

# The Health of the Elderly in Hong Kong

Edited by Shiu-kum Lam



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# Geriatric Medicine in Hong Kong — An Overview

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*Leung-wing CHU, Shiu-kum LAM*

## INTRODUCTION

‘It is not enough for a great nation to have added new years to life. Our objective must be to add new life to those years.’

John F. Kennedy (1917–1963)

Population ageing is an important issue both globally and locally. In 1991, the world’s elderly population (aged 65 and over) was 320 million. By the year 2000, it will increase by 28% to 410 million<sup>1</sup>. In 1996, the Hong Kong elderly population (aged 65 and over) was 629 555. By the year 2006, it will be 761 900, a net increase of 21%. In the same period (1996–2006), the increase in the old-old group (aged 75 and over) is 56%. Decrease in birth rate coupled with increase in average life expectancy are the main reasons behind this demographic change (Table 1.1). The improvement in public health measures, food availability and medical treatment for diseases in recent years have made the elders in Hong Kong today live significantly longer than their forefathers. For example in 1996, the average life expectancy was 75.9 years for men and 81.5 years for women in Hong Kong (Table 1.2)<sup>2,3</sup>. However, the biggest challenge now is not only to make



Table 1.1 Crude birth rate and crude death rate of Hong Kong  
(per 1000 population)

<i>Year</i>	<i>Crude birth rate</i>	<i>Crude death rate</i>
<b>1946</b>	<b>20.1</b>	<b>10.7</b>
<b>1956</b>	<b>37.0</b>	<b>7.4</b>
<b>1966</b>	<b>25.5</b>	<b>5.2</b>
<b>1976</b>	<b>16.9</b>	<b>5.1</b>
<b>1986</b>	<b>13.1</b>	<b>4.7</b>
<b>1992</b>	<b>12.1</b>	<b>5.3</b>
<b>1995</b>	<b>11.2</b>	<b>5.1</b>

Table 1.2 Average life expectancy (at birth) of Hong Kong people  
(1972–2011)

<i>Year</i>	<i>Men (years)</i>	<i>Women (years)</i>
<b>1972 (actual)</b>	<b>67.7</b>	<b>75.4</b>
<b>1977 (actual)</b>	<b>70.1</b>	<b>76.7</b>
<b>1982 (actual)</b>	<b>72.6</b>	<b>78.4</b>
<b>1987 (actual)</b>	<b>74.2</b>	<b>79.7</b>
<b>1991 (actual)</b>	<b>74.9</b>	<b>80.5</b>
<b>1996 (projected)</b>	<b>75.9</b>	<b>81.5</b>
<b>1997 (projected)</b>	<b>76.1</b>	<b>81.6</b>
<b>2002 (projected)</b>	<b>76.8</b>	<b>82.2</b>
<b>2007 (projected)</b>	<b>77.3</b>	<b>82.7</b>
<b>2011 (projected)</b>	<b>77.7</b>	<b>83.0</b>

our elders live longer but to make them live better — a better functional state and a better quality of life. Compression of morbidity and successful ageing is our desired goal, yet to be achieved<sup>4,5</sup>.

## HISTORY OF GERIATRIC MEDICINE

Geriatric medicine has been defined as the branch of general medicine which deals with the clinical, rehabilitative (remedial), psychosocial

and preventive aspects of illness in elderly people<sup>6</sup>. The term ‘geriatrics’ was first coined by an American physician Dr Nascher (1863–1944) in 1907. Subsequently, he published his textbook *Geriatrics* in 1914. However, the pioneer of geriatric medicine was Dr Marjory Warren from the United Kingdom. In the year 1935, while Dr Warren was a Medical Officer at West Middlesex Hospital, she was appointed to look after over 700 old people in a neighbouring infirmary which the hospital had taken over. She started her ‘geriatric’ practice of detailed assessment and rehabilitation of the 714 ‘incurable’ patients in the ‘chronic sick’ ward. Amazingly, she uncovered a significant number of misplacement and misdiagnoses in those elderly patients. Over one-third of the patients were discharged subsequently. She stated in her report that ‘the creation of a specialty of geriatrics would stimulate better work and initiate research’<sup>7,8,9</sup>. Over the past 50 years, geriatric services and departments were established nationwide in the United Kingdom. Geriatric medicine is now a recognized specialty in the United Kingdom, Canada, the Netherlands, the Irish Republic, Spain, New Zealand, Australia and Hong Kong. In the United States, geriatrics is an area of ‘added competence’<sup>10</sup>.

