



Original Article

An Integrated Model of Community Care for Older Adults: Design, Feasibility and Evaluation of Impact and Sustainability

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ABSTRACT

Background/Purpose: There is a global movement towards integrated community care; yet this is difficult to implement in countries with well-established separate organizations for health and social care. Such a model requires navigation across rigid boundaries. With philanthropic support, a pilot model of self-financed integrated community care for older people (Cadenza Hub) was established in 2009.

Methods: This is a descriptive narrative of a new service model which represents a one stop service from screening for a composite measure of healthy ageing represented by intrinsic capacity in addition to common chronic diseases such as hypertension and diabetes, followed by promotion of activities that retard the ageing process (or frailty prevention) as well as management of other deficits detected (such as vision or hearing problems), to rehabilitation, and Day Care. Evaluation of some components using mixed methods was carried out.

Results: The frailty prevention programme was demonstrated to reduce frailty and improve cognitive function, and at the same time was successful in being incorporated into participants regular activities. The Day Care section primarily optimize health and function and support declining function of attendees, as well as provide carer support to enable continuing care at home. Case studies illustrate support in the physical, psychological, functional, nutritional, and social domains. The Centre also facilitated discussions regarding advance care planning.

Conclusion: The Cadenza Hub integrated medico social model has the potential to fill a gap in community service for older adults, and address some of the health inequalities arising from unmet needs.

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1. INTRODUCTION

1.1. Implication of Population Ageing

Population ageing is occurring in many countries,

following successful health measures against infectious diseases, maternal and infant mortality, as well as tackling non-communicable diseases. However, the resulting increases in total life expectancies may give rise to an increasing group of

older people at the extremes of old age who become dependent on others due to declining cognitive and physical functions.^{1,2} For example, Hong Kong has the longest life expectancy at birth in the world; yet it is accompanied by an increasing trend of dependency and frailty.³⁻⁵ Health policies are largely targeted towards prevention and treatment of single chronic diseases based on evidence from randomised controlled trials. This strategy neglects the inevitable process of aging per se, and interventions that may retard this process. Such an approach neglects the complex management that covers multiple domains (cognitive, physical, functional, nutritional, and social) that are important in providing care to frail older adults, and the co-existence of multiple morbidities. Primary care is the most important setting for complex care; yet in Hong Kong the primary care system cannot undertake such management, being largely private and orientated towards prevalent long term chronic diseases such as hypertension and diabetes. The burden falls on the public hospital system, with increasing pressure on acute and rehabilitation beds and staff shortages, and are more suited to episodic care rather than managing long term complex problems across hospitals and community.

There are few studies evaluating the feasibility and cost effectiveness of community service models.⁶⁻⁸ These are mainly proof of concept studies supported by research funding, rather than developing new ways of providing services as quality improvement initiatives by existing organizations and evaluating them.

1.2. Comprehensive Geriatrics Assessment in a Medico Social Model

Comprehensive geriatric assessment has been a bed rock of geriatric medicine, followed by multidisciplinary management, usually in a hospital setting with liaison with community social organizations. The World Health Organization has promoted an Integrated Care for Older People in the community, following the principle of assessment and case management using a step care approach that is feasible in low and middle income countries (LIC and MIC).⁹ This is particularly important in resource poor settings following the principles of implementation science in upskilling care workers so that there is task shifting to free up higher skill workers.¹⁰ This principle applies to Hong Kong even though it may not be considered a MIC or LIC, as health care of older people in the community has been much neglected in the absence of coherent policies.

There is a global movement towards integrated community care;^{11,12} yet this is difficult to implement in countries with well-established separate organizations for health and social care, and within health care separate departments for preventive, primary,

secondary and tertiary care in hospitals. Such a model requires navigation across rigid boundaries.

1.3. HK Setting and Philanthropic Funding Opportunity

Community services for older people centred around various types of services provided by non-government organizations. Historically they are of a predominantly social nature, but in the past two decades they have incorporated more healthcare elements such as blood pressure measurements and diabetes control, working in partnership with the Hospital Authority (HA). They have widespread coverage all over Hong Kong, except for some remote regions in the outlying islands, North District and Sai Kung. These could form the first step in an integrated community step care model for primary care of older adults. Philanthropic support by the Hong Kong Jockey Club Charities Trust enabled this concept and model to be tested with the formation of the Cadenza Hub in 2009.

