

# In-Hospital Delirium: Prevalence and Risk Factors

Katrina Yuen<sup>1,2</sup>, Dean McKenzie<sup>1</sup>, Tracy Chorley<sup>1</sup>

1. Epworth HealthCare
2. Melbourne Medical School, The University of Melbourne



## Introduction

### Delirium

- Is an **acute state of confusion** characterized by an alteration in attention, consciousness and cognition.
- Is listed as one of the 16 **hospital acquired complications (HACs)** by the Australian Commission on Safety and Quality in Health Care (ACSQHC).

## Aims

- To describe the prevalence of in-hospital delirium over a 5-year period (2018-2022), spanning the COVID period.
- Explore possible risk factors in order to improve early delirium detection, treatment and prevention.

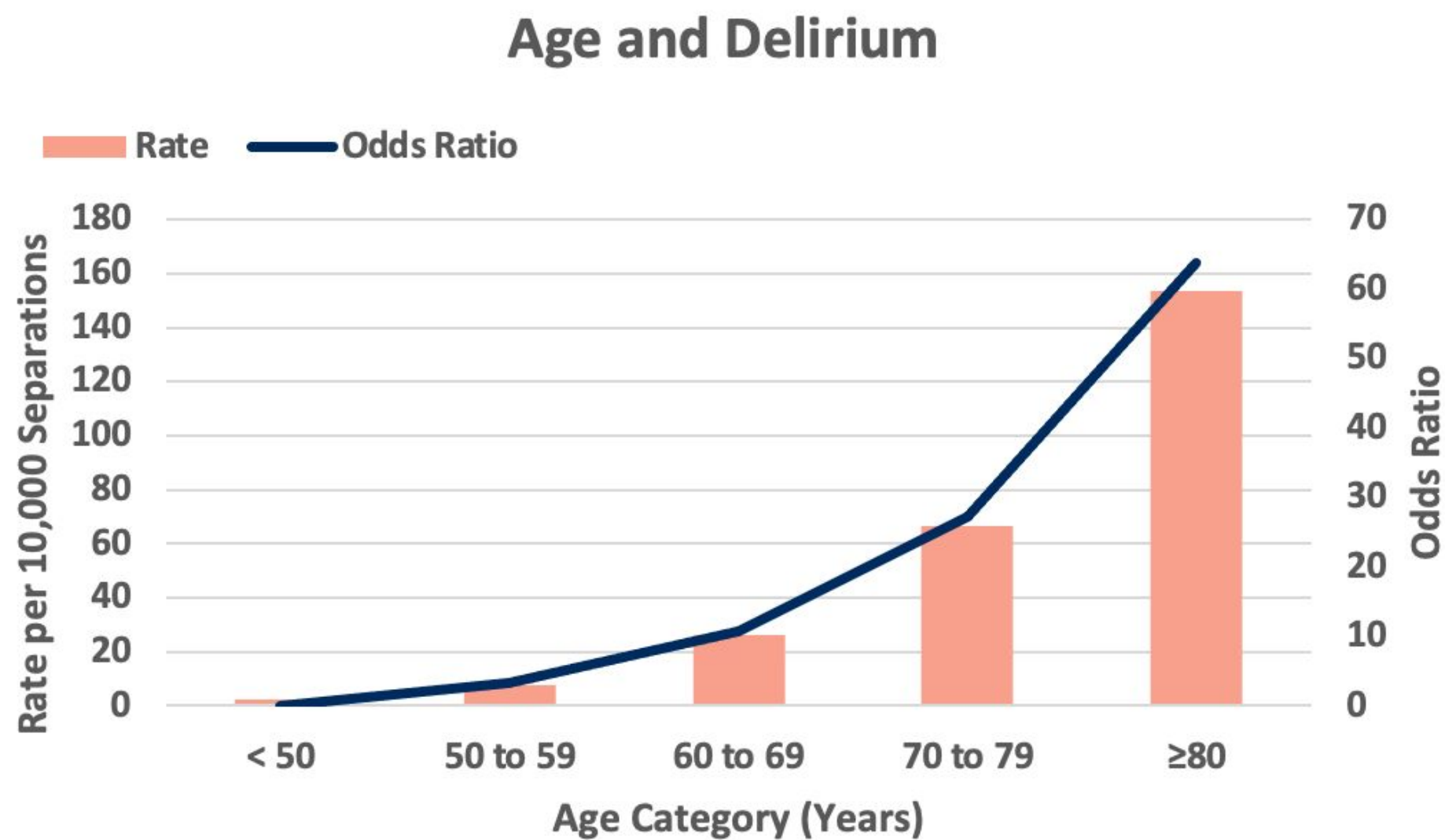
## Methodology

- Retrospective data analysis
- Data collected from Epworth HealthCare iPM patient management system.
- Inclusion criteria: Episodes of in-hospital delirium between 2018-2022 across Epworth Hospitals.

