

Trend Analysis of Medical Adverse Events (2014-2020) – Findings from Taiwan Patient Safety Reporting System

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Introduction: Medical adverse event (MAE) reporting and management are the cornerstones of patient safety campaign. There is a need to follow the changes of MAE epidemiology in order to understand the effectiveness of patient safety improvement efforts. This study aims to analyze the trend of MAEs with focuses on their occurrences and severity of harms.

Methods: Longitudinal MAEs secondary data (years 2014-2020) of 18 hospitals were retrieved from the Taiwan Patient-safety Reporting system (TPRs) database. Reporting numbers and incidences (per 1,000 hospitalization inpatient-days) of MAEs were calculated and compared. The harm severity levels were analyzed for 6 major MAE categories. Trend and generalized estimation equation analysis were conducted to investigate the changes of MAEs patterns.(Figure 1.)

Results: In general, the trend analyses show remarkable declines of harmful MAEs reporting numbers (4763 to 3107 per year, $T_{JT} = -1.952$, $p = 0.05$) and incidences (0.92 to 0.62 per 1000 inpatient days, $\beta = -0.5017$, $p=0.00$) over a period of 7 years. By category, tube-related events take less share among major MAEs (28% to 23.8%, $T_{JT} = -2.854$, $p=0.00$). Falls and tube-related events drop significantly in reporting numbers, incidences, and harm severity ($p<0.05$).

Conclusion: The study, by analyzing representative MAEs data, proves the effectiveness of longitudinal, nation-wide patient safety improvement campaign in Taiwan. Our data show that there are significant reductions in the reporting number, incidence, and harm severity of major MAEs. The shift of tube-related incidences and severity profile are the most rewarding patient safety efforts.

Disclosure of Interest: None Declared

Keywords: medical adverse event (MAE), Taiwan Patient-safety Reporting system (TPRs)



Taiwan Patient-safety Reporting System -Annual Report

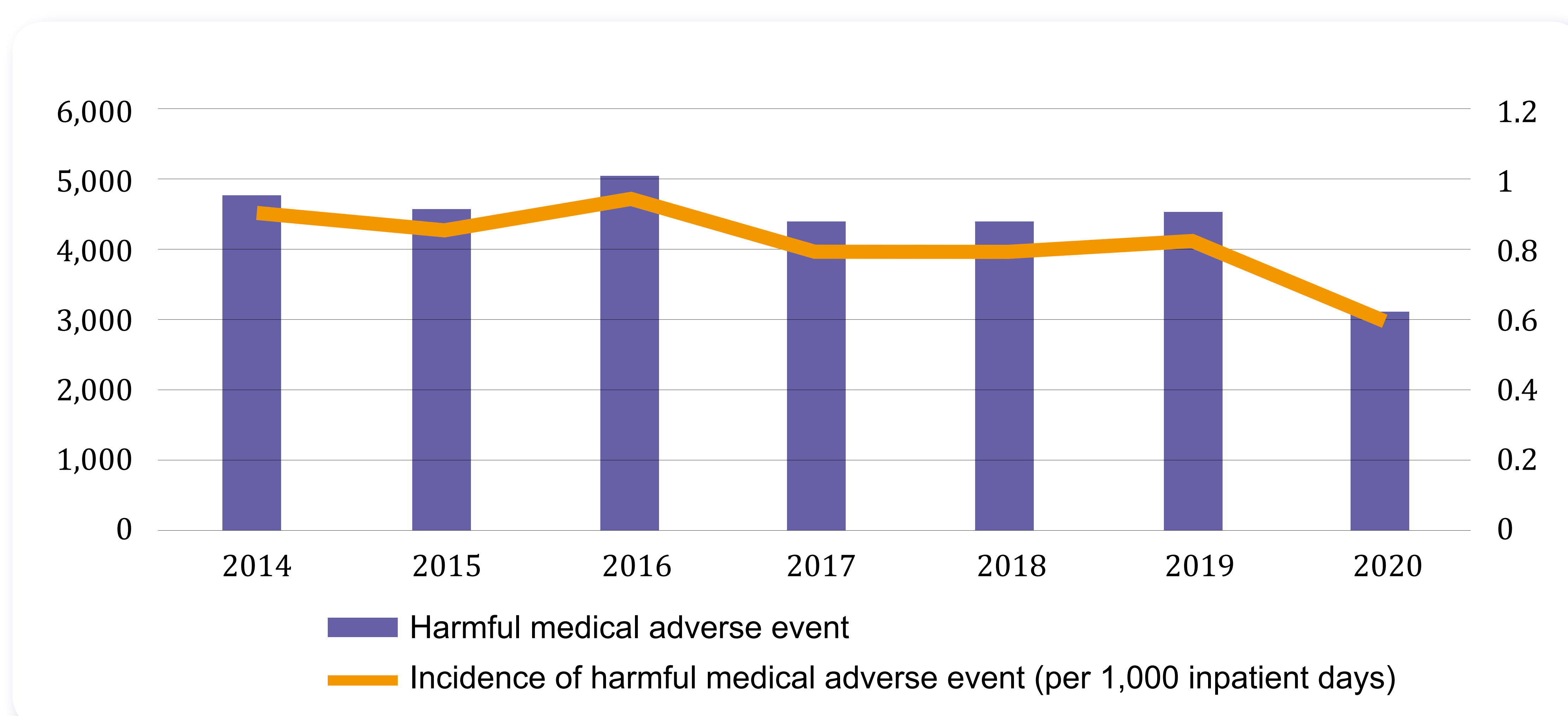


Figure 1. Reporting Number and Incidence of Medical Adverse Events (2014-2020)