There is a pressing need to carry out comprehensive geriatric assessment in the community followed by management plans, particularly since there has been a steady attrition of such services in Geriatric Day Hospitals situated within regional hospitals in the past 30 years, as a result of increasing need for acute and rehabilitation beds.

2. METHODS

2.1. Underlying Philosophy for the Service Model and Funding

Hong Kong does not have a long term care insurance system. Nevertheless, long term care exist funded partly by government sources as well as out of pocket by the user. These consist of services provided by non-government organizations (home care, meals on wheels, dementia day care), residential care, as well as Geriatric Day Hospitals and post discharge support from the HA. These services are subjected to means testing, such that government subvention is only available to those below a certain income threshold. The medical component for these services (doctors, nurses, allied health) is variable and may be absent. Anyone wishing to use services subvented by the government must undergo an assessment using the Minimum Dataset administered by the Social Welfare Department. However there is a waiting list for such assessments (months), and a waiting for services such as residential care (may be a few years). The new service model represents a one stop service from screening for a composite measure of healthy ageing represented by intrinsic capacity^{13,14} in addition to common chronic diseases such as hypertension and diabetes, followed by promotion of activities that retard the ageing process (or frailty prevention) as well as management of other deficits detected (such as

vision or hearing problems), to rehabilitation, and Day Care.¹⁵ The Hub follows the principle of employing and training health workers to carry out the first step, and then referral to more specialized staff if indicated, and in the last instance to doctors either in the private sector or the HA. This principle follows the establishment of new service models in maximizing resources under resource constraints.¹⁰

Services are provided at a fee, with the aim of attaining self-sustainability over time with the support of philanthropy. Such support enabled us to document how these components benefit users, the feasibility and effectiveness of such a service model as well as the business model aspect of the operation <https://jcch.org.hk/>.

Screening, consultation (optometry, physiotherapy, nutritionist, nurse) group program activities, rehabilitation, and Day Care are paid for by users. However the government has a system of vouchers for healthcare (HKD 4,000 per year) as well as day care (HKD 4,170 to HKD 9,980 per month depending on income), which may be used to purchase Hub services https://www.hcv.gov.hk/eng/pub_sz_bg.htm.

3. RESULTS

3.1. Description and Evaluation

The description of selected programs and comments on effectiveness using quantitative and qualitative data will be described separately for preventive and day care components. The study was approved by the Survey and Behavioural Research Ethics Committee of the Chinese University of Hong Kong, which required informed consent to be obtained.

3.1.1. Frailty prevention program

To extend healthspan² it is necessary to optimize intrinsic capacity during the ageing process.¹³ Other than prevention and treatment of chronic diseases, lifestyle measures are key non-pharmacological strategies to maintain intrinsic capacity (or reduce frailty) with ageing.¹⁶ Adopting healthy lifestyle measures to promote healthy ageing essentially involves behaviour change, and it is recognized that manipulation of the environment plays a key role in sustainable behaviour change.¹⁷

The Hub frailty prevention program of 12 weeks duration consists of group exercises/activities (aerobic, resistance, balance, cognitive, social), carried out in a pleasant environment so that participants would eventually incorporate this program into their regular activities. Evaluation using randomized controlled trial design show that the program was effective in reducing frailty as well as improve cognitive function.^{18,19} Even though a fee is payable for this

program, the Hub has achieved this objective in that participants continue to come regularly over periods of years. Qualitative study showed that perceived health benefits, peer support, social networking, sense of connectedness, expert guidance, and sense of dignity were factors identified for motivation to participate and adherence to the program.²⁰

3.1.2. Day care

Only a descriptive profile of recent attendees is available, as computerization of records is still in progress. Comprehensive geriatric assessment is carried out on first attendance, followed by a care plan. Regular assessments approximately every six months is carried out if possible. The profile of 102 attendees with variable number of follow up assessments which have been entered into the clinical database are used as illustration (Table 1). The median age (range) is 85 (58-101) years, 77% of whom are women. 98% lived with either family, domestic helper,

