

GeriCare: Telegeriatrics in nursing homes of Singapore: An exploratory, qualitative study of user perceptions

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Introduction and Aim

As a result of Singapore's rapidly ageing population and severe bed crunch^{1,2}, 'remote' medicine could be the key to improving outcomes for the elderly without requiring emergency department (ED) use.

Telegeriatrics, a programme initiated in December 2010 by an acute hospital, allows the hospital's geriatricians to provide specialist care for nursing home (NH) residents through real-time audio and visual technology. Before telemedicine consultations can be facilitated by the geriatrician and the nurse, nurses from the NHs need to undergo training. The 9-month Telegeriatrics Nurse Training Course (TNTC) equips the nurses with a specific set of knowledge and skills targeted at managing NH residents onsite.

This study seeks to understand user perceptions and experience of the telemedicine system as well as the influence of education on the NH nurses in Singapore.

Materials and Methods

Seven focus group discussions (FGDs) and two semi-structured interviews with 25 participants of three nursing homes and the acute hospital were undertaken between February 2014 and August 2014. Each FGD and semi-structured interview lasted approximately 1 hour and 30 minutes respectively. The FGDs and the individual semi-structured interviews were conducted face-to-face.

An interview guide which consisted of structured, open-ended questions was used to encourage the participants to express their unique perspectives of the programme. Field notes were taken during the sessions which allowed for triangulation of data³.

Table 1. Composition of FGDs and semi-structured interviews

Composition	Participants, N=25
Focus group discussions	
NH1's staff and enrolled nurses	5
NH2's staff and enrolled nurses	3
NH3's staff and enrolled nurses	5
NH1's nurse managers	2
NH2's nurse managers	2
Hospital's geriatricians	2
Hospital's administrators	3
Semi-structured interviews	
NH2's enrolled nurse	1
NH3's nurse manager	1
Hospital's geriatrician	1

The Miles and Huberman (1994) framework was used for management of data. Interview data was applied using thematic content analysis⁴, to identify key themes surrounding user experience of the programme, particularly in relation to its benefits and drawbacks.

Results

Of all the 25 participants who have agreed to participate in the study, 68% were females and majority are nurses. 79% of the users were from the NHs, and hence the NH users' perceptions are more representative of the interview responses. All participants had no prior experience with facilitating consultations via the video-conferencing system.

Figures 1 & 2. Characteristics of focus group and semi-structured interviews participants

