LCQ21: Disposal of waste medicine from households

Following is a question by the Hon Michael Tien and a written reply by the Secretary for the Environment, Mr Wong Kam-sing, in the Legislative Council today (June 5):

Question:

Under the existing legislation, the storage, collection, transport and disposal of chemical waste must comply with the relevant regulations. As only waste medicine and injections generated by healthcare institutions such as hospitals and clinics are classified as chemical waste, the disposal of waste medicine from households is not regulated. It is learnt that at present, members of the public generally throw their leftover medicine into toilet bowls or discard them together with domestic waste, which is then transported to landfills. It has been reported that according to the findings of a study conducted last year, the samples of leachate taken from three landfills generally contained human antibiotics, at levels exceeding the limits by five to 53 times. The researcher concerned has pointed out that leachate, after treatment, still contains antibiotic residues which, upon discharge into the sea, will affect the marine ecosystem and enter the human food chain, resulting in the development of antibiotics-resistant microorganisms. In this connection, will the Government inform this Council:

(1) whether it will, in the light of the findings of the aforesaid study, review and tighten the existing regulation on the disposal of waste medicine from households; if it will tighten the regulation, of the specific measures; if not, the reasons for that;

(2) whether it will, by drawing reference from the experience of overseas countries, explore the implementation of a trial scheme on collection of waste medicine from households (e.g. setting up collection boxes for drugs); if so, of the details; if not, the reasons for that; and

(3) whether it will conduct an in-depth study on the amounts of pharmaceutical residues in the environment and their impacts; if so, of the details; if not, the reasons for that?

Reply:

President,

Responses of the Environment Bureau to the various parts of the question raised by the Hon Michael Tien are as follows:

The landfills in operation in Hong Kong are installed with multi-layer composite liner system covering the entire base area. All leachate (i.e. the sources of wastewater samples taken for the study mentioned in the question)

arising from decomposition of landfilled waste is collected, treated and discharged into public sewers according to statutory standards, and released via sewage treatment works managed by the Drainage Services Department (DSD). According to the research conducted by the DSD, the sewage treatment works in Hong Kong can effectively remove some of the pharmaceutical residues in the sewage, including antibiotics, as similarly concluded in related overseas research findings. Therefore, the amount of the pollutants, including antibiotics that may be present in the effluent will have been greatly reduced after the aforementioned treatment procedures.

Furthermore, the World Health Organization published a research report on the issue of residual pharmaceuticals in the environment in 2012, pointing out that the level of pharmaceuticals remaining in the environment is normally low, and the amounts in drinking water sources generally do not pose any risk to human health. According to the studies published by local academics in 2016 and 2018, the concentrations of antibiotics detected in river waters of Hong Kong were generally low, and were lower than that in various rivers of Europe, North America, Australia, and the Pearl River of China. It is believed that the trace amounts of antibiotics that have been discharged into the sea via Hong Kong's rivers present a very low impact on the marine environment and are unlikely to have any effect on public health.

Making reference to the current scientific findings on environmental waters, and the treatment, discharge arrangement and standards for landfill leachate in Hong Kong, as well as the fact that since antibiotics prescribed by doctors generally need to be finished in total by the patients and the actual amount of unconsumed pharmaceuticals containing antibiotics that are mixed with household waste or in domestic sewage is very small, the associated environmental pollution or the impact on human health would be very mild. The Government therefore considers that currently there is no need to regulate the disposal of waste medicine from households or implement a trial scheme on its collection. Nevertheless, together with the Food and Health Bureau, the Environment Bureau will continue to keep in view international research and advancement in antibiotic issues, and the Environment Bureau will also review the need for a more in-depth study on residual pharmaceuticals in the environment according to the developments.