Table 1. Baseline characteristics (N=102)

	n	Mean±SD/ n (%)	Min, Max (Median)
Demographics			
Age	102	84.0±10.0	58, 101 (85)
Gender	102		
Female	/	78 (76.5%)	/
Male	/	24 (23.5%)	/
Year of education	102		
<2	/	38 (37.3%)	/
2-<10	/	38 (37.3%)	/
10-<12	/	19 (18.6%)	/
≥12	/	7 (6.9%)	/
Marital status	102		
Widowed	/	50 (49.0%)	/
Married	/	52 (51.0%)	/
Living arrangement	102		
Living with family	/	54 (52.9%)	/
Living with maid	/	16 (15.7%)	/
Living with family & maid	/	30 (29.4%)	/
Living alone	/	2 (2.0%)	/
Diseases	102		
Dementia	/	92 (90.2%)	/
Cerebrovascular accident stroke	/	18 (17.6%)	/
Hypertension	/	62 (60.8%)	/
Diabetes	/	25 (24.5%)	/
Parkinson's disease	/	13 (12.7%)	/
Heart disease	/	28 (27.5%)	/
Cataract	/	43 (42.2%)	/
Chronic pain	/	6 (5.9%)	/
Fall within 1 year	/	28 (27.5%)	/
Osteoarthritis	/	13 (12.7%)	/
Mental illness	/	11 (10.8%)	/

Table 2. Baseline comprehensive geriatric assessment

	n	Mean±SD/ n (%)	Min, Max (Median)
Baseline assessment (T1)			
Mini Nutritional Assessment (MNA) (score: 0-30)	101	22.4±3.2	14, 28
Malnourished (score: 0-16.5)	/	6 (5.9%)	/
At risk of malnutrition (score: 17-23.5)	/	56 (55.4%)	/
Well nourished (score: 24-30)	/	39 (38.6%)	/
Body weight in kg	101	54.4±11.2	27.90, 96.90
Body Mass Index (BMI) in kg/m²	101	23.2±4.3	13.10, 36.50
Modified Functional Ambulation Classification (MFAC) in point	90	5.5±1.5	1, 7
Category I (Lyer)	/	1 (1.1%)	/
Category II (Sitter)	/	2 (2.2%)	/
Category III (Dependent walker)	/	9 (10.0%)	/
Category IV (Assisted walker)	/	9 (10.0%)	/
Category V (Supervised walker)	/	20 (22.2%)	/
Category VI (Indoor walker)	/	15 (16.7%)	/
Category VII (Outdoor walker)	/	34 (37.8%)	/
Elderly Mobility Scale (EMS) (score: 0-20)	79	14.1±5.5	0, 20
Dependent (score: 0-9)	/	20 (25.3%)	/
Borderline (score: 10-13)	/	11 (13.9%)	/
Independent (score: 14-20)	/	48 (60.8%)	/
Berg Balance Scale (BBS) (score: 0-56)	75	36.1±16.0	1, 56
Wheelchair user (score: 0-20)	/	14 (18.7%)	/
Walking with assistance (score: 21-40)	/	23 (30.7%)	/
Independent (score: 41-56)	/	38 (50.7%)	/
Short Physical Performance Battery (SPPB) (score: 0-12)	19	7.1±2.9	3, 11
Very low physical function (score: 0-3)	/	3 (15.8%)	/
Low physical function (score: 4-6)	/	5 (26.3%)	/
Moderate physical function (score: 7-9)	/	5 (26.3%)	/
High physical function (score: 10-12)	/	6 (31.6%)	/
Timed Up and GO (TUAG) in seconds	33	29.2±24.2	9.00, 117.00
None/low/moderate risk for falls (<13.5s)	/	8 (24.2%)	/
High risk for falls (≥13.5s)	/	25 (75.8%)	/
Mini-Mental State Examination (MMSE) (score: 0-30)	76	14.4±5.5	1, 28
<2yr of education	34	12.3±4.0	3, 20
Cognitive impairment (score: 0-20)	/	34 (100.0%)	/
No cognitive impairment (score: 21-30)	/	0 (0.0%)	/
2- <10yr of education	26	16.4±5.3	3, 28
Cognitive impairment (score: 0-23)	/	24 (92.3%)	/
No cognitive impairment (score: 24-30)	/	2 (7.7%)	/
≥10yr of education	16	15.8±6.9	1, 25
Cognitive impairment (score: 0-26)	/	16 (100%)	/
No cognitive impairment (score: 27-30)	/	0 (0.0%)	/
Montreal Cognitive Assessment (MoCA) (score: 0-30)	15	7.5±4.5	0, 15
<10yr of education	10	7.5±5.1	0, 15
MCI/cognitive impairment (score: 0-20)	/	10 (100.0%)	/
Normal cognition (score: 21-30)	/	0 (0.0%)	/
≥10yr of education	5	7.4±3.5	4, 13
MCI/cognitive impairment (score: 0-21)	/	5 (100.0%)	/
Normal cognition (score: 22-30)	/	0 (0.0%)	/
Montreal Cognitive Assessment 5-min Protocol (MoCA5) (score: 0-30)	25	10.1±6.9	0, 27
Cognitive Test for Severe Dementia for Chinese older adults (CTSD-C) (score: 0-30)	4	12.5±3.5	9, 16
Barthel Index (BI) (score: 0-100)	100	80.1±20.2	5, 100
Total dependence (score: 0-20)	/	2 (2.0%)	/
Severe dependence (score: 21-60)	/	17 (17.0%)	/
Moderate dependence (score: 61-90)	/	37 (37.0%)	/
Slight dependence (score: 91-99)	/	28 (28.0%)	/
Independence (score: 100)	/	16 (16.0%)	/
Zarit Burden Interview (ZBI) (score: 0-88)	29	42.2±14.2	15, 76
Normal (score: 0-23)	/	2 (6.9%)	/
At risk for depression (score: 24-88)	/	27 (93.1%)	/