## Results and Discussion

### Age

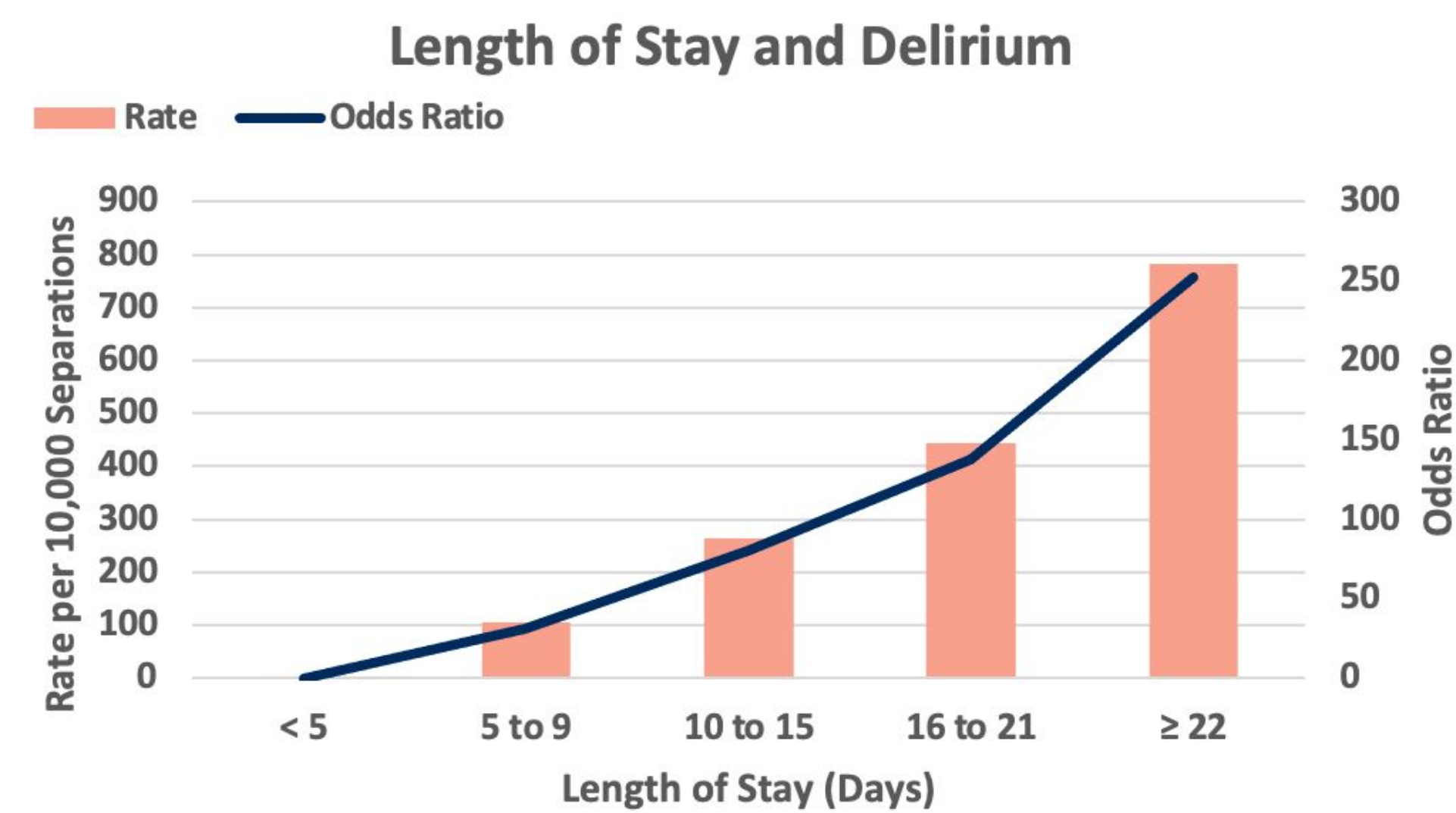
Age Category	Delirium	Total Separations	Rate per 10,000 Separations	Odds Ratio	95% Confidence Interval (CI)	p-value
< 50	75	306197	2.4	-		
50 to 59	93	118273	7.9	3.2	2.4 - 4.4	<0.001
60 to 69	400	152762	26.2	10.7	8.4 - 13.7	<0.001
70 to 79	994	149556	66.5	27.3	21.6 - 34.5	<0.001
≥80	1301	84656	153.7	63.7	50.5 - 80.4	<0.001
Total	2863	811444	35.3			



- The odds of having delirium **increases with age**.
- The chance of delirium in patients 80 years of age or over is 63.7 times higher than patients younger than 50.

