

## Abstract

The National Healthcare Group Polyclinics (NHGP) extended its teamlet care model beyond face-to-face consultations to encompass video-consultation services during the COVID-19 pandemic to support safe distancing measures in the clinics. Video-consultation services by doctors were implemented in six NHG polyclinics to enable remote care for nursing home patients with chronic conditions.

## Impetus For Change

In view of COVID-19 situational needs, development of video-consultation services for nursing home patients started as a pilot project in Hougang Polyclinic in end April 2020. Video-consultation services were necessary to facilitate safe distancing measures and mitigate physical congestion in the clinics. At the same time, during Circuit Breaker, these services provided a convenient avenue for eligible chronic patients in nursing homes to access care without making physical trips to the clinics.

## Redesign Of Care Delivery Model

We envision the following when redesigning chronic care for nursing home residents:

- 1) Prevent spread of COVID-19 amongst the elderly nursing home population by reducing face-to-face attendances to NHG Polyclinics
- 2) Reduce travelling time and transportation costs for nursing home patients visiting NHG Polyclinics for chronic conditions.

A multi-disciplinary workgroup was formed comprising key members from Clinical Services, Nursing Services, Operations, Pharmacy in the polyclinics. All members contributed domain expertise during process development and the rapid "Plan-Do-Study-Act" (PDSA) cycles. The services were developed and implemented across 6 NHG Polyclinics and nursing homes in their vicinity.

To ensure safety and sustainability, technology was leveraged upon to optimise the use of resources, using principles of family medicine as the foundation of this care model:

### 1. Continuity of Care

Each nursing home was empanelled into a teamlet to ensure continuity of care by the same care team. During video-consultations, the nursing home residents will be attended to by the team of doctors who are most familiar with their medical condition.

### 2. Coordinated Care

The family physicians in the teamlet worked closely with the nursing home staff to ensure that care is co-ordinated seamlessly between the polyclinic and nursing home patients via video-consultation.

### 3. Personal Care

Instead of being accompanied by nursing home aides for face-to-face consultations, nursing home residents are accompanied by the staff nurse in charge of their care during video-consultations. The staff nurse, who is most familiar with the patient will present the case to the family physician in NHGP. During video-consultation, the family physician takes the opportunity to look at the patient's medication charts and the surrounding conditions of the nursing home so that care can be further personalised.

### 4. Use of Technology to complement chronic care

We used video-consultations via Zoom to conduct chronic consultations safely with nursing home patients.

Using a system built primarily for traditional face to face visits, patient appointments had to be individually and manually actualised by staff on ePOS (Electronic Point of Sale) system before video-consultations could be done, taking up to 20 minutes each day. Enhancement to the ePOS system was made, which allowed patients' appointments to be actualised in bulk, reducing the time taken by to under 2 minutes. In addition, the system was set up such that clinicians could virtually transfer patients to Pharmacy to kick start medication packing and delivery, further eliminating the need for manual work.

## Implementation

From July 2020 to May 2022, a total of 2,017 video-consultations have been conducted with nursing home patients. This resulted in a reduction of about 90 physical polyclinic visits per month, supporting safe distancing measures in the clinics, especially during the periods of Circuit Breaker, Phase 1 and nursing home lock downs.

## Results

An evaluation was conducted by NHGP to assess the impact of Nursing Home video-consultations.

### Clinical Impact of video-consultations

Though not specifically for Nursing Home patients, it was shown in a study conducted by NHGP on video-consultations that clinical outcomes of chronic disease such as diabetes mellitus, hypertension and hyperlipidaemia were not inferior compared to in-person consultations.

### Staff Experience Survey of Nursing Home video-consultations

Nursing home staff from Sunlove Nursing Home involved in video-consultation shared that video-consultation has been a positive experience, saving the need to bring patients to the polyclinic during the pandemic period. It has also helped nursing homes save on transportation costs and time spent accompanying nursing home patients to the polyclinics.

NHGP doctors who have been involved in conducting Nursing Home Video-consultations shared that Nursing Home Video-consultation "is akin to leading a ward round, where we will have access to patients' charts and parameters".

### Reduction in face-to-face attendances

Across NHGP, a total of 2,017 video-consultations were conducted from July 2020 to May 2022. This translates to a reduction of about two thousand physical attendances of vulnerable nursing home patients, which further suggests a possible reduction in spread of COVID-19 among patients in the respective nursing homes.

### Cost Savings

Using Sunlove Nursing Home as an example.

Sunlove Nursing Home sends about 70-80 patients to Hougang Polyclinic every month for doctor's consultation. With the video-consultation, there is about a 50% reduction of Sunlove Nursing Home residents going to Hougang Polyclinic for face-to-face consultation. More visits were also saved when patients have their phlebotomy done at the Nursing Homes by trained nurses and blood samples transported in cold-chain to our laboratory.

Prior to the COVID-19 period, Sunlove Nursing Home nurses spent an average of 3.82 hours per patient at the polyclinic. This includes time taken for transport, waiting time for consultation and waiting time for blood tests. With the implementation of Nursing Home video-consultation, this was reduced to an average of 1.35 hours per patient, which is a 64% reduction in time spent. This time saved has allowed nurses in the nursing home to devote more time to care for and engage their residents.

## Conclusion

Nursing Home video-consultation represents a new fundamental shift in the way healthcare professionals care for nursing home patients, by continuing to push the boundaries of healthcare and technology in these unprecedented times. The integration of video-consultation services enhances the chronic care delivery model, with potential systems and cost savings through leveraging of technology.

## Team Members

	Name	Designation	Department
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