

# A Winter Surge Wellness Program to keep COPD patients in the community

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## Introduction

Chronic obstructive pulmonary disease (COPD) is characterized by persistent and progressive respiratory symptoms with significant airflow limitation due to chronic inflammatory response in the airways and leads to the destruction of lung tissues. It is commonly caused by exposure to noxious particles or gases, such as cigarette smoking. COPD patients have chronic and progressive symptoms of dyspnea, cough and sputum production (1). It is a common cause of AED admission and readmission and it will be the top 4 disease causing mortality projected for 2030 globally. (2) It was shown that 31% patients reported acute exacerbations of COPD requiring hospital admission while 15% of patients reported multiple events during a 3-year study. (3) Smoking cessation and influenza vaccine are highly recommended to all COPD patients (1). Therefore, this study aimed to investigate the effect of patient-empowered Winter Surge Wellness Program (WSWP) on the AED utilization in the winter-surge period.

## Methodology

All known COPD patients (with ICPC R95, ICD9 496 or ICD10 J44) ever attended medical consultation in NTEC General Out-patient Clinic (GOPC) were included in the study using Clinical Data Analysis and Reporting Systems (CDARS) of Hospital Authority. They were contacted by Nurse and Allied Health Clinic Respiratory management program (NAHC RESP) team, including physiotherapist, nurse and occupational therapist. Patients were contacted via phone call or mail for inviting them to join the program. The wellness program was organized in five designated clinics in Shatin, Tai Po and North district which includes Lek Yuen GOPC, Ma On Shan GOPC, Yuen Chau Kok GOPC, Fan Ling GOPC and Tai Po Jockey club GOPC since 30<sup>th</sup> October, 2019. The patient-empowered educational class highlighted on prevention and management of seasonal influenza which included promoting seasonal vaccination, personal hygiene such as proper hand washing, mask wearing, self-monitoring of symptoms, crisis pack education, revision of inhaler puff technique, exercises advice and smoking cessation, participants were arranged to have seasonal vaccination on the class. An NAHC RESP hotline was set up for enquiry and to triage these patients with worsened symptoms, phone advices would be provided and medical consultation in GOPC would be arranged based on their signs and symptoms. The data was retrieved from 30/10/2019 to 13/2/2020 which is the period of winter surge in 2019/2020 by using CDARS.

## Result

2,262 COPD patients under the catchment of NTEC GOPCs were contacted, with 2199 patients being encouraged to have influenza vaccination and 614 patients participated the patient-empowered education class. After completion of WSWP, the seasonal influenza vaccination rate in 2018/ 2019 and 2019/2020 (till 13/2/2020) were 50.4% (n=1140) and 61.4% (n=1388) respectively, which had a 11.0% increase. Among those with age < 65, the vaccination rate were 30.5% (n=138) and 58.3% (n=264) respectively, there was a significant increase of 27.8%. (Chart 1)

For the RESP hotline, we received 32 hotline calls in total from 23 patients, 30 early medical consultations were arranged with mostly on same day and timely management was provided in GOPCs.

The number of patient admissions due to AECOPD during 30/10/2019 to 13/2/2020 was retrieved from CDARS using code ICD9 496 and ICD10 J44, there were 139 patients admitted to AED and 216 episodes of admission, the admission episode per patient was lower among flu vaccination group compared to that of non-vaccinated group (1.42 vs 1.69 episodes per patient). The number of admissions per patient was even significantly reduced when the patients have received vaccinations in recent 3 consecutive years compared to that of non-vaccinated group (1.33 vs 1.67 episodes per patient). (Chart 2)

Chart 1 Vaccination rate in two year study period

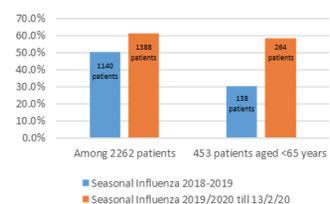
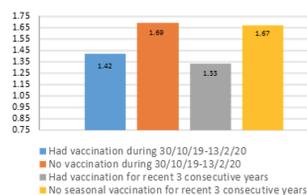


Chart 2 Episode of AED attendance per no. of patient from 30/10/2019-13/2/2020



## Conclusion

Acute exacerbations of COPD are commonly seen in winter surge period and cause important impact due to increased utilization in hospital setting. The winter surge wellness program could effectively promote seasonal influenza vaccination among COPD patients especially those aged <65 years, enhance preventive measures on self-managing of AECOPD and provide timely medical management in GOPCs for exacerbations and thus reduce the AED attendance.

## Reference

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