### Length of Stay (Days)

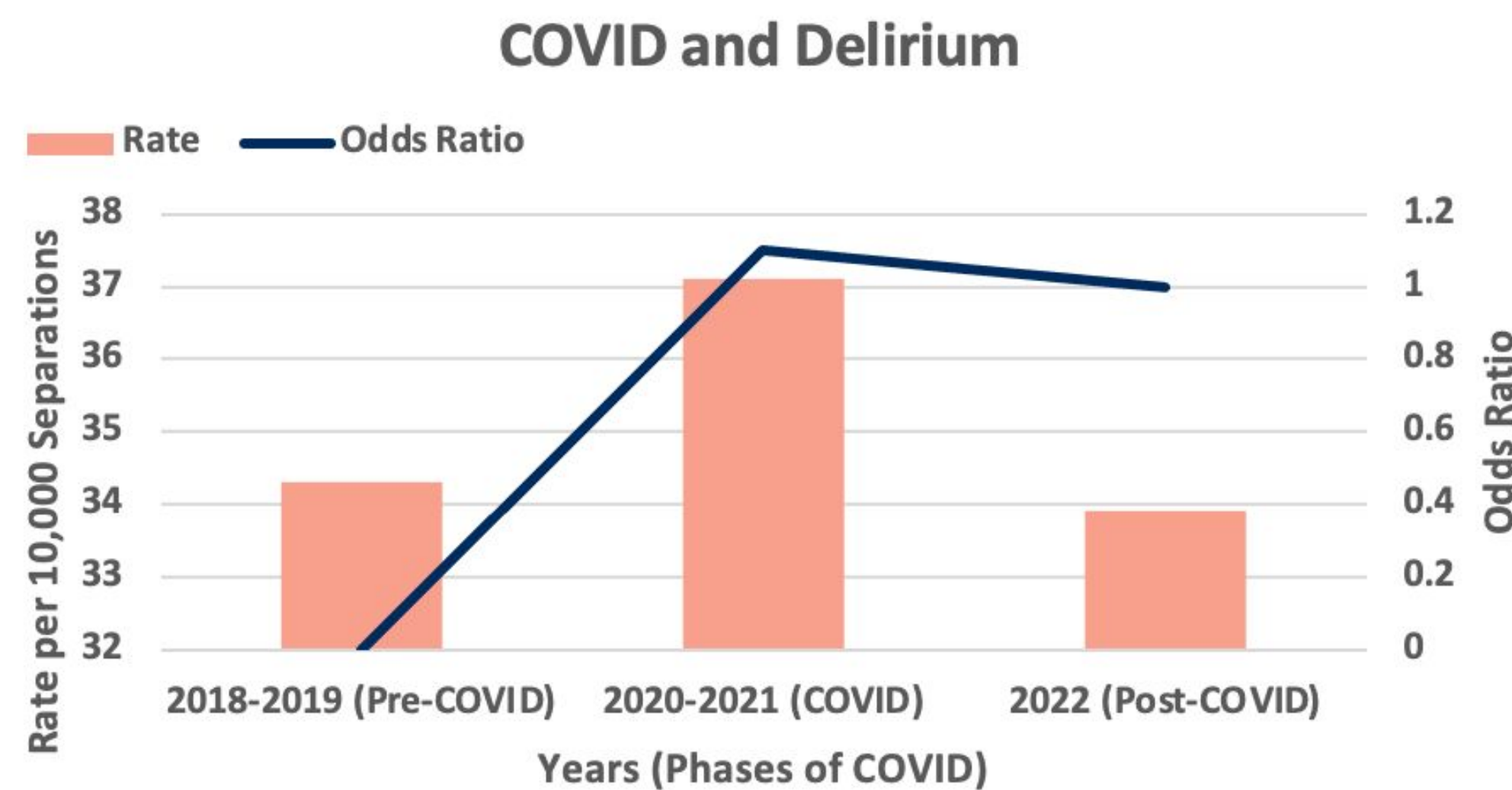
Length of Stay (Days)	Delirium	Total Separations	Rate per 10,000 Separations	Odds Ratio	95% Confidence Interval (CI)	p-value
< 5	235	698002	3.4	-	-	
5 to 9	705	67543	104.4	31.3	27.0 - 36.3	<0.001
10 to 15	693	26182	264.7	80.7	69.6 - 93.7	<0.001
16 to 21	409	9233	443.0	137.6	117.1 - 161.8	<0.001
≥ 22	821	10484	783.1	252.3	217.9 - 292.0	<0.001
Total	2863	811444	35.3			



- The odds of having delirium **increases with length of stay**.
- The chance of delirium in patients with a hospital stay of 22 days or more is 252.3 times higher than patients with less than 5 days of hospital stay.

### Phases of COVID (Year)

Phases of COVID (Year)	Delirium	Total Separations	Rate per 10,000 Separations	Odds Ratio	95% Confidence Interval (CI)	p-value
2018-2019 (Pre-COVID)	1119	326512	34.3	-	-	
2020-2021 (COVID)	1165	314269	37.1	1.1	1.0 - 1.2	0.060
2022 (Post-COVID)	579	170663	33.9	1.0	0.9 - 1.1	0.843
Total	2863	811444	35.3			



- There was a **slight increase in the number of delirium episodes during COVID (2020-2021)**, however, it was not statistically significant.

## Conclusions

- Older patients and patients with a longer length of stay in hospital tend to have a higher probability of delirium.
- Whilst there may be a potential connection between the incidence of delirium in older patients and increased length of stay, it does not imply that delirium was the cause. Improving time-stamped data capture would be beneficial to draw meaningful conclusions about cause and effect.