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## **The public health costs of war**

February 24, 2022 saw the Russian invasion of Ukraine take place. This is a deeply regrettable event. Wars are abhorrent but sadly happen all too frequently. In the twentieth century, there has been conflict in every year around the world and an estimated 187 million people have died as a result of war.<sup>1</sup> These deaths include not just combatants but also civilians who in some conflicts have accounted for up to 90% of all deaths.<sup>2</sup> Currently, around 1.2 billion people live in conflict-affected areas.<sup>3</sup>

Some civilian deaths may have occurred as a direct result of fighting – collateral damage in the conflict. However, many deaths are the result of wider public health impacts of war whose consequences may linger long after the conflict ends. The Russian invasion of Ukraine has brought catastrophic suffering and health consequences for the civilian population.

Wars are complex health emergencies that lead to the breakdown of society and civil authority, damage and destroy state infrastructure and the economy. This creates insecurity, further exacerbating pre-war issues and inequalities. Even before the Russian invasion, the 8-year-long conflict in Eastern Ukraine had already left 3 million people in need of humanitarian assistance on both sides.<sup>4</sup>

Conflict also generates mass population movements, both within the country and externally. In the span of just 7 days, the war in Ukraine has triggered an exodus of a million refugees,<sup>5</sup> the fastest growing refugee crisis in Europe since the second world war. Heart breaking scenes of separated families and frightened and distraught refugees become all too commonplace, and the number of refugees continues to rise.

As in peacetime, wars do not affect all population groups equally. Women, children, the elderly, and people with disabilities are often the most in need. Women and women-headed households may be particularly vulnerable for a variety of reasons such as the precarity of their economic situation, risks during migration, loss of protective social networks, and lack of access to health care. Gender-based violence such as rape and sexual assault is a real threat. The conflict in Yemen for example led to a 70% reported rise in sexual violence.<sup>6</sup>

Wars leave many physically scarred and disabled. There are also substantial mental health consequences including depression and post-traumatic stress disorders.<sup>7</sup> War can result in significant psychological trauma, especially on children, and there are impacts on those who fight, those who are left behind, as well as on refugees. These mental health issues manifest both in the short term but also in the longer term. Consequently, mental health and psychosocial support will be needed.

The health system suffers too due to war damage to health infrastructure and the flight of health staff. In addition, interruptions to supply chains further hamper health services. Most hospitals rarely have significant stock of drugs and consumables beyond a few days due to storage constraints. These stocks will be rapidly depleted, especially consumables used for treating war injuries, such as antibiotics and dressings. Indeed, after just a week of fighting, medical oxygen supplies in Ukraine have run dangerously low, and there have been reported shortages of various medications including cancer drugs.<sup>8</sup>

As a result, the delivery of healthcare in war-affected Ukraine currently is extremely challenging. Furthermore, the full impact on the health system will be difficult to assess as health management information systems will undoubtedly have been impacted too. Primary healthcare services, as well as screening and immunisation programmes, will also be disrupted. This would translate to

suboptimal management of chronic diseases such as diabetes or heart failure, if at all. The disruption of cancer screening programmes too would mean cancers are diagnosed late or missed. Elective procedures and scheduled hospitalisations will be suspended by hospitals in order to focus on treating war-related injuries.

There is also a significant risk of infectious disease outbreaks arising from the disruption caused to immunisation programmes. For example, during the Syrian conflict there was a significant reduction in vaccination coverage for polio that led to a polio outbreak in 2017.<sup>9</sup> If the supply of safe clean water and functioning sanitation systems are compromised, these infectious disease risks will be further amplified. This is on top of the ongoing COVID19 pandemic burden. Indeed, just before war broke out, Ukraine was experiencing a significant wave of COVID and rising COVID-related deaths.<sup>10</sup>

Furthermore we must not forget the impacts on the people of Russia who will also experience significant challenges. Sanctions have been wielded in this conflict, but they have a questionable record. The impact of sanctions tends to be felt most by civilians through social disruption, as well as material deprivation including reducing health-related resources, such as drugs, vaccines, and equipment. A decade of economic sanctions imposed on Iraq in the 1990s did not remove Saddam Hussein from power. Instead, it was claimed to have led to a doubling in under 5 mortality.<sup>11</sup> Prolonged economic sanctions on Russia will almost certainly hurt ordinary civilians most.

Looking ahead, after a war, both economic losses and diseases are highly persistent - they don't stop once the fighting stops.<sup>12</sup> The aftermath of war is often characterized by insecurity, political fragility, unemployment, and shortages of all manner of goods. Infrastructure such as public utilities, transport and healthcare infrastructure will have been damaged, and health services will have degraded capacity, reduced range of services and staffing shortages. There will be residual economic effects in addition to social disruption. In addition, there will be the urgent task of clearing unexploded ordnance (UXO) that pose an ongoing threat to civilians. Bitter experience from previous wars, such as the Vietnam War, show UXOs can continue to maim and kill civilians many years later.<sup>13</sup>

When the fighting stops, there will be the need for disarmament and demobilization of former combatants, and the important task of reintegration, on top of the rebuilding & recovery. The post-war period will last many years and the war-torn country will need international support and funding to help recover and rebuild afterwards. Wars come with a huge human cost and reflect the moral failure of political leaders to resolve disputes peacefully. Peace too is delicate and takes effort to maintain. We should never take peace for granted.

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