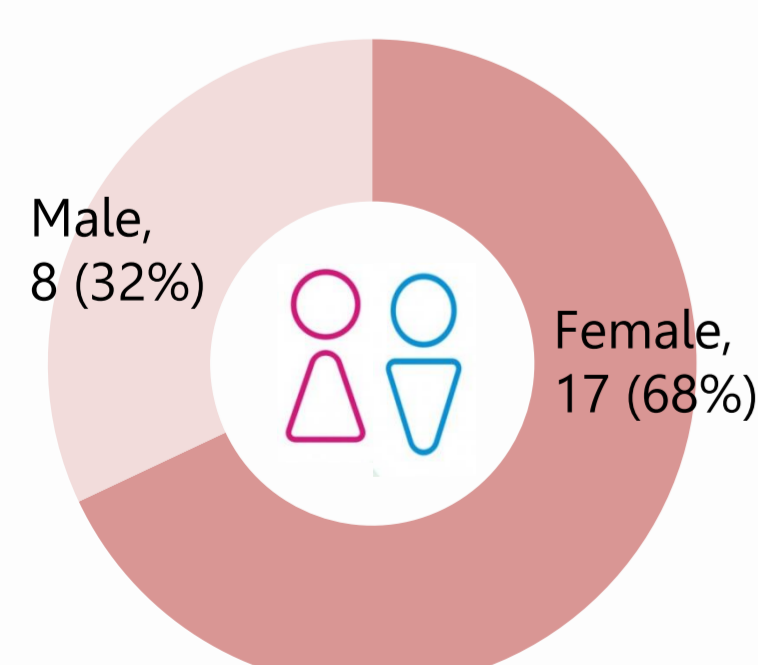


Figure 1

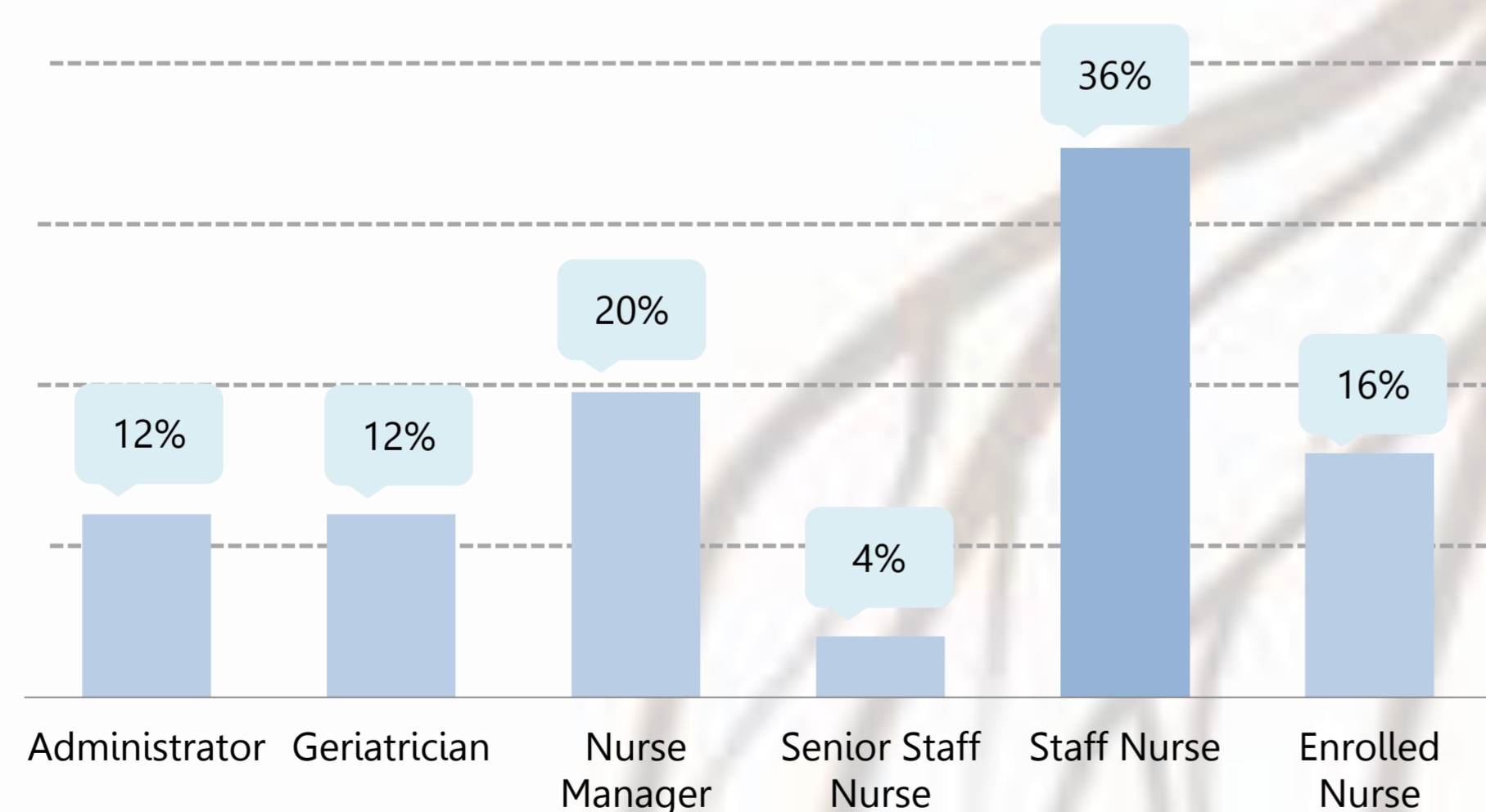


Figure 2

Table 2. Themes, sub-themes and supporting comments

Theme	Sub-theme	Representative comment
Accessibility	Increased access to specialist care	"Through telemedicine, we can start treatment straight away so [that] patients can get better... Secondly, if residents are not well, then doctor will advise sending [residents] to hospital straight away, so you administer treatment early... They also stay in hospital [for a] shorter time." (Nurse Manager)
	Reduced waiting and travelling time	"Reduces doctor's travelling. Reduces the need to travel to a site, and the time involved is money." (Geriatrician)

Results (Cont'd)

