Impact of COVID-19 on healthcare waste: a case study of Latvia

Beate Zlaugotne, Jelena Pubule, Silvija Nora Kalnins, Dagnija Blumberga

Institute of Energy Systems and Environment, Riga Technical University, Riga, Latvia

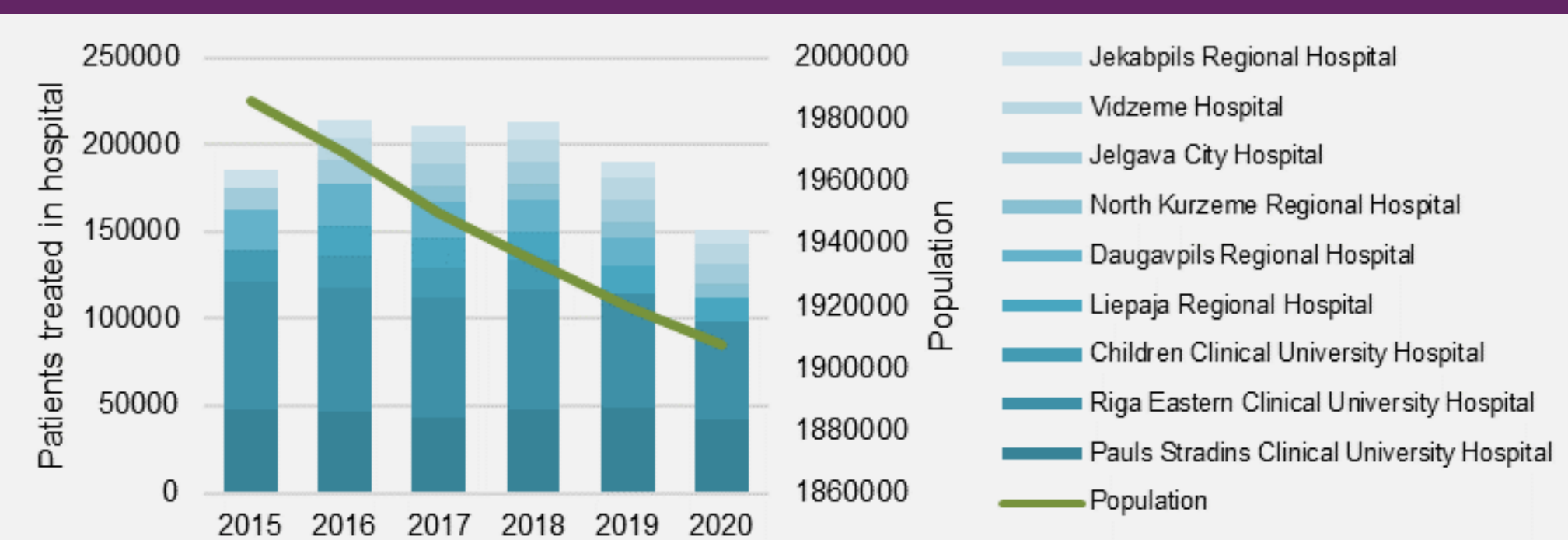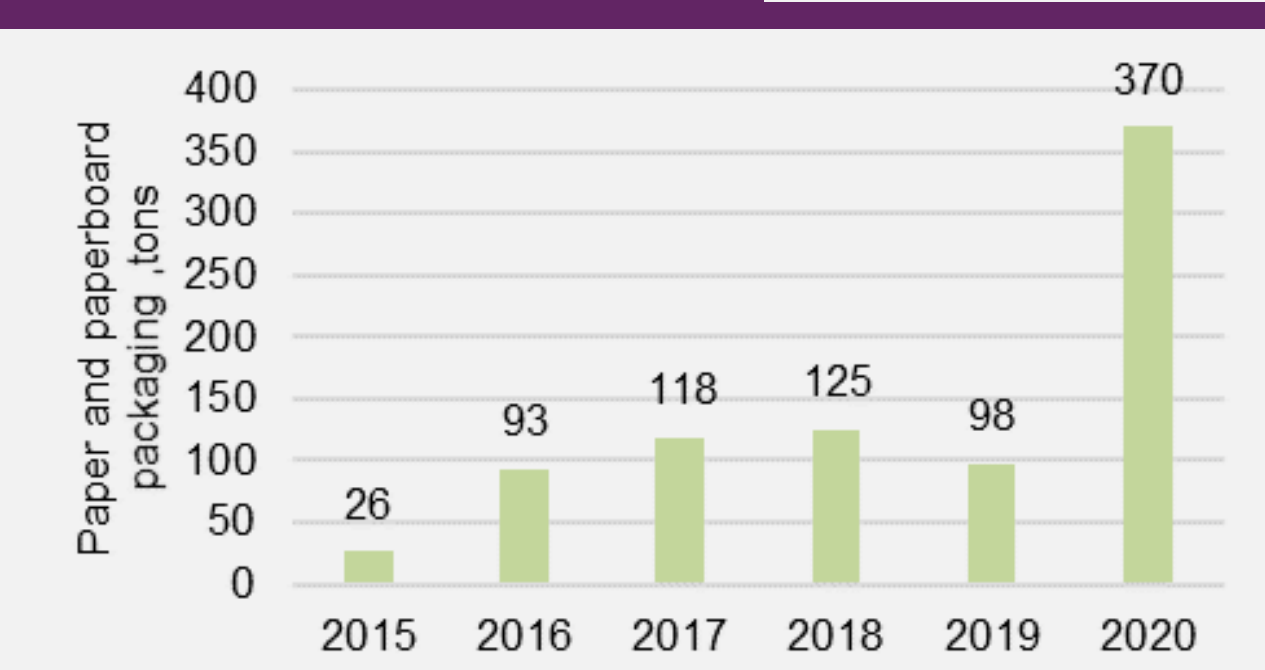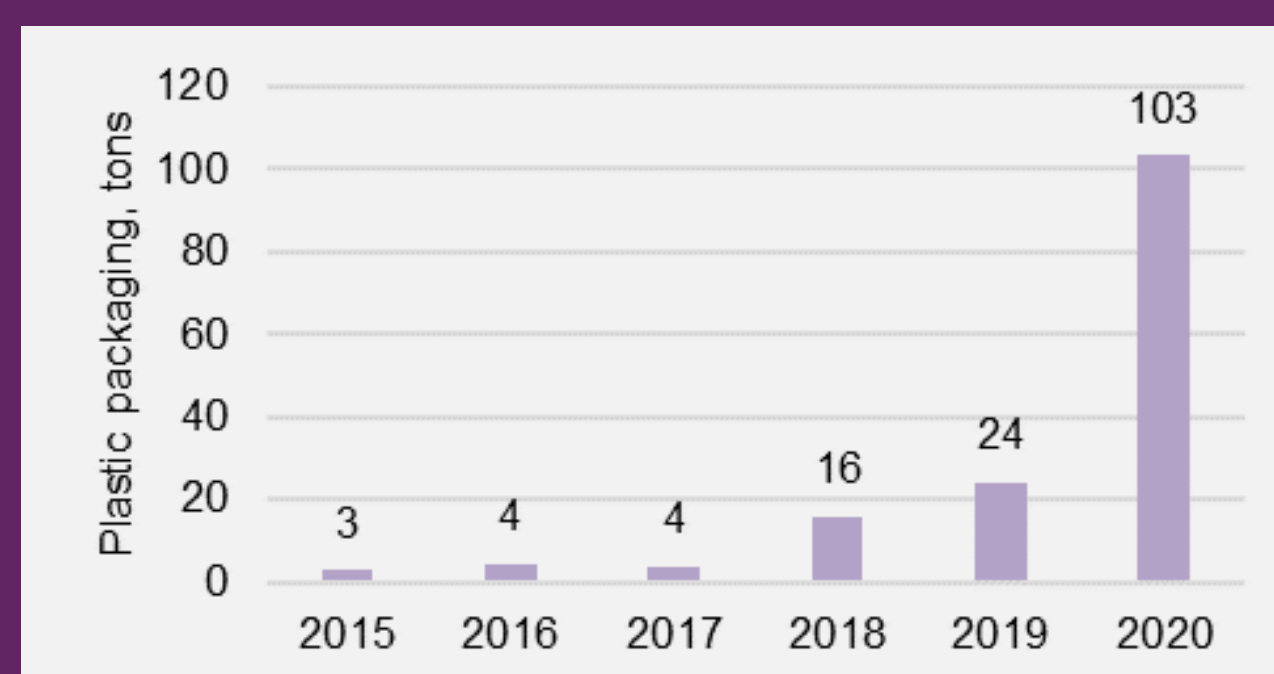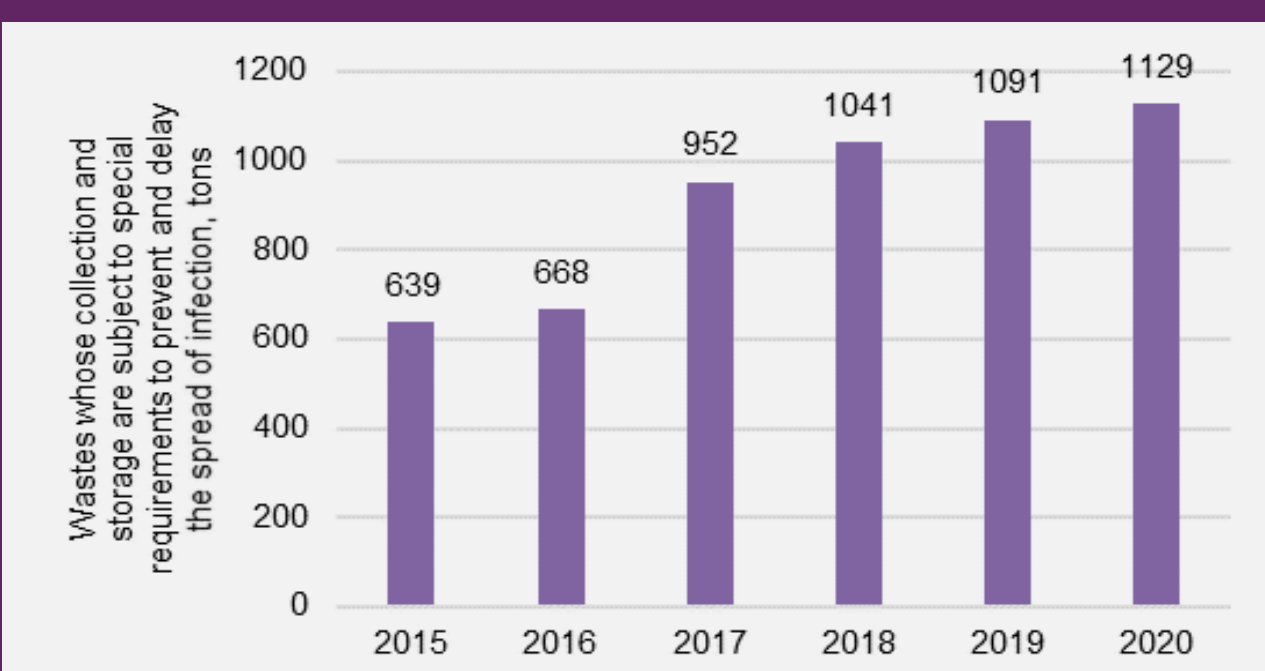RIGA TECHNICAL UNIVERSITY 1862