## **DEVELOPMENT OF GERIATRIC MEDICINE IN HONG KONG**

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Based on the British model, Hong Kong established its first geriatric unit in 1975. In this respect, Hong Kong was ahead of the rest of Asia. In the initial ten years, the development of geriatric services was slow. However in recent years, the importance of geriatric service to the elderly community has been gradually recognized. At present, there is at least one geriatric service per hospital cluster (Table 1.3)<sup>11</sup>. The future development now depends on both the demand as well as policies of the Hong Kong Government and the health authorities. Obviously, with the very rapid increase in the very elderly population, corresponding geriatric service development should be planned well ahead to avoid any crisis or mishap. The commitments published in the ‘Report of the working group on the care for the elderly’<sup>12</sup> in 1994 were very positive.

In general, the service structure of geriatric medicine is moving towards a fairly uniform format. At present, a typical cluster-based geriatric service in Hong Kong includes in-patient and out-patient, a day hospital and a community outreach service<sup>13,14,15,16</sup>. These service

Table 1.3 History of geriatric services in Hong Kong

<i>Year</i>	<i>Hospital</i>	<i>Unit</i>
1974	United Christian Hospital	Geriatric ward
1975	Princess Margaret Hospital	First formal Geriatric Department in Hong Kong
1978	Caritas Medical Centre	Geriatric Department
1982	Kwong Wah Hospital	Geriatric Department
1985	Prince of Wales Hospital and Shatin Hospital (1991)	Geriatric Team (fully integrated model)
1990	Tuen Mun Hospital	Geriatric Department
1990	Ruttonjee Hospital	Geriatric Department
1991	Haven of Hope Hospital	Geriatric Assessment and Rehabilitation Unit
1993	Queen Elizabeth Hospital	Geriatric Team (fully integrated model)
1994	Queen Mary Hospital and Fung Yiu King Hospital	Geriatric Division (fully integrated model)
1994	Yan Chai Hospital	Medical Rehabilitation and Geriatric Unit
1995	Pamela Youde Nethersole Eastern Hospital	Geriatric Division (fully integrated model)
1995	Wong Chuk Hang Complex for the Elderly	Geriatric Department
1995	St. John Hospital	Geriatric Department
1995	Wong Tai Sin Hospital	Geriatric Division
1996	Our Lady of Maryknoll Hospital	Geriatric Department

set-ups greatly facilitate the practice of progressive patient care for elderly patients. To date, nearly every hospital cluster in Hong Kong possesses a full range of geriatric services. As an illustration, the geriatric service set-up in the Hong Kong West Hospital Cluster (the authors' service area) is summarized in Table 1.4<sup>17,18</sup>.

Elderly people have multiple needs, which include social, psychological, physical health and functional status aspects. These needs are inter-related and in fact often intertwined. Health, functional, psychological and socio-economic status are all important considerations in the care of elderly people. As geriatric patients are typically frail, a multi-dimensional<sup>19</sup> and multi-disciplinary team approach is the cornerstone of success in any geriatric service programme. Figure 1.1 summarizes the key dimensions to assess and manage in elderly patients while Figure 1.2 describes the core members and supporting members of the multi-disciplinary geriatric team<sup>20</sup>.

Table 1.4 Geriatric services in the Hong Kong West hospital cluster

1. Acute geriatric beds in Queen Mary Hospital (12 beds)
2. Convalescence hospital beds in Fung Yiu King Hospital (80 beds)
3. Geriatric rehabilitation beds in Fung Yiu King Hospital (24 beds)
4. Infirmiry (long-stay or continuing care) beds in Fung Yiu King Hospital (80 beds)
5. Geriatric day hospital in Fung Yiu King Hospital (22 places)
6. Discharge planning programmes for the elderly, both Queen Mary Hospital and Fung Yiu King Hospital
7. Geriatric out-patient clinics
  - (a) Geriatric clinic in Sai Ying Poon Polyclinics (new case assessment and follow-up)
  - (b) Falls clinic in Queen Mary Hospital
  - (c) Memory clinic in Queen Mary Hospital
  - (d) Geriatric nutrition clinic in Queen Mary Hospital
  - (e) Continence clinic in Fung Yiu King Hospital
8. Hong Kong West Community Geriatric Assessment Service
  - (a) Outreach medical and rehabilitation service to care and attention homes, day-care centres and multi-service centres
  - (b) Pre-admission assessment of elderly people prior to admission to subvented residential homes
  - (c) Assessment service for Central Infirmiry Waiting List clients to determine need for infirmiry placement
  - (d) Domiciliary visit — medical, nursing, physiotherapy, occupational therapy service
  - (e) Education and training programme to carers and community elders.  
Venues — in multi-service centres, day-care centres, care and attention homes, and in Fung Yiu King Hospitals
  - (f) Health education, screening and health promotion programme to community elderly people (in collaboration with district boards, hospitals in the Hong Kong West cluster, Hong Kong College of General Practitioners, social centres and multi-service centres for the elderly)

