Nursing Home Residents going ED? Choose to Stay and Play with EAGLEcare ACT!

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1 PROBLEM STATEMENT

When Nursing Home (NH) residents turn acutely ill, NH staff may not have the competency or confidence to manage the residents' conditions. Hence, they are usually conveyed to a hospital's Emergency Department (ED).

As ED is a resource intensive department, it is imperative for each hospital to reduce ED attendances as much as possible for resources to be used for its intended purpose.

SKH EAGLEcare ACT (EGC) aims to support NH staff in treating their acutely-ill residents on-site through capability building and use of curated carepaths. With teleconsultation support from EGC doctors, NH staff are more able to manage common conditions *in situ*, hence averting residents' conveyances to ED. This results in cost savings to NH residents and their next-of-kin, contributes some relief to the perennial bed crunch issue in hospitals, while maximising the resources in both NHs and hospitals.

2 METHODOLOGY

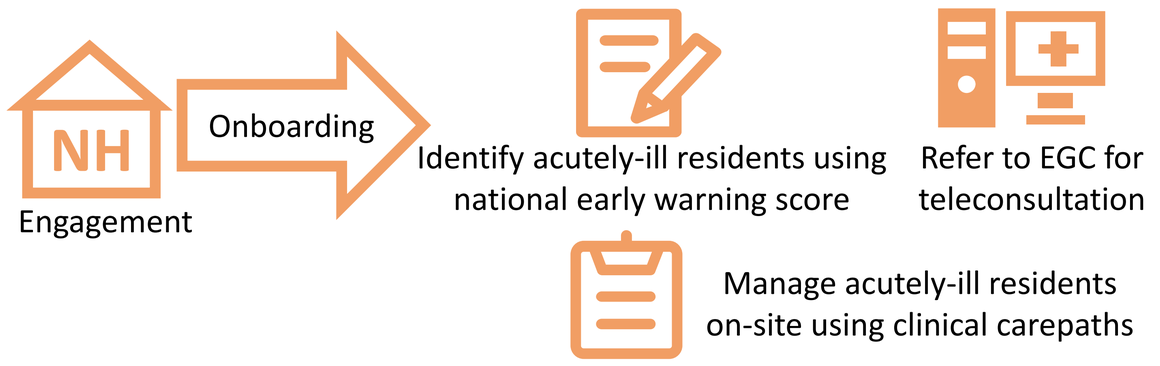


Figure 1. Process of onboarding a new NH onto EGC.

When a NH resident falls acutely ill, the NH staff may consult EGC doctor via teleconsult. S/he will assess if resident is to be conveyed to ED or managed on-site in NH (**Figure 1**). Upskilling the NH nurses to practice at the top of their license entails regular train-the-trainer sessions to refresh them on how to use these carepaths and/or monitor the progress of the acutely-ill residents. After each tele-consultation, we tabulate prospectively the number of residents who successfully avoided ED attendance for 2 weeks. These data points are then used to evaluate the DRG-related savings when ED attendances and inpatient ward stays are avoided.