or both. The educational attainment of the majority is primary or below. Neurodegenerative diseases, in particular dementia, constitute the major group of chronic diseases. 61% are at risk or have malnutrition; 76% have high risk of falls; and the majority have varying degrees of mobility, basic self-care and cognitive impairments. Of note 93% of carers exhibit or are at risk of carer stress (Table 2). A summary of service needs includes cognitive training and rehabilitation, dealing with carer stress, as well as managing medical conditions. Care plans consist predominantly of cognitive and mobility training, falls prevention, and providing carer support. The latter would also include optimization of nutrition and management of medical conditions. For 42 attendees who have been discharged, the average duration of attendance is four years, with 40% deceased, 24% transitioning into residential care, and 21% with physical deterioration preventing further attendance (Table 3). Table 4 shows the number of assessments that the participants had completed. 60 (58.8%) participants had completed at least 5 assessments. Table 5 shows the follow-up time between assessments. The duration between assessments varied from 1-36 months, with most of the participants being assessed at 5 to 17 months after the previous assessment. To ensure that there are enough time points and enough participants at each time point for trend analyses, only those who had completed at least 5 assessments, with the length of follow-up ranged from 5 to 17 months between each assessment were included. Other than nutritional status and cognitive function, which showed an initial period of improvement, body mass index, mobility balance, and ability in self care measures declined with time (Figure 1). This observation suggest that the function of Day Care is primarily optimizing health and function and supporting declining function, rather than rehabilitative.

3.2. Case Studies From the Day Care Centre

The diversity, comprehensiveness and impact of Day Care services are illustrated using a series of case

studies, together with interviews of informal carers of the attendees.

Table 3. Service needs (baseline and latest), care plan (baseline and latest), and outcome at cessation of participants (N=102)