RTU IESE

conect

Changes in the number of hospitalised people in Latvia's largest hospital and the changes in the population from 2015 to 2020. Over time, the population has decreased, and the number of people hospitalised also has.

Impact of the COVID-19 pandemic on hospital waste

Introduction

Healthcare is one of the rapidly growing sectors as healthcare becomes more and more complex and because of the increasing incidence of chronic disease, which makes the risk more accessible to society. Waste from healthcare facilities is considered the second most hazardous waste after radiation waste.

The healthcare sector accounts for 4-5% of total GHG emissions and plastic production has more than doubled since the COVID-19 pandemic, raising concerns about impacts on freshwater, oceans, and air quality (from combustion) and the long-term effects of persistent nano plastic particles. The amount of medical waste has risen to 40% during the pandemic. The pandemic has also impacted waste treatment.

Results

According to hospital waste reports, most of the waste is unsorted municipal waste (80%), with specific requirements for collection and storage to prevent and delay the spread of infection (8%), construction waste (3%), biodegradable waste (1.4%), bulky waste (1.3%), and paper and cardboard packaging (1.3%).

The pandemic has led to an increase in waste from healthcare facilities. The amount of packaging waste has increased up to 10 times, with specific requirements for collection and storage to prevent and delay the spread of infection.

Methodology

The COVID-19 pandemic has increased the amount of healthcare waste, a third of which is plastics from research, testing, diagnosis, and treatment processes.

Challenges to waste management in healthcare facilities during the COVID-19 pandemic include increased infectious waste generation, waste management disruption, mismanagement and insufficient waste treatment and disposal capacity. Before recycling hazardous healthcare waste, it must be sterilised to avoid risks to humans and the environment.

The amount of healthcare waste generated depends on population changes, the prevalence of different diseases, different types of accidents, and natural disasters. Healthcare waste grows exponentially in infectious disease outbreaks.

Conclusions

The impact of a pandemic on waste generation is much faster, and waste managers find it more challenging to cope with large amount of waste. Even in crises, as is now the case with the COVID-19 pandemic, there is a need to separate waste as much as possible to use resources more efficiently. There is also a need to think about producing more sustainable products in the healthcare sector to reduce the environmental impact.