

# Cervical cancer: lessons learned from neglected tropical diseases



Despite improvements in reducing the incidence of cervical cancer and its associated mortality, and global optimism for the prospects of its eradication,<sup>1</sup> cervical cancer is not a disease of the past—it is a disease of the poor. Every 2 minutes a woman is lost to cervical cancer. Most of these women live in low-income areas.

Preventable if detected early, cervical cancer is increasingly a tracer disease of inequity and the inability to access health care, which are due to failures of the responsible health and social systems.<sup>2</sup> Cervical cancer is predominantly caused by the sexually transmitted human papillomavirus. This route of transmission puts women at risk of being stigmatised and ostracised, and this experience is exacerbated by devastatingly painful, degrading, and isolating symptoms that end in death.<sup>3</sup>

The global outlook on cervical cancer is at risk of becoming similar to that on neglected tropical diseases (NTDs), for which investment in treatment discovery is stalling and clinical know-how is dwindling. NTDs afflict approximately 1 billion people worldwide. Yet this heavy but preventable burden is neither felt nor perceived in wealthy parts of the world, as NTDs are almost entirely concentrated in low-income settings, where people do not have sufficient ability to affect political decisions in any meaningful way.

Cervical cancer and NTDs share many common features. Specifically, they: (1) characteristically accompany poverty, (2) affect populations mostly overlooked by policy makers, (3) are associated with stigma and discrimination, (4) have an important impact on female morbidity and mortality, (5) tend to be neglected in clinical research and technological development, and (6) can be controlled, prevented, and possibly eliminated through currently available solutions, which are effective, feasible, and of low cost.<sup>4</sup>

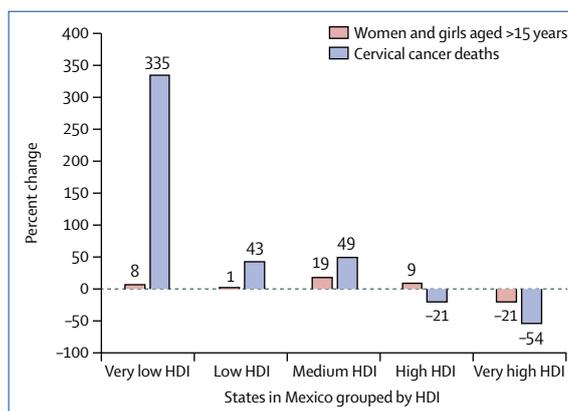
An estimated 310 000 annual deaths globally are caused by cervical cancer, making it the fourth most common cancer killer of women.<sup>5</sup> Most affected women are poor and cannot access health insurance: approximately 90% of deaths from cervical cancer in 2016 occurred in low-income and middle-income countries.<sup>6</sup> The inequitable proportion of this health

burden is expected to worsen, as global mortality rates for cervical cancer are projected to rise by nearly 22% between 2015 and 2030.<sup>7</sup> In low-income countries, this rise will be nearly 27%, compared with only 1% in high-income countries.<sup>7</sup>

Similar to NTDs, the incidence of cervical cancer and its associated mortality are becoming increasingly rare in high-income settings and this trend will continue because of investments in universal access to screening and treatment. Other than in the poorest countries and regions of the world, cervical cancer is no longer a leading cause of death, nor is it the leading cause of cancer mortality for women. In Latin America, most cancer deaths in women are due to breast cancer, whereas cervical cancer follows the global trend as the fourth most common type.<sup>5</sup> Yet in Nicaragua, the country with the lowest gross domestic product per capita in Central and South America, cervical cancer is still the leading cause of cancer-related deaths in women.

Disparities in the incidence, mortality, and stigma of cervical cancer persist even in higher income countries where poor women continue to face barriers to access.<sup>8–10</sup> Mexico is an upper-middle-income country with universal health coverage through its Seguro Popular national health service that has offered treatment for cervical cancer since 2005.<sup>11,12</sup>

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**Figure:** Changes in proportion of deaths caused by cervical cancer and in the total population of women and girls aged over 15 years in Mexican states grouped by human development index (HDI), 1980–2016

Author estimates based on data from the Institute for Health Metrics and Evaluation and the Instituto Nacional de Estadística y Geografía.

For the **Institute of Health Metrics and Evaluation** dataset see <http://ghdx.healthdata.org/gbd-results-tool>

For the **Instituto Nacional de Estadística y Geografía** dataset see <https://www.inegi.org.mx/programas/intercensal/2015/default.html>

Overall mortality rates due to cervical cancer in Mexico have declined steadily since the mid-1980s but the proportion of deaths occurring in poorer states has increased and these changes far surpass changes in the adult female population (figure). The proportion of total deaths caused by cervical cancer in women and girls over the age of 15 years decreased by 54% between 1980 and 2016, from 44% to 20% in states with a very high human development index (HDI). By contrast, the proportion of deaths from cervical cancer occurring in states with a very low HDI increased by 335%, from 3% to 13%.

The NTD trajectory shows that when diseases almost exclusively affect the poor, they are at risk of becoming progressively deprioritised on national and international health agendas. As people in high-income settings become less affected, advocacy movements (already weak in the case of cervical cancer) dwindle, the disease falls on the priority list, and investment in treatment solutions stagnates. NTDs drew attention when the global health community finally acknowledged their collective status of being neglected in the mid-2000s.<sup>13</sup> A major move forward was developing a strategy for NTD elimination, anchored in a framework for resource allocation based on equity and not traditionally aligned with standard techniques for priority-setting or assessing cost-effectiveness.<sup>4</sup> Efforts must persist so that access to treatment for cervical cancer is achieved for the poorest and most isolated communities, regardless of standard considerations of cost-effectiveness.

In the case of cervical cancer, there is no reason to wait until its status as an NTD is confirmed, but instead to plan ahead for the not-too-distant future when it is largely eliminated in high-income populations. Cervical cancer can either become a neglected disease with a devastating and inequitable burden on the poorest women of the world, or the global health community can work collectively towards its elimination and treatment based on an equity maxim.

Eradicating mortality due to cervical cancer requires a visionary global health strategy that focuses on prevention and screening but also on treatment and palliative care. We agree with the Director-General of WHO, Tedros Adhanom Ghebreyesus: "We have all the

ingredients for success".<sup>14</sup> We must now act with the utmost sense of urgency by implementing strategies that are rooted in equity.

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