths. Building on this work, the [Maternal Orphans due to Cancer Deaths: Global Estimates project](#) focuses on the impact of cancer in adults on their children, which may extend across the phases of cancer care and, for adults who do not survive, beyond the parental death. A maternal cancer orphan is defined as a child who is still younger than 18 years when their mother dies from cancer.

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