3 RESULTS & DISCUSSION

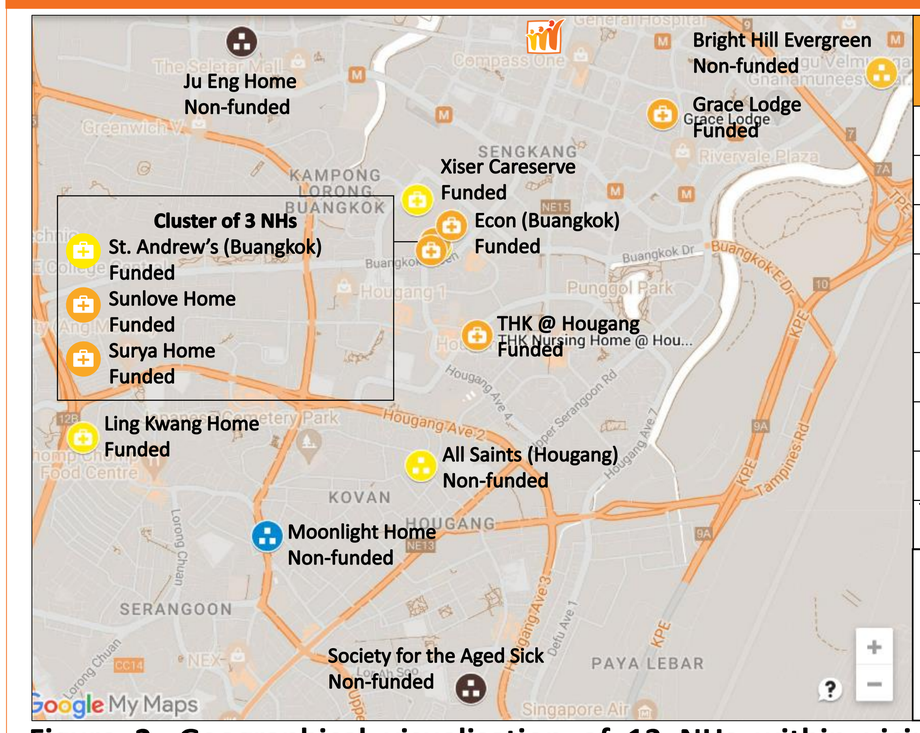
8 NHs had onboarded SKH EGC in FY23, with a total bed capacity of 2185. 423 doctor consultations were conducted, complementing the efforts of the NH in-house General Practitioner (**Figure 2**). 249 out of 423 doctor consultations were managed within the NH and hence led to ED and hospitalisation aversions. 63.1% of the medical conditions behind these aversions were mapped to 20 MOH DRG.

Table 1. Total resident cost savings in FY23 arising from residents being managed within NH, which resulted in ED and inpatient hospitalisation aversions.

Medical Conditions	Mapped to MOH DRG	No. of Residents	Averted Inpatient Costs [1] ($)	Total Cost Savings ($)
LRTI, URTI, Pneumonia	E62C	36	4,375.07	157,503
Urticaria, Eczema, Rash, Scabies, Sores	J67B	26	653.50	16,991
Minor Head Injury	B80Z	15	1,312.73	19,691
Constipation, Diarrhoea, Vomitting	G70B	12	2,902.75	34,833
Limb Cellulitis	J64B	11	3,806.21	41,868
Other conditions that were mapped		57		114,741
Others [2]		92	348	32,016
Total NH residents averted from ED		**249**	**Total cost savings**	**417,643**

[1] Obtained from CY2022 MOH fee benchmark for common conditions. 50th percentile of the condition's 'A' class bills in MOH was used, and the value was averaged across varying levels of severity. MOH value was used for standardisation as SKH do not have a value for some conditions, as those less than 10 cases of the same ward class would not be shown. The MOH bill size included prevailing GST, and ED fees. [2] Includes psycho-social or generic issues. For conditions not coded for, the averted inpatient cost was an understestimate as only the sum of ED attendance fee ($148) and estimated 2-way ambulance fee ($200) was used.

3 RESULTS & DISCUSSION



Bed Capacity	FY23 Calls
411	31
350	0
305	90
300	66
285	160
228	61
192	0
114	15
2185	**423**

Legend
Acute & palliative
Acute only
Yet to engage
Not collaborating

Figure 2. Geographical visualisation of 13 NHs within vicinity of SKH, their current status of collaboration and workload in FY23. were included in this analysis as they were onboarded during FY23. Map was derived via Google Maps.

