

## The burden of preventable deaths attributable to second-hand smoke in Southeast Asia – analysis of the Global Burden of Disease Study 2019

Janni Leung<sup>1,2,4</sup>, Carmen Lim<sup>1,2</sup>, Tianze Sun<sup>1,2</sup>, Giang Vu<sup>1,2</sup>, Caitlin McClure-Thomas<sup>1,2</sup>, Yanping Bao<sup>3</sup>, Thomas Santo Jr<sup>4</sup>, Lucy Tran<sup>4</sup>, Fitri Fausiah<sup>5</sup>, Ghea Farassania<sup>5</sup>, Gary Chung Kai Chan<sup>1</sup>, Susy Katikana Sebayang<sup>6,7</sup>

<sup>1</sup>National Centre for Youth Substance Use Research, The University of Queensland, Brisbane, Australia, <sup>2</sup>School of Psychology, The University of Queensland, Brisbane, Australia, <sup>3</sup>National Institute on Drug Dependence and Beijing Key Laboratory of Drug Dependence, Peking University, Beijing 100191, China, <sup>4</sup>National Drug and Alcohol Research Centre, University of New South Wales, <sup>5</sup>Faculty of Psychology, Universitas Indonesia, Jakarta, Indonesia, <sup>6</sup>Research Group for Health and Well-being of Women and Children, Universitas Airlangga, Banyuwangi, Indonesia, <sup>7</sup>Public Health Study Program, School of Health and Life Sciences, Universitas Airlangga, Banyuwangi, Indonesia

Presenter's email: [j.leung1@uq.edu.au](mailto:j.leung1@uq.edu.au)

**Introduction:** We aim to estimate the burden of preventable deaths due to tobacco and second-hand smoke (SHS) exposure in Southeast Asia.

**Method:** This study used data from the Global Burden of Disease study 2019 to estimate the number of deaths attributable to tobacco and SHS exposure in Southeast Asia. The study focused on Southeast Asia, including Cambodia, Indonesia, Lao, Malaysia, Maldives, Mauritius, Myanmar, Philippines, Seychelles, Sri Lanka, Thailand, Timor-Leste, and Vietnam. The main outcome measures were the number of deaths attributable to SHS exposure, age-standardized rates, and cases of death by specific disease causes.

**Results:** There were 728,500 deaths attributable to tobacco in Southeast Asia, with 128,200 deaths attributed to SHS exposure. The leading causes of preventable deaths were ischemic heart disease, stroke, diabetes mellitus, lower respiratory infections, chronic obstructive pulmonary disease, tracheal, bronchus, and lung cancer. Among deaths attributable to tobacco, females had higher proportions of deaths attributable to SHS exposure than males, both overall and in each country in Southeast Asia.

**Discussions and Conclusions:** The burden of preventable deaths due to SHS exposure in Southeast Asia is substantial. Future research on additional disease burden that did not result in death, including in chronic disease among children are warranted. The implementation and enforcement of smoke-free policies should be prioritized to reduce the disease burden attributed to passive smoking in Southeast Asia.

**Disclosure of Interest Statement:** *National Centre for Youth Substance Use Research (NCYSUR) is funded through the Australian Government Drug and Alcohol Program. JL acknowledges funding from the University of Queensland Global Strategy and Partnerships Scheme. JL, CL, and GC are supported by the National Health and Medical Research Council. YB acknowledges funding from National Programs for Brain Science and Brain-like Intelligence Technology of China (STI2030-Major Projects 2021ZD0200700) and National Natural Science Foundation of China (82171514). The funding sources had no role in the design of this study and did not have any role during its execution, analyses, interpretation of the data, or decision to submit results.*