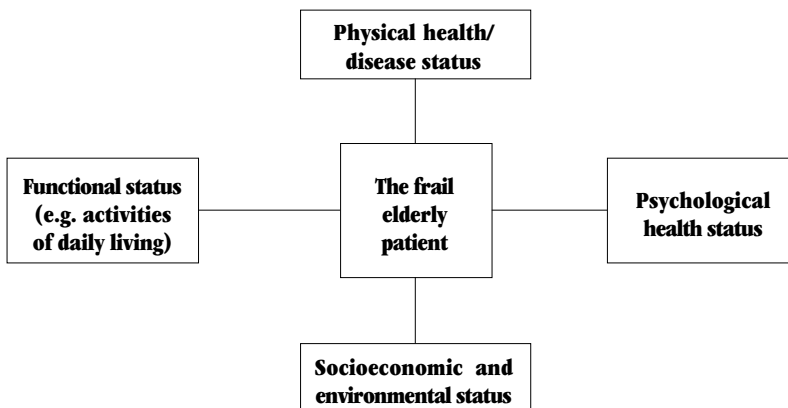


Figure I.1 Multi-dimensional assessment of the frail elderly patient

Core members:

**Geriatrician**  
**Nurse**  
**Social worker**  
**Occupational therapist**  
**Physiotherapist**

Supporting members:

**Dietitian**  
**Podiatrist**  
**Speech therapist**  
**Prosthetic and orthotic specialist**  
**Psychogeriatrician**  
**Clinical psychologist**  
**Volunteer**  
**Pastoral care**

By consultation:

**All subspecialties of medicine**  
**Other specialties**

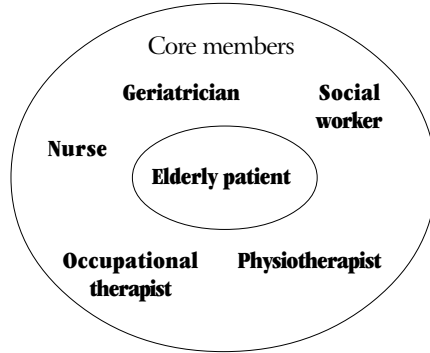


Figure 1.2 The multi-disciplinary geriatric team

## ELDERLY SERVICES RELATED TO GERIATRICS

### Residential homes (subvented) for elderly people

A full range of residential facilities for the elderly will be available in the near future. The old self-care hostel will be phased out gradually. Seven new nursing homes providing 1400 places for elderly people is anticipated to commence service in 1997. The objective is to provide service for elderly people whose needs are intermediate between those of the infirmary and subvented care and attention homes. The future continuum will then be homes for the aged, care and attention homes, nursing homes, and infirmaries<sup>12</sup> (Figure 1.3). To achieve a smooth operation and to avoid unnecessary duplication, a single waiting list should be maintained. Assessment should be carried out by a team of multi-disciplinary staff, preferably by the existing community geriatric assessment team. The present services provided by the Hospital Authority, the Department of Health, the Social Welfare Department and non-government organizations require very good co-ordination. Partnership between the public, subvented and private institutions is very important. In the process of implementation, the establishment of a regional co-ordination body to overlook all elderly services in each region ensures seamless care provision for the elderly people in need of different services.

