



# Hong Kong Sheng Kung Hui Lok Man Alice Kwok Integrated Service Centre

**COMMUNITY FALL AND FRACTURE PREVENTION**

**Katherine K.L. Wong**

**15<sup>th</sup> April, 2007**

# Acknowledgement

- **Department of Orthopaedics & Traumatology, CUHK**
- **Physiotherapy Department, Kowloon Central Cluster, Hospital Authority**
- **Department of Rehabilitation Sciences, the Hong Kong Polytechnic University**
- **Tai Chi Association**
- **Local organizations, schools, churches, elderly service units, etc.**

# Background

- Tokwawan and old Kowloon City are the main service areas of H.K.S.K.H. Lok Man Alice Kwok Centre
- Covering an area of approximately 1000 hectares with a population of 381352 people.
- Above 15% of its population aged at 60 & above (i.e. 20,098)
- The majority of its population dwell in private sector housing, including old tenement buildings, private residential developments
- Poor housing environment: overcrowded, relatively neglected in planning and design from room to neighbourhood level, without automotive lifts, narrow stairs without handrail, etc.
- Frail elders with ADL disability became home bound. Quality of life affected.
- The Train the Trainer Approach adopted to facilitate the implementation of mass scale, multi-level fall prevention movement in old urban community



# Needs of the Community

- Locate in an old urban area (Tokwawan in Kowloon City)
- 15% of the whole population are aged 60 or above (appro. 20,098)
- District Elderly Community Centre (DECC) to co-ordinate the community resources to launch the pioneer project on Community Fall Prevention,
- To echo the theme of "Individual Care and Total Concern" of our agency.



# Needs of the Community

- Result of the community survey launch in Aug, 2004, shown that :
  1. 70% households have more than 4 risk factors at home
  2. 40% interviewees felt they walked unstable, among them 8.5% have fall record in the past 3 months before interview
  3. 85% interviewees have >1 chronic diseases
  4. 12.6% interviewees GDS scored >8 indicate higher possibility of depression



# Comprehensive Program

- 1<sup>st</sup> stage (2003 – 2005), we start off 'Train the Trainer Approach' to facilitate the mass scales, multi-level fall prevention movement in the old urban area
- 2<sup>nd</sup> stage (2005 – 2006), support from CUHK, Vibration Therapy is launch.
  - Function Reach
  - Balance Master
- To stratified the service users into 3 categorizes
- Match with various service projects to the needy
  - Community educational talks and programs
  - Prescribed physical exercises
  - Referred to Vibration Therapy



# Objectives :

- Educate the staff from community centers and home care service as well as enthusiastic volunteers on professional knowledge of elderly fall and fracture prevention.
- With the participation of trained staff and volunteers, the message of elderly fall and fracture prevention can be spread throughout the whole community.
- Enhance awareness of elders with fall risk and their family care-givers towards falls and fractures, and equip with knowledge of preventive measures.



# Service Strategy





# **Strategic Alliance**

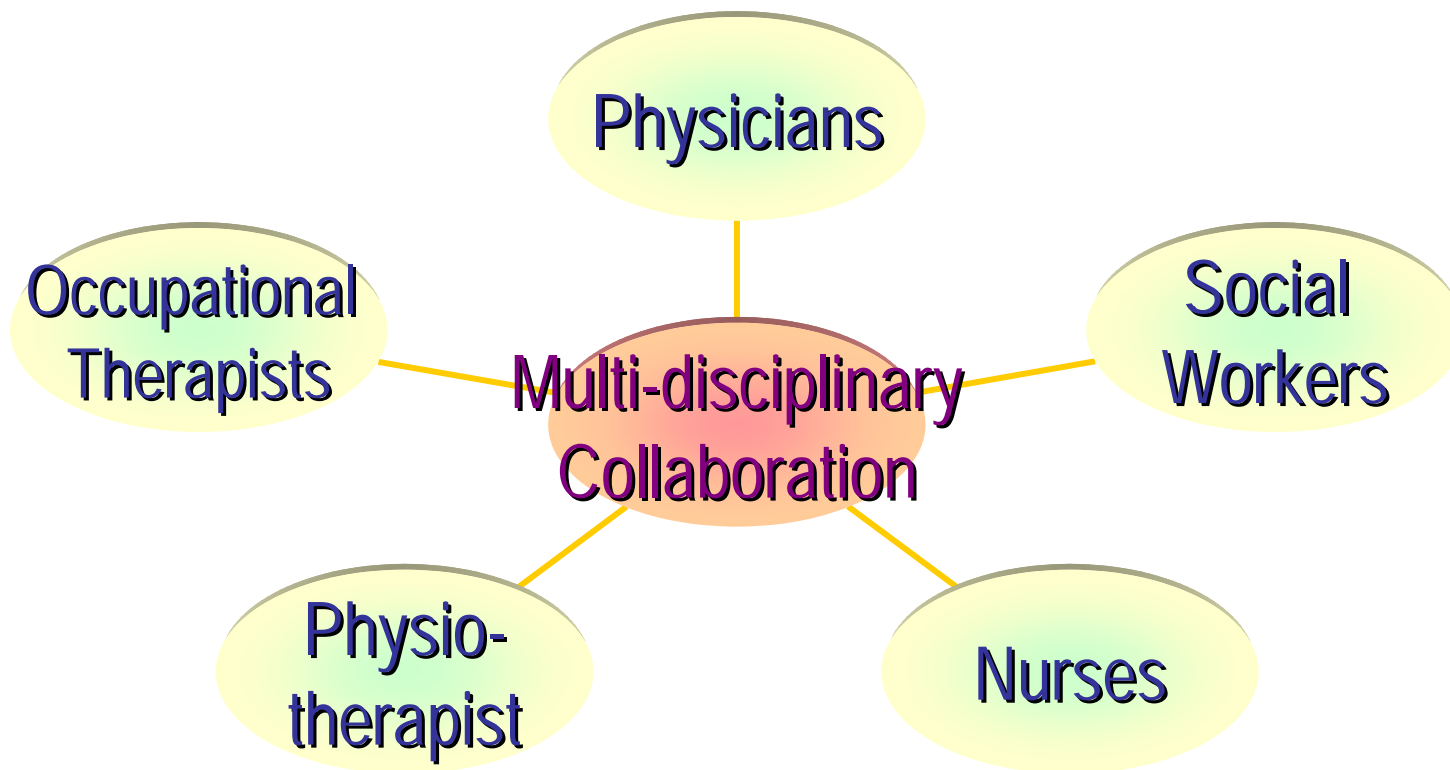
**Department of Orthopaedics &  
Traumatology, CUHK**

**Physiotherapy Department, Kowloon  
Central Cluster, Hