

# **A longitudinal randomized controlled trial to evaluate the long-term effectiveness of a household food waste reduction intervention during the COVID-19 pandemic**

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## **Abstract**

The COVID-19 pandemic has had major impacts on food purchasing and consumption behaviours in many countries. The pandemic may also have amplified the multiple environmental, social, and economic implications of household food waste. A better understanding of household food wasting during the pandemic is needed to improve the management of waste and develop best practices for waste management programs under crisis circumstances. To cut in half the per capita global food waste by 2030, policies and programs that effectively reduce household food waste generation are needed. This study assessed the impact of the COVID-19 pandemic on household food wasting in the midsized Canadian city of London, Ontario. Additionally, a primary aim was to evaluate the long-term effectiveness of the “Reduce Food Waste, Save Money” household food waste reduction intervention by comparing direct measurements of household food waste across 99 study households over two times periods, October 2017 and June 2020. This study builds upon a previous randomized controlled trial intervention study by undertaking a precise comparison of the quantity and composition of food wasted by the study households for an additional (third) timepoint, during the first wave of the COVID-19 pandemic. While the generation of avoidable food waste remained remarkably stable over time for both treatment (+1.6%) and control (-0.6%) households, there was a significant increase ( $p < 0.01$ ) in the amount of unavoidable food waste generated by all households (+65.5%). This finding suggests that households are likely preparing and consuming more meals at home than they did prior to the outbreak. Additionally, the “Reduce Food Waste, Save Money” intervention was found to have a long-term, sustained impact on avoidable food waste generation in treatment households.

**Keywords:** Household food waste, COVID-19, intervention, randomized controlled trial, longitudinal study, direct measurement

**Acknowledgments:** This work was supported by the City of London (Canada) and the Social Sciences and Humanities Research Council of Canada (Grant #430-2017-01113).