	n	Mean±SD/n (%)	Min, Max (Median)
Service needs			
Baseline assessment (T1)	102		
Cognitive training	/	100 (98.0%)	/
Caregiver problem/stress	/	54 (52.9%)	/
Medical problem	/	27 (26.5%)	/
Physical rehabilitation	/	50 (49.0%)	/
Latest follow-up assessment	102		
Cognitive training	/	100 (98.0%)	/
Caregiver problem/stress	/	59 (57.8%)	/
Medical problem	/	42 (41.2%)	/
Physical rehabilitation	/	54 (52.9%)	/
Care plan			
Baseline assessment (T1)	102		
Prevent fall	/	64 (62.7%)	/
Enhance cognitive ability	/	97 (95.1%)	/
Enhance nutrition state	/	13 (12.7%)	/
Prevent complications	/	23 (22.5%)	/
Pain relief	/	9 (8.8%)	/
Enhance mobility	/	65 (63.7%)	/
Carer training/support	/	53 (52.0%)	/
Enhance activity of daily living (ADL) ability	/	14 (13.7%)	/
Latest follow-up assessment	102		
Prevent fall	/	71 (69.6%)	/
Enhance cognitive ability	/	91 (89.2%)	/
Enhance nutrition state	/	16 (15.7%)	/
Prevent complications	/	40 (39.2%)	/
Pain relief	/	9 (8.8%)	/
Enhance mobility	/	66 (64.7%)	/
Carer training/support	/	59 (57.8%)	/
Enhance activity of daily living (ADL) ability	/	19 (18.6%)	/
Duration of attendance (Date of discharge–Date of admission) in months	42	48.6 ± 36.5	2, 124
Reason of discharge			
Reason of discharge	42		
Deceased	/	17 (40.5%)	/
Enter Residential Care Home	/	10 (23.8%)	/
Enter other community service	/	4 (9.5%)	/
Physical deterioration	/	9 (21.4%)	/
Adaptation problem	/	1 (2.4%)	/
Others: out of transportation route after restructuring	/	1 (2.4%)	/

Table 4. Number of assessments completed and follow-up time between baseline (T1) and follow-up assessments

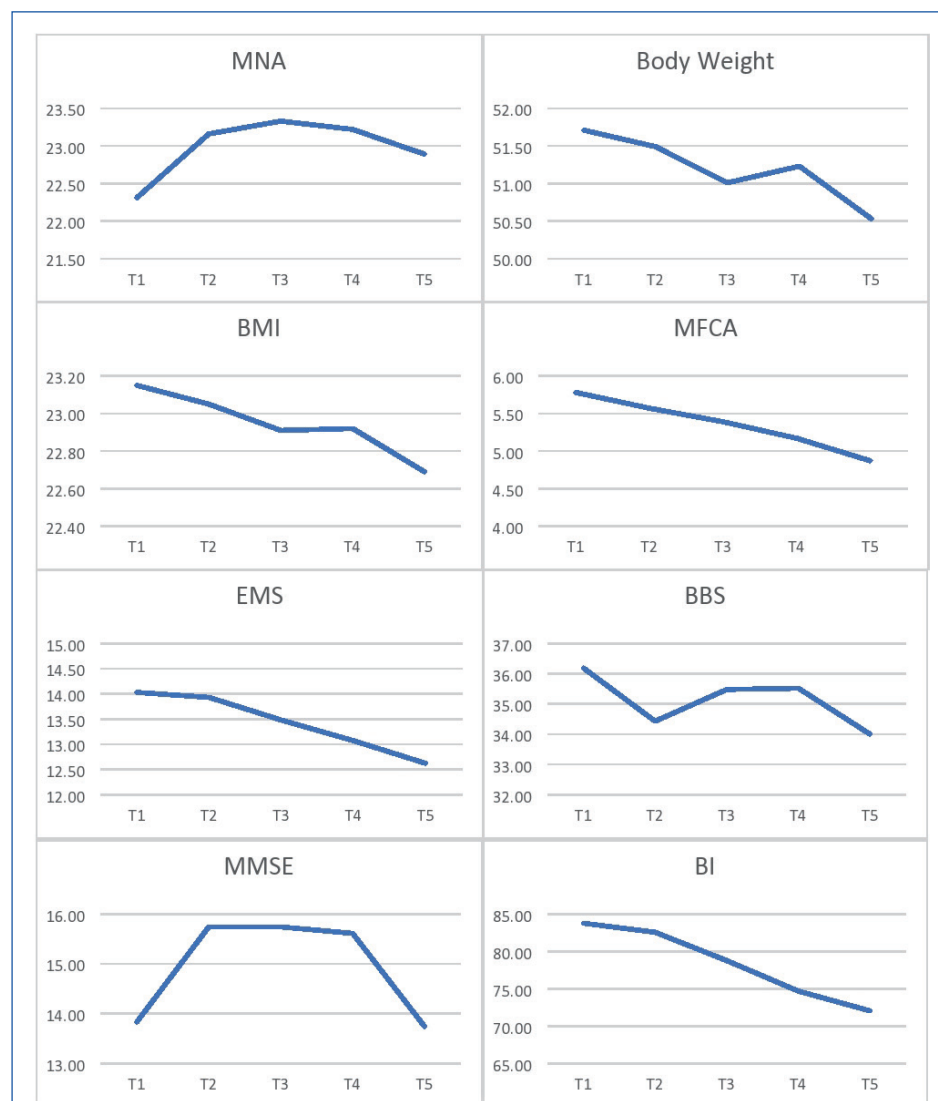
Assessments completed	n	Follow-up time between baseline and follow-up assessments, month		
		Mean	Min	Max
T1 only	23	/	/	/
T1-T2	7	8.3	6	12
T1-T3	6	15.8	10	37
T1-T4	6	26.2	14	59
T1-T5	5	20.2	19	21
T1-T6	4	27.8	21	39
T1-T7	10	40.5	30	77
T1-T8	5	45.8	33	84
T1-T9	6	45.5	38	74
T1-T10	2	76.5	46	107
T1-T11	8	75.9	49	121
T1-T12	2	55.5	55	56
T1-T13	4	62.5	60	66
T1-T14	1	110.0	110	110
T1-T15	6	77.8	60	118
T1-T16	3	73.0	71	76
T1-T17	3	81.3	78	85
T1-T18	0	/	/	/
T1-T19	0	/	/	/
T1-T20	1	97.0	97	97