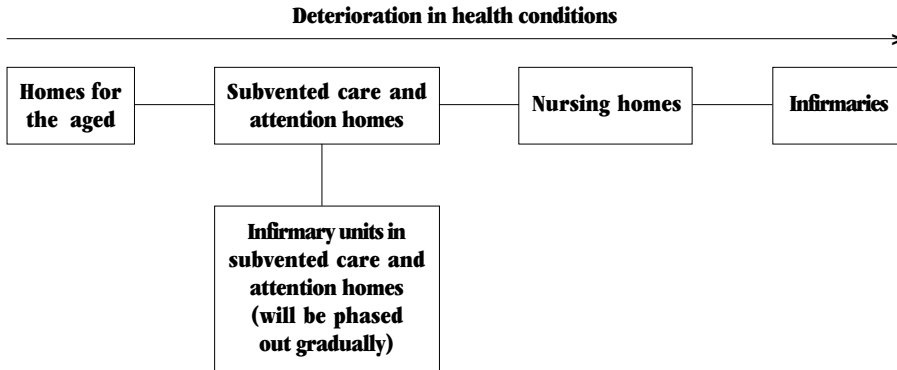


Figure 1.3 Future continuum of residential care for elderly people in Hong Kong

## Long Central Infirmery Waiting List

Prior to the launch of Community Geriatric Assessment Service for the Central Infirmery Waiting List clients in 1994, there were over 5000 people on the list. After initial assessment, about 30% of the names were removed from the list — the majority of them were dead at the time of contact. In October 1996, there were still 5514 people waiting for an infirmery bed [source: Hospital Authority of Hong Kong, monthly statistics on central waiting list for general infirmery service]. Approximately 90% of the infirmery waiting list clients were elderly<sup>18</sup>. To cope with the large demand, more infirmery beds are required when building future hospitals. As it takes years to build a hospital, more infirmery beds should be designated in hospitals which still have spare capacity. The latter may arise as a result of a decline in paediatric and young patient population in hospitals. The opening of an infirmery ward under the existing geriatric service in Pamela Youde Nethersole Eastern Hospital has set an example of maximizing resource utilization in a general hospital as well as providing a continuum of geriatric hospital care in the same setting.

## Elderly health centres

Seven elderly health centres have been planned<sup>12</sup>. Six centres have already been opened. The present objectives of providing basic health screening and education to the centres' members do not seem to obtain the desired response. Charging a fee of \$220 could be a discouraging

factor. Another problem is the lack of geriatric input and support. Perhaps closer liaison should be developed with existing geriatric service on a regional basis.

## Private nursing homes

In February 1995, the number of private nursing homes for the elderly was 435. Altogether, they provided about 19 141 places [Ref. (27) in HA752/10/3/3II]. Different standards of nursing, nutrition and psychological care for the elderly residents have been noted in private nursing homes. The majority of the private nursing homes (over 97%) have poor standards<sup>21</sup>. Elderly patients with very poor nutritional states, aspiration pneumonia, development or deterioration of pressure sores, and limb contractures are often encountered in our daily geriatric practice. These simply reflect the poor nursing and caring standards. Additional fees are often charged by the private nursing home for escorting the elderly patient to attend clinic for follow-up. This additional financial burden may result in subsequent loss of clinic follow-up and unnecessary hospital admissions.

The implementation of the ‘Residential Care Homes (Elderly Persons) Ordinance’<sup>22</sup> in June 1996 should lead to an improvement of standards in the private nursing homes. Staffing by trained health workers (trained by the College of Nursing and the Social Welfare Department) and compliance to a set of medical, nursing and safety standards are required by the Ordinance<sup>23</sup>. As the majority of private nursing homes may not be able to meet the required standards, a grace period of three years is available for these homes to make improvement. The main worry is massive closing down of private nursing homes at the end of the grace period. The elderly residents may then be sent back to their own homes or re-admitted into the already congested hospital system.

## Community Geriatric Assessment Service — the need for further development

### *Elderly people who are living alone*

This was an area which struck the headline in February 1996 when nearly 30 elderly died during the cold spell<sup>24,25,26</sup>. Geriatric outreach

service should be extended to these needy elderly people. A pro-active approach should be adopted. A strategy of active domiciliary case finding by trained geriatric nurse should be practised. A programme of in-home geriatric assessment can postpone the development of disability and reduce institutionalization amongst elderly people living at home<sup>27</sup>.

‘Hospital in the home’, a domiciliary geriatric service model first developed in Australia, is being experimented by some geriatric services in Hong Kong (e.g. project by Haven of Hope Hospital<sup>28</sup>). It can be part of the Community Geriatric Assessment Service.

