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COVID-19's unsustainable waste management

The coronavirus disease 2019 (COVID-19) pandemic has led to an abrupt collapse of waste management chains. Safely managing medical and domestic waste is crucial to successfully containing the disease (1). Mismanagement can also lead to increased environmental pollution. All countries facing excess waste should evaluate their management systems to incorporate disaster preparedness and resilience.

Wuhan, the COVID-19 epicenter of China, experienced a massive increase of medical waste from between 40 and 50 tons/day before the outbreak to about 247 tons on 1 March (2). Cities such as Manila, Kuala Lumpur, Hanoi, and Bangkok experienced similar increases, producing 154 to 280 tons more medical waste per day than they did before the pandemic (3). Meanwhile, the widespread lockdown has caused a substantial increase in domestic waste in the United Kingdom (4). These large amounts of waste require collection and recycling, both of which are compromised as a result of manpower shortages and efforts to enforce infection control measures (5, 6).

Disrupted services have led to waste mismanagement increases of 300% in some rural UK communities (7). With fewer options available, traditional waste management practices such as landfills and incineration are replacing more sustainable measures such as recycling, with adverse effects on the environment (8). The U.K. Environment Agency further threatens the environment by allowing temporary storage of waste and incineration ash at sites that have not been granted a permit as is usually required (9, 10).

To address the overflow of medical waste, the United Kingdom and other affected countries should install mobile treatment systems near hospitals and healthcare centers (2). The design and analysis of sustainable waste management chains, including logistics, recycling, and treatment technologies and policies, should be prioritized (11). To reduce the socio-economic and environmental impacts of waste management, the whole system must be considered, including waste generation, collection, transport, recycling and treatment, recovered resource use, and disposal of remains. Protecting waste management chains will help achieve Sustainable Cities and Communities as outlined in the UN Sustainable Development Goals (12).

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