T1=Baseline assessment, T2=second assessment, T3=third assessment, T4=forth assessment, T5=fifth assessment, etc.

Table 5. Follow-up time between assessments

Assessments completed	n	Follow-up time between assessments, month		
		Mean	Min	Max
T1 & T2	79	7.5	2	31
T2 & T3	72	6.3	1	36
T3 & T4	66	6.4	3	15
T4 & T5	60	6.1	2	17
T5 & T6	55	6.0	3	12
T6 & T7	51	6.2	1	12
T7 & T8	41	6.3	1	13
T8 & T9	36	5.9	3	12
T9 & T10	30	5.6	1	12
T10 & T11	28	5.8	4	13
T11 & T12	20	5.2	5	7
T12 & T13	18	4.9	3	6
T13 & T14	14	4.8	2	5
T14 & T15	13	5.4	5	6
T15 & T16	7	5.0	3	6
T16 & T17	4	5.3	5	6
T17 & T18	2	5.0	5	5
T18 & T19	1	5.0	5	5
T19 & T20	1	6.0	6	6

T1=Baseline assessment, T2=second assessment, T3=third assessment, T4=forth assessment, T5=fifth assessment, etc.

Figure 1. Changes in different measures over time among participants who had completed five assessments

MNA, Mini Nutritional Assessment; BMI, Body Mass Index; MFAC, Modified Functional Ambulation Classification; EMS, Elderly Mobility Scale; BBS, Berg Balance Scale; MMSE, Mini-Mental State Examination; BI, Barthel Index.

T1=Baseline assessment, T2=second assessment, T3=third assessment, T4=forth assessment, T5=fifth assessment.

Number of participants: MNA (n=32), Body weight (n=32), BMI (n=34), MFAC (n=23), EMS (n=29), BBS (n=21), MMSE (n=23), and BI (n=33).

Selection criteria: Interval between T1 & T2=5-16 months, interval between T2 & T3=5-13 months, interval between T3 & T4=5-15 months & interval between T4 & T5=5-17 months.

Changes in Short Physical Performance Battery (SPPB), Timed Up and GO (TUAG), Montreal Cognitive Assessment (MoCA)/ Montreal Cognitive Assessment 5-min Protocol (MoCA5), Cognitive Test for Severe Dementia for Chinese older adults (CTSD-C) and Zarit Burden Interview (ZBI) were not shown due to small sample size.

