IADR INTERNATIONAL ASSOCIATION FOR DENTAL, ORAL, AND CRANIOFACIAL RESEARCH

FOR IMMEDIATE RELEASE
June 29, 2025

CONTACT:
Matt Niner
+1.703.299.8084
media@iadr.org

Productivity Losses by Age Due to HPV-Associated Oropharyngeal Cancer

Alexandria, VA, USA – A study investigating productivity losses in populations with and without Human Papillomavirus vaccination in Singapore was presented at the 103rd General Session of the IADR, which was held in conjunction with the IADR/Pan European Regional Congress on June 25-28, 2025 in Barcelona, Spain.

The link between Human Papillomavirus (HPV) and oropharyngeal cancer is well-established. Recent research has suggested that younger adults may be getting diagnosed with oropharyngeal and other HPV-associated cancers at a higher rate than before. This may have significant economic implications due to productivity losses.

The study employed a simulation model to estimate the total value of economic losses from reduced labour force participation due to oropharyngeal and other HPV-associated cancers by age, sex, and cancer type. A Cox regression estimated multi-year survival probabilities using national cancer registry data on 17,294 Singaporean adults from 1992 to 2022. Survival probabilities were combined with data on income, cancer-related sick leave and unemployment, prevalence, and bivalent HPV vaccination effectiveness data to estimate changes in expected productivity by age and cancer diagnosis. Uncertainty was propagated through input parameters using Monte Carlo sampling over 1,000 iterations. All figures were reported in 2025 Singaporean dollars (SGD$).

Oropharyngeal cancer diagnosis led to significant lifetime income losses due to reduced labor force participation, depending on age at diagnosis. Women diagnosed at age 40 lost a lifetime income of SGD$1.26 million, while women diagnosed at age 65 lost a lifetime income of SGD$140,000. While bivalent HPV vaccination was not cost-saving for oropharyngeal cancer alone, it was cost-saving when applied to all HPV-associated cancers, with a net economic benefit of SGD$8,397 per person vaccinated.

The changing epidemiology of oropharyngeal and other HPV-associated cancers has the potential for significant economic consequences due to reduced labor force participation among affected adults. Vaccination is an effective tool for reducing burden and may be considered as an economic as well as healthcare intervention.

The abstract, “Productivity Losses by Age Due to HPV-Associated Oropharyngeal Cancer” was presented by Robin Blythe of the Duke-NUS Medical School, Singapore

during the "Oral Health and Disease" Poster Session that took place on June 27, 2025 at 11 a.m. CEST (UTC+2).

About IADR
The International Association for Dental, Oral, and Craniofacial Research (IADR) is a nonprofit organization with a mission to drive dental, oral, and craniofacial research for health and well-being worldwide. IADR represents the individual scientists, clinician-scientists, dental professionals, and students based in academic, government, non-profit, and private-sector institutions who share our mission. Learn more at www.iadr.org.