

Background

- Ageing population is a major health care problem all over the world. In Singapore, as of 2020 population census, senior citizen (65 years and above) consists of 15.2 % of total population, which has increased from 9 % in 2010. By 2030, one in five Singaporeans will be more than 65 years old¹. Thus, nursing home (NH) is an important pillar of a health care system.
- Nursing home staff are in the front line to manage common infections. However, the inexperience and the lack of guidance have led to inappropriate transfer to acute hospitals.
- Infectious Diseases Community Program (IDCP) is the project to enhance partnerships with NHs. We work with NHs to develop, adapt, and implement relevant and appropriate processes related to infection control, prevention and management. One of our objectives is the enhancement of assessment and appropriate evaluation of common infective symptoms.

Objective

To reduce the inappropriate admissions to acute hospitals from nursing homes.

Method

Fever and desaturation pathway (figure 1) was developed by IDCP team and in discussion with the NHs. By 2018, all six participating NHs have adopted the pathways. Out of 6 NHs, 4 NHs are using NUHS pathway and 2 NHs are using the pathway similar to NUHS version. NH staffs were trained on its usage. The study was approved by NHG domain specific review board (DSRB) for hospital in-patient's record review. All admission records were reviewed. We compared the rate of inappropriate admission from year 2015-2017 which serve as a baseline and year 2019-2020 which serve as post implementation. The year 2018 was considered as wash-out period when NHs were implementing the pathway.

Inappropriate admission is defined as

- The admission is against advance care planning (ACP) / preferred plan of care (PPC)
- OR
- The criteria in the pathway are not met upon admission, 48 hours later and there is no other medical reason for admission.

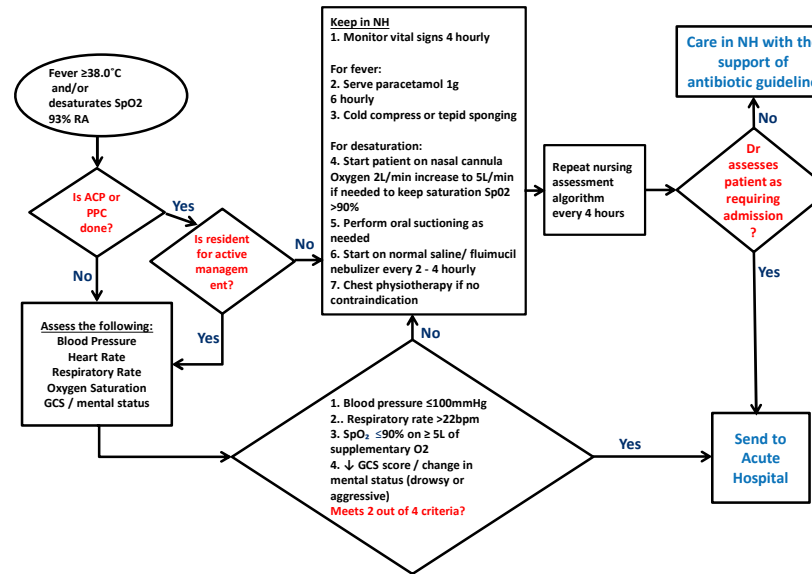


Figure 1: Fever and Desaturation pathway

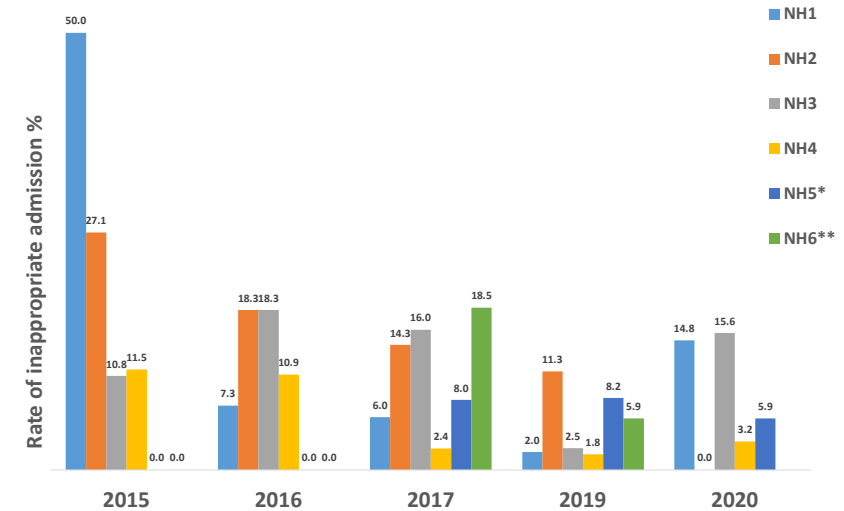
Results

Total number of fever admissions was 950 in 2015-2017 and 688 in 2019-2020. The number of inappropriate admissions was 115 in 2015-2017 and 50 in 2019-2020. The rate of inappropriate admission was 12.11 % in 2015 to 2017 and 7.27 % in 2019 to 2020 (table 1).

40 % reduction in inappropriate admission

	Year 2015 – Year 2017	Year 2019 – Year 2020
Total fever transfer	950	688
Number of inappropriate admission	115	50
Rate of inappropriate admission (%)	12.11	7.27

Table 1: Overall rate of inappropriate admission



*NH5 data are only available for 2017, 2019 and 2020. **NH6 data are only available for 2017 and 2019.

Figure 2: Rate of inappropriate admissions of 6 participating NHs from year 2015-2020.

There is a decreasing trend in the rate of inappropriate admission after the usage of pathway from year 2018 across all NHs.

Conclusions

Adopting fever and desaturation pathway in nursing home has reduced the rate of overall inappropriate admission in six participating nursing homes in Singapore. However, there is an increasing trend in inappropriate admission in the year 2020. This could be due to the lack of fever isolation facility in the NHs during the COVID-19 pandemic. We are continuing the implementation of the pathway to the rest of the NHs in the western region of Singapore.

References

- Wendy Low and Sarah Ng: Statistics Singapore Newsletter. The International Comparison Program: An Overview and the Latest Results, Issue 1,2022.

Acknowledgement

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