Apart from services provided by professional carers, informal carers (i.e. family members, friends, volunteers, etc.) should be mobilized (through education and training in care-giving) and supported by the professional geriatric staff<sup>12</sup>.

### ***Health promotion and preventive geriatrics***

There are presently many community health promotional events in Hong Kong. Current health promotional activities only focus on the detection of common medical illnesses and education in common medical diseases<sup>12</sup>. Looking ahead, a comprehensive preventive strategy should be devised. More should be done on the preventive aspects of care including life-style modifications (e.g. exercise, nutrition) in the old age. Psychological health should also be promoted. Collaboration with the elderly health centre should be practised at the regional level.

### ***Extension of geriatric support to private nursing homes***

Knowing the poor standards of the private nursing homes in Hong Kong, these homes are in need of professional geriatric advice. If co-operation of the staff in these homes can be obtained, visiting medical and rehabilitative services should be offered to these homes by the community geriatric assessment team.

### ***Migration of elderly people back to China — either after retirement or when they became chronically sick***

Many of our Hong Kong elders came to Hong Kong from Mainland China when they were young. Some of them still have family members in the Mainland. The cost of living is lower in China compared to Hong Kong. Therefore, we may assume that some of them may prefer to return and live in China after retirement. The result of a local



survey found that only 3.3% of the elderly would go back to China for their retirement<sup>29</sup>.

However, for the sick or disabled elderly patients, problems of care-giving arise. A small number of our patients migrated back to China because of the lower cost of living or the availability of care-givers there. Unfortunately, the continuity of medical care was jeopardized. The lack of proper follow-up medical care would sometimes lead to disastrous though preventable medical complications, e.g. diabetic hypoglycaemic or hyperglycaemic coma. Furthermore, geriatric rehabilitation is not practised in most part of China.

## **AGEING RESEARCH AND GERIATRIC CARE**

### **Ageing, diseases and disuse**

Physical frailty and/or mental frailty are important concerns in geriatric care. Frailty is a condition in which deteriorating physical and/or mental function places the elderly person at increased risk of poor outcomes, e.g. mortality, hospitalization, institutionalization. Poor physical functional status and mental functional status have been shown to be powerful predictors of poor outcomes<sup>30</sup>. Normal ageing, age-related diseases and undesirable life-style factors (e.g. disuse) all contribute to physical or mental frailty. The delineation of reversible factors on top of ageing can lead to major improvement in the function and quality of life in the old age. For example, disuse (or de-conditioning) constitutes a large portion of the age-related decline in function<sup>31</sup>. The following account highlights, from a personal point of view, the important areas in recent geriatric research.

Age-related changes (mainly decline in morphological, physiological and psychological functions) have been well described<sup>32,33,34</sup>. Cross-sectional studies have provided some clues to what might be the changes due to ageing. Longitudinal studies, on the other hand, have pointed out the dangers of trying to derive general conclusions from cross-sectional studies alone. For example, the generally accepted age-related linear decline in organ functions has been proven to have large individual variation, both among the organ systems within a given individual and across individuals for a given organ<sup>34,35</sup>. On the issue of the mechanism of ageing, it is a subject of a lot of researches. Studies with the fruit fly *Drosophila* and the nematode *Caenorhabditis elegans*

help to define the genetic basis of ageing. These studies have suggested that derepression of a gene (age-1) may lead to the production of a 'death compound'. On the issue of life prolongation with dietary restriction in rodents, it has been found that dietary restriction has produced many of the hormonal changes associated with ageing. The other area is the resurgence of the free radical theory of ageing and the role of mitochondrial DNA mutations with ageing. They open new ideas for research in therapeutic interventions<sup>30,36,37</sup>.

The prevention, treatment and rehabilitation of age-related diseases are important areas in clinical geriatrics. Researches into age-related diseases can help to improve outcome and quality of life in the elderly people. They can also help to separate the effect of diseases from ageing. The prevention of disability is as important as the reduction of mortality. Stroke, dementia, hip fracture and Parkinson's disease are responsible for the majority of severe disabilities in Hong Kong<sup>18</sup>. Treatment of both systolic and diastolic hypertension are very effective in lowering stroke and cardiovascular events. [EWPHE<sup>38</sup>, STOP-hypertension<sup>39</sup>, MRC trial<sup>40</sup>, SHEP<sup>41</sup>.]