3.2.1. Physical domain

An 80-year-old lady with hypertension, diabetes, stroke, and dementia was admitted to the Day Care service, as her family members would like to have day care service that include social stimulation, rehabilitation, medical monitoring and care, as well as carer training for the domestic helper. She required two people for transfer, and was totally dependent on all basic activities of daily living. She had a urinary catheter in-situ.

The care plan was to optimize function through

assisted activities, review of hypertension and diabetes control with optimization of medication, and cognitive stimulation through social interaction.

During one visit, a strong smell was detected by staff, an indicator of urinary tract infection. Option was given to the family to consult a nearby private practitioner, or to the public hospital system (Hospital Authority Hospital nearby). The family opted for a private doctor, who carried out investigation and initiated a course of antibiotics. Her general condition improved. It is recognized that episodes of infection in older adults may result in delirium, contributing to decline in general condition. In this case other aspects of day care service may also have contributed to the improvement in general condition.

A 90-year-old man with hypertension and Parkinson's disease was admitted to the Day Care service. Around mid-morning the patient habitually became very sleepy and needed to lie down for about two hours, so that it was difficult to plan rehabilitation program during his attendance. The helper reports that this happens at home most of the time. A systolic blood pressure of 90 mm/hg was documented when he became sleepy, which gradually rose after lunch

time. A note was written to his medical practitioner suggesting stopping or reducing the morning dose of the hypertensive medication.

3.2.2. Psychological domain

A 65-year-old man was referred by his daughter, a healthcare professional, after the death of his wife. He lived alone and exhibited symptoms and signs of depression, staying at home all the time. Initially at the Day Care Centre he did not talk to anyone and did not join in with any activities. However there was a computer corner in the Centre, and he quickly spent

all his time using the computer, to write a journal. Through this process he managed to work through his bereavement process, undergoing a form of catharsis. After a few weeks, he completed the journal, and became an entirely different person, participating in many centre activities and joined in the volunteer group of the primary care part of the service hub.

3.2.3. Marital disharmony and depression

Mr. Lee W has dementia, with disturbing behavioural symptoms. He lived with his wife, his only carer. There was severe marital disharmony, and patient had attempted suicide in the past. He slept 20 hours a day and was very deconditioned. After joining day care his disturbing behaviour greatly improved, together with his physical and cognitive functioning. The couple's relationship improved, as did caregiver stress on the part of their daughter.

3.2.4. Functional domain

An 80-year-old lady who lived with her domestic helper and daughters attended the Day Care Centre, for continuing management of mild dementia. She was fully independent in her activities of daily living, and participated well with all activities of the Centre. Then she had a fall at home and fractured her hip, necessitating a hospital stay with operation. She became dependent after that, requiring two people for transfer. She underwent a period of rehabilitation at the Centre, and after two months managed to regain her pre-morbid functional ability.

3.2.5. Nutritional domain

CYN was an 85-year-old lady with severe dementia who was also very frail. Her activities of daily living were largely dependent. Her only carer was her husband. Prior to her death in hospital, she attended the Day Care Centre for two years and ten months. She had been refusing meals at home, and her body mass index was 15 kg/m².

Her husband experienced great carer burden and expressed the desire to commit suicide if he could not find help with her care. Social services referred him to the Centre. Placement in a nursing home was not an option as there was a waiting list for homes of acceptable quality, and he did not wish to place her in a home with poor care quality.

Attendance at the Centre greatly relieved his carer burden. The management plan included mobilization, social interaction, and improved nutrition from good intake at meals provided at the Centre. Support at home was possible until the end of life, without the need to enter residential care.

3.2.6. Social domain

Ms. WK attended the Day Care Centre for four years three months. She had moderate to late stage dementia at the time of admission, with marked behavioural and psychological symptoms such as serious wandering and violence. She lived with her daughter and was cared for by a domestic helper. She attended the Centre while waiting for placement for residential care home for the elderly (RCHE). W eventually settled quite well at the Centre. When RCHE place was available, W was admitted, but only stayed there for a few hours, during which she was heavily restrained by RCHE staff. Her daughter immediately took her back home. Day Centre staff arranged family case conference, to mediate a family conflict regarding whether to remain in RCHE or return home. Eventually a decision was made to let W return home with support from helper and centre support, since W was very scared of returning to the RCHE. Her daughter whom she lived with was greatly relieved. Eventually W passed away peacefully without any RCHE admissions.