Table 3 (Cont'd). Themes, sub-themes and supporting comments

Theme	Sub-theme	Representative comment
Continuity of care	Reduced need for hospital admissions	"In [the] case they (the residents) are sick, we just can call the hospital for a tele-consultation... Our admission rates are lesser now..." (Staff Nurse)
	Dying & quality of death	"They (the residents) want to die in a place where they are familiar with, with the familiar surroundings and people around them." (Nurse Manager)
	Joint decision making	"I think it's very beneficial, because how can you get all the professionals together just for one case? That will be time-consuming. I think sometimes we have to maximize the use of technology." (Nurse Manager)
	Inadequacies of NHs	"Nursing homes have no access to equipment like [one with] diagnostic capability, for example, so to manage the patient better... Consultation alone is only one aspect." (Nurse Manager)
Impact on nursing	Positive effects on nurses	"It [the TNTC] makes us, all of us, more confident, more systematic in doing assessment and delivering system of care toward the patient." (Staff Nurse)
	Increased expectations	"The positive thing that you could get out of this programme would be for the nurses to be a bit sharper in their presentation, and know what our thoughts are." (Geriatrician) "The tool (consultation via videoconferencing to provide care) actually forces the nurses to step up because you are trying to limit the amount of doctoring that is occurring in the nursing homes." (Hospital's Administrator)
	Negative impacts	"They (the nurses) were not comfortable, having to tell the case [is] like talking to a wall." (Nurse Manager) "I still have some problems hearing the nurses properly, especially the foreign ones..." (Geriatrician)
Technology	Receptiveness of residents'	"They actually acknowledge [the doctors] and they are quite happy and will wave at the doctors and they follow the instructions from the doctors." (Nurse Manager)
	Technical issues	"The reception is so poor that we have to stop because it doesn't help us at all. If we are going to have this type of reception, I say, it doesn't serve any purpose. We can't hear what is going on, we can't see [too], so it's not useful for us." (Nurse Manager)
	Decreased social presence	"Initially, going in for [a] tele-consultation can be a bit stressful because I am not sure whether what I see and what I hear will correspond to my usual senses." (Geriatrician)
	Personal touch	"There's this article about this ritual of examining the patient; it means a lot to patients. It's not necessary to listen to the lungs; you still have to put the stethoscope there." (Geriatrician)
Ethics	Distrust in nurses	"There will come a time where we are so good that we don't have a clinical educator here, so the doctor there will have to really take us seriously, and whether he is going to trust that info given to him, that decision he has to decide..." (Nurse Manager)
	Medico-legal issues	"For some conditions, it's just not safe enough to just have telemedicine. You need to see the patient and examine the patient..." (Geriatrician)
	Risk of confidentiality breach	"We have doctors going from [one] institute to [another] institute, [and] they exchange ideas... [and] then we talk about our residents... so in terms of confidentiality, I don't know how promising it is." (Nurse Manager)

Discussion and Conclusion

There was a general positive response to this new way of accessing geriatric care. According to the users, the programme reduced the need for unnecessary travel and provided timely diagnosis and treatment. The users identified with the benefits of using telemedicine to manage residents remotely and improve clinical outcomes, and hence avoiding ED visits.

Through TNTC, the nurses learnt and improvised on their current nursing skills and applied them not only in telemedicine consultations, but also in their routine nursing practices. The nurse managers reported the success of Telegeriatrics in empowering nurses, and were keen to continue providing support needed to sustain the programme. The successful incorporation of telemedicine was reported to be mainly contributed by a supportive management that sees the need for its use⁵.

The nurses' roles were proud of being entrusted with their expanded role. Despite increased expectations, nurses expressed that they have acquired more knowledge and confidence in coordinating care. Increased ability to partake in the care of the patient has increased nurses' engagement, as it enables greater autonomy and a voice in their working environment.

The geriatricians, like the nurses, regarded the increased scope of nursing care as the main positive impact of the programme. Telegeriatrics was an excellent learning medium for the nurses, as it promotes sharing of clinical skills and information across the NHs. However, they found that the care provided over telemedicine was less satisfactory than traditional encounters, as they faced difficulties in building therapeutic relationships with the residents. Similarly, complications in clinician-patient relationships created by communication technology were observed in other studies⁶.

The approach to success in telemedicine is to view it as a standard practice that can provide ongoing improvements in resident care⁷. The users believed that using communication technologies to provide health care is expected, and will be more often in the near future. Telemedicine has the feasibility to extend specialist access to more areas of the community in the north of Singapore. The provision of continuous nurse education to prepare for technology use is also viable. As NH nurses play an integral part in caring for residents throughout the course of their illness, enhanced nursing knowledge and skills could lead to higher standards in the provision of long-term geriatric nursing care.

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