In Hong Kong, the incidence of hip fractures has increased about three-fold over the past 20 years<sup>42</sup>. The main determinants for hip fractures in the elderly are osteoporotic bone (low bone mass) and falls<sup>43</sup>. Preventive measures for osteoporosis and falls are effective in reducing osteoporotic fracture. Adequate calcium intake<sup>44,45</sup>, adequate Vitamin D intake<sup>46</sup>, exercise<sup>45</sup>, hormonal replacement in post-menopausal female<sup>30</sup>, and probably thiazide diuretic treatment<sup>47,48</sup> are preventive measures for osteoporosis. The low average calcium intake (400mg or less)<sup>49</sup> has been shown to be a risk factor for hip fracture among elderly people in Hong Kong. Calcium supplementation and exercise have been found to be effective treatments in increasing bone density<sup>45</sup>. Falls in the elderly is a very hot topic in geriatric literature. The risk of falls is related to the presence of risk factors which include decreased vision, decreased balance, hip weakness sedative drug and the need for more than four medications<sup>50,51</sup>. Moreover, the risk of falls is directly proportional to the number of risk factors<sup>52</sup>. In management, a multi-factorial intervention programme for falls has been shown to be effective in reducing falls<sup>53</sup>. Recently, falls prevention and intervention research in various settings (hospitals, nursing homes and in the community) has been started in several geriatric units in Hong Kong.

Another factor causing physical frailty is prolonged disuse or de-conditioning. A long period of reduced physical activity can lead to sarcopenia<sup>31</sup> which may result in significant decline in functional status

in the old age<sup>54</sup>. Hormonal decline contributes too to the occurrence of sarcopenia. These observations thus open up possible channels for intervention in the old age.

Exercise, particularly resistance exercise, has been shown to increase remarkably the muscle bulk, muscle strength, walking ability and functional status in the frail nonagenarian living in nursing homes<sup>55,56</sup>. Exercise is useful in retarding the age-associated changes in body composition, aerobic capacity and strength<sup>57</sup>. In an eight-year longitudinal study of runners versus control (subjects in each group were at least 50 years old), runners were reported to have better functional state (as measured by disability score)<sup>58</sup> than control. In the Chinese culture, *tai chi chuan* is a fairly well accepted type of exercise. Previous studies in elderly *tai chi chuan* practitioners have shown an encouraging trend towards slowing down the decline in cardiorespiratory functions<sup>59,60</sup>. It can also reduce the occurrence of falls<sup>61</sup>. Future studies can investigate its long term effects in both mortality and functional status, and compare its efficacy with other types of exercise. However, the main difficulty in any exercise research is the problem of compliance. Interest, motivation, fun, and social interaction should be incorporated into exercise programmes to improve the compliance.

Several hormones have been noted to decline with advancing age. In addition to the dramatic decline in estrogen at menopause, growth hormone, testosterone and dehydroepiandrosterone (DHEA) all show an age-related decline. Hormonal replacement therapy (HRT) in postmenopausal women has been shown to have beneficial cardiovascular and bone effects<sup>30</sup>. The acceptance of HRT among Hong Kong women, however, is low<sup>49</sup>. Growth hormone replacement could partially reverse the age-related body composition change. Unfortunately, it also causes troublesome side effects, particularly carpal tunnel syndrome. Other researches with growth hormone or growth hormone releasing hormone with or without exercise are still under investigation<sup>62</sup>. Age-related decline in DHEA and its sulfate has been found to be correlated with lower performance in basic activities of daily living<sup>63</sup>. Replacement of DHEA has been found to improve memory function<sup>64</sup> and decrease bone loss<sup>65</sup>. More results are needed before replacement therapy can be considered for widespread use.

High prevalence of undernutrition among the elderly people contributes to high mortality<sup>66</sup> and frequent hospital admission<sup>67</sup>. Nutritional supplementation can decrease mortality<sup>68</sup>. Vitamin supplementation is effective in decreasing bed-days due to infection. Pyridoxine supplementation can improve cognitive function while

thiamine supplementation can improve general well-being in selected elderly subjects<sup>69,70</sup>. Future studies are required in these areas. Cholesterol levels in the elderly are less predictive of cardiovascular disease and total mortality. The practice of avoiding cholesterol-lowering drugs in elderly people is further supported by a recent meta-analysis which failed to show a decrease in mortality even in middle-aged patients. There is evidence which suggests that low cholesterol levels are predictive of future cognitive function<sup>30</sup>.