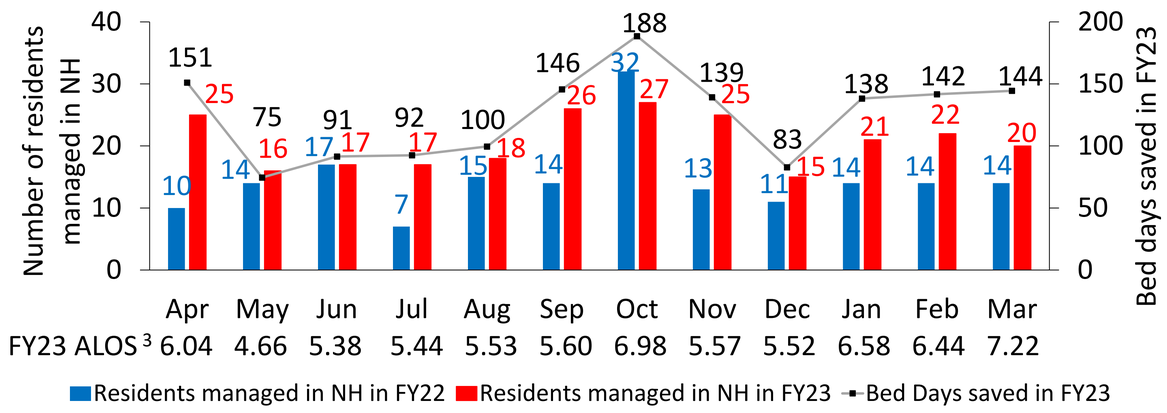


Figure 3. 1489 Bed days saved from NH residents with ED and hospitalisation aversions in FY23. [3] Only admitted residents from the 6 NHs were considered for calculation of average length of stay (ALOS).

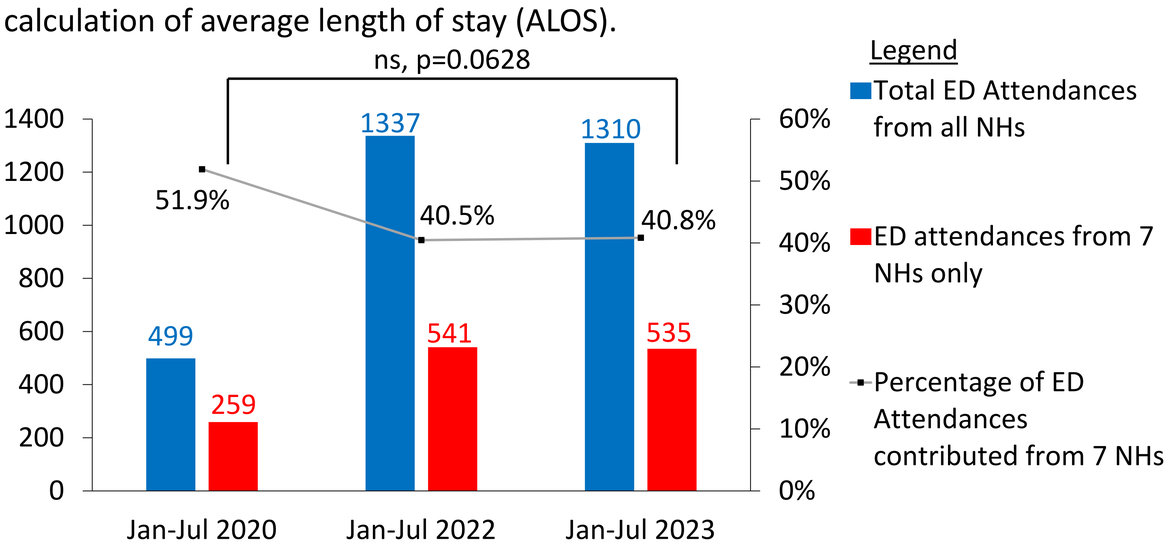


Figure 4. EGC-partnered NHs contributed lesser to SKH ED attendances. As EGC started in Aug 2020 and took about half a year to engage NHs and stabilise workflows, a time period of Jan to Jul was chosen to analyse ED attendances via a time-interrupted analysis. Xiser Careserve was excluded as they onboarded in Sep 2023. EGC-partnered NHs reduced ED attendances by only 11% from 2020 to 2023. This may be due to an increase in the proportion of non-EGC partnered NHs sending their ill residents. However, inferential statistics (Student's T-test) proved no significant increase in ED attendances.

4 SUSTAINABILITY & SPREAD

EGC has potential for sustainability as the NHs have dovetailed EGC referral processes and carepaths into their clinical workflows and standard operating protocols. EGC also manages nursing homes allocated to SGH, and the team is looking to partner other hospitals interested in adopting the service model for the NHs in their vicinity. SKH EGC team has also shared this work with hospitals from NUHS and NHG clusters.

5 CONCLUSION

SKH EGC has reduced ED attendances, helping to alleviate the bed crunch situation in SKH. There are also intangible benefits, including upskilling of NH staff, giving them more confidence and pride in taking care of their residents, while expanding their skillsets. EGC has successfully averted 58.9% of ED conveyances of teleconsultations made, resulting in SKH saving 1489 bed days and residents a total of $417,643 cost savings over FY2023.