3.2.7. Advance care planning

Ms. CFC attended the Day Care Centre for ten years. She was diagnosed to have early to moderate dementia at the time of admission, and received good care at home by her relatives. During the following ten year period the dementia progressed to a stage where it took one hour to feed her during one meal, and she was completely dependent. Family carers exhibited increasing carer stress. The Centre staff initiated end of life care conversations and advance care planning with her relatives, especially the option of artificial feeding and hydration. The family eventually opted for hospice care for the remaining few weeks of her life.

3.2.8. Carer support-respite care

Mr. WD attended the Day Care Centre for six months. He was diagnosed to have dementia with marked behavioural and psychological symptoms, and was cared for by his wife at home. They did not have a domestic helper. His wife was diagnosed to have a brain tumour which required an urgent operation. His daughter was referred to the Day Care Centre and applied for urgent day care admission so that her father can be cared for during the day for the period that her mother was in hospital for the operation and following rehabilitation. WD was admitted the following day to Day Care.

WD was very confused at the Centre initially and insisted on leaving. He attempted to call the police, saying that the Centre was detaining him in custody. He would not join most of the group activities at the beginning. With much dedicated individual attention, he gradually settled into the routine of attending the Day Care Centre. After his wife returned home, he

was able to return home with attendance at a nearby district community centre.

3.2.9. Summary

These case studies illustrate how detailed comprehensive geriatric assessment followed by individualized care plan, provide a service for older adults living in the community with carers, in optimizing and maintaining cognitive and functional abilities, managing co-morbidities, and supporting carers to enable aging in place as much as possible avoiding the need for institutional care.

Comments regarding the Day Care service from individual interviews of family carers included the following main themes: helped with the difficulties of care giving; a place for health maintenance activities, skilled care, stress relieve and improved family relationships. Government subsidy was very important in enabling them to use Day Care.

4. DISCUSSION

The Cadenza Hub model addresses unmet needs for older adults using a person centred approach, as well as supporting carers. As such it addresses health inequalities in older adults by tackling social as well as behavioural determinants for prevention of age-related decline and promoting health span.^{2,21} It enables further development of an integrated model for primary care of older adults that capitalizes on the extensive existing non-governmental organization (NGO) network that could be linked to existing government financed District Health Centres (DHC) for each of the 18 districts, ensuring widespread coverage. This model would cover screening and intervention for healthy ageing, using behavioural change principles, supported by evidence of effectiveness, and response from users in terms of their continuing attendance and willingness to recommend this service to their friends.

The Day Care model is currently unique for care of older adults in the community by providing comprehensive geriatric assessment followed by person centred care, administered by multidisciplinary staff supported by trained care workers, a medico social model linked to local private doctors and the Accident and Emergency, Geriatric and Psychogeriatric Departments of public hospitals. However it is only able to targets group with family support rather than those living alone. Although the primary care service would benefit those living alone, it may be difficult for older adults who have significant cognitive and physical impairments to benefit from the Day Care service if they are living alone. In future services may be promoted to this group as well through development of outreach services. This self-financing model with co-payment

from the government health and day care voucher system would facilitate scaling up, rather than require the creation of a new or modify existing government systems. It represents a good example of how social enterprises have an important role in filling the gaps left by the government in meeting the challenges of population aging.²² The government could take a lead in promoting this model to be taken up by various non-government organizations in other parts of Hong Kong, based on voucher systems and co-payment, perhaps with facilitators such as rent waiver or reimbursement.

4.1. Conclusion and the Way Forward

The Cadenza Hub integrated medico social model has the potential to fill a gap in community service for older adults, and address some of the health inequalities as a result of unmet needs. However as a standalone model financial sustainability may be difficult to achieve, since only the Day care section receives government subvention in terms of Day Care vouchers. Closer links with the private medical sector, insurance industry, and the newly formed DHC may be the way forward in further development of the model.

CONFLICTS OF INTEREST

None

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