

# Health Care Without Harm Southeast Asia Position Paper

## Protecting Health, Protecting Our Planet: Addressing Plastic Waste Pollution in Healthcare Facilities

### Plastics and Healthcare

Significant advancements in medicine, including improved sanitation and sterility, were made possible by the breakthrough of plastics production in the mid-20th century. Plastics are heavily relied upon by the healthcare industry because of their affordability, adaptability, and durability. It is widely believed by healthcare facilities worldwide that alternative materials may not be as effective as plastics [1]. The notion that we cannot completely eliminate plastics led to an exponential increase in global plastic production, with an annual production volume of 460 Mt in 2019, a 230-fold increase from the 1950s, and will be on track to triple by 2060. Moreover, single-use plastics are the most rapidly growing plastic manufacturing segment, accounting for 35-40%. [2]

The entire life cycle of plastics, from extraction, transportation, refining, and manufacturing, is generally associated with human and planetary health risks. In the healthcare setting, there are many unique and specialized devices, and some of the more common products such as syringes, gloves, and personal protective equipment (PPE)[3] 99% of plastics come from fossil fuel, and to improve the plastic performance of medical devices, plasticizers, flame-retardants, fillers, and colorings, impact modifiers, and stabilizers are added which contain 80% hazardous chemicals [4].

It is worth noting that coal miners, oil workers, and gas field workers who extract fossil fuels for plastic production experienced an alarming increase in mortality rates due to diseases such as pneumoconiosis, silicosis, cardiovascular disease, chronic obstructive pulmonary disease, and lung cancer. Moreover, workers involved in plastic production are at a significantly higher risk of developing different types of cancer, including leukemia, lymphoma, and brain and breast cancer, and may also experience decreased fertility [2]. Unfortunately, poor healthcare waste management through the illicit reuse and recycling of medical plastics can cause exposure to infectious and toxic substances [5]. Plastics and plastic-associated chemicals are responsible for causing widespread pollution and environmental degradation, which has devastating health consequences. Because plastics are not generally biodegradable thus, human health impacts include damage to the health, nervous system, reproductive system, and potential cancer.

### Plastics: Toxic in all aspects, including by-products

Recent evidence also shows the increasing public health concern for microplastics because of their ubiquity ( <5mm, including nano-sized particles <1um). Hence, microplastics can potentially cause health effects through entry into the human body by inhalation and ingestion [5]. Pharmaceuticals are one of

the primary sources of microplastics, while other sources include deteriorating plastic products and by-products from waste incineration and landfills.

Waste management encompasses the refusal, reduction, collection, transport, segregation, and disposal of waste generators. There are various strategies to dispose of waste, such as recycling, sending it to a landfill, or incineration. For the longest time, all plastic waste management technologies (incineration, co-incineration, gasification, and pyrolysis) have been associated with the emission of toxic pollutants in stack gasses, ashes, and other residues [6]. These toxic pollutants include lead, mercury, organic substances (dioxins and furans), and acid gasses leaching into the soils and water, leading to direct and indirect exposure of patients, workers, and communities [7].

The methods of waste disposal, such as incineration, waste to energy, pyrolysis, plastics chemical recycling, and similar technologies can potentially pose risks to both human health and the environment [8]. Incinerating products harm the environment and health and cause the loss of valuable resources used in their production. According to the United Nations Environment Program (UNEP) Waste Management in ASEAN countries report, among the four ASEAN countries with updated hazardous waste inventory-Thailand is the highest generator, followed by the Philippines, Malaysia, and Singapore. Unfortunately, incineration is still predominantly used to treat healthcare waste in Southeast Asia countries. On the other hand, Brunei Darussalam, Cambodia, and Lao PDR have emerging plastic waste streams in recycling. Thus, it only indicates that despite the pervasive nature of plastics pollution in the region, recycling infrastructure remains limited. Therefore, it is high time that we immediately address this problem and prioritize reducing production, reuse, repurposing, or recycling such items to promote sustainable economic practices, a healthy environment, and a healthy population [9].

Health Care Without Harm Southeast Asia (HCWH-SEA) calls upon all healthcare waste facilities and institutions to ban all unnecessary plastic by reducing and progressively eliminating plastics significantly. Healthcare facilities should also demand transparency about the chemical composition of plastics and ensure labeling on polymers and their additives is a requirement. Furthermore, the health sector should also ban false solutions to plastic pollution, including chemical recycling and waste to energy to process plastic waste.

**Healthcare professionals can be a steward in protecting environmental health from the impacts of plastic pollution.** Actively participating in advocacy and eliminating unnecessary or problematic plastics and hazardous chemicals can be achieved by prioritizing high-value durable uses such as reusable and refillable products or removing plastic that is not delivering a necessary function.

It is high time that the health sector also becomes part of the solution because we have seen a significant contribution to the increase in the plastics generated due to the COVID-19 pandemic and beyond.

**Calls to Action for Policy Makers:**

- Implement policies to reduce unnecessary plastics, with progressive goals until complete elimination
- Ensure mandatory product labeling on polymers and additives, and support informed decisions throughout the whole lifecycle of plastics.
- Maximize the circularity of plastic products by design for long useful life, and ensure they can be mechanically recycled at the end of their useful life without imparting legacy toxics to recycle.
- Incorporate measures that address intentionally manufactured items and unintentionally created plastics pollution. Examples of unintentional plastics pollution could include microplastics generated during use (such as fibers released during laundering) and microplastics generated by the breakdown of discarded items in the environment.
- Ban false solutions to plastic pollution, including chemical recycling and waste to energy

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