Mental frailty is another important problem in geriatrics. Cognitive impairment and depressive symptoms are common among elderly people in Hong Kong<sup>71,72</sup>. Screening for cognitive impairment and depression in local elderly people is now facilitated by the availability of validated local brief assessment tools<sup>73,74,75</sup>. Early recognition of depression is important. Over 30% of the suicide deaths in Hong Kong were elderly aged 60 or above<sup>76</sup>. Dementia is a devastating disorder. To people with Alzheimer's disease, the development of Special Care Units<sup>77</sup> in the United States, the launching of tacrine (tetra-aminoacridine)<sup>78</sup>, donepezil<sup>79</sup> and estrogen replacement<sup>80</sup> treatments represent new though controversial management approach. Further research is required in the local community on this approach. The greatest advance is in the understanding of the pathogenesis of Alzheimer's disease (AD). The characteristic lesions of AD are the b-amyloid deposits (plaques) and abnormally phosphorylated tau proteins, resulting in the accumulation of insoluble paired helical filaments (neurofibrillary tangles). b-amyloid protein is derived from an amyloid precursor protein that is regulated by a gene on chromosome-21. In mice model, b-amyloid protein has been shown to produce memory loss for recent events but not previously learned events. Continuing studies show that a number of small peptides can inhibit the amnesic effects of the b-amyloid protein. b-amyloid protein probably produces its amnesic effect through interacting with gamma-amino-butyric acid receptor<sup>30</sup>. The presence of the genotype APOE-ε4 has also been shown to be an important genetic determinant of susceptibility to AD<sup>81</sup>. Another finding is the slowing of cognitive decline by indomethacin, probably through inhibition of complement activation<sup>82</sup>. Further research in these areas may allow more rational drug design for Alzheimer's disease.

## **Health services research in geriatrics**

Health services research is a very important area in geriatric care.

Elderly patients are the major consumer of health care resources in Hong Kong. In 1995, 40% of hospital in-patients under the Hospital Authority of Hong Kong were elderly people aged 65 and over (point prevalence at 30 March 1995)<sup>83</sup>. In any evaluation or research, clinical outcomes should include an assessment of functional performance and quality of life. Health services utilization outcome measures should include an assessment of optimal use or unnecessary use. Over the past two decades, the role of geriatric assessment and management units in the management of the frail elderly patient have been studied in many randomized clinical trials. A recent meta-analysis published in the *Lancet* confirmed the usefulness of geriatric programmes in improving mortality, placement, physical and cognitive function, and decreasing hospital admission<sup>84</sup>. Locally, the problems encountered by elderly patients discharged from hospitals in Hong Kong have been studied. Various problems have been found — unsatisfactory follow-up procedure, medication compliance problems, lack of community support and an increase in functional disabilities<sup>85</sup>. The provision of an elderly discharge programme, in many hospitals in the last two years is a step forward to improve the large variety of caring issues after hospital discharge. Another recent development in Hong Kong is the networking of geriatric and community welfare services for the elderly at every regional level. Preliminary data on Community Geriatric Assessment Service in Hong Kong has demonstrated its effectiveness in decreasing unplanned hospital admissions, decreasing visits to the Accident and Emergency Department as well as decreasing the staff escort time for the subvented care and attention home<sup>86</sup>. However, longer term studies of larger scale are required to document its effectiveness versus cost. In the future, provision of new services should be integrated with health services research to enable evaluations. Many other areas such as frequent hospital readmission<sup>87,88,89</sup>, polypharmacy<sup>90</sup>, the use of restraint<sup>91,92</sup>, resuscitation policy<sup>93,94,95</sup> concerning the elderly have been researched in overseas countries. However, local data is inadequate. Differences in cultural, societal and health care systems limit the direct applicability of overseas research results in Hong Kong. Controlled studies are therefore needed while translating overseas research findings into our daily geriatric practice in Hong Kong.

## CONCLUSION

Over the past 20 years, geriatric services have developed from one formal geriatric service for the whole of Hong Kong to at least one geriatric service in each hospital cluster in this city. Geriatric medicine aims at managing the complex disease-related health care, rehabilitation and social needs of elderly patients, with a co-ordinated multi-disciplinary approach. Future advances in the treatment of age-related diseases, ageing research and health services research may hopefully lead to further improvement of functional status, quality of life as well as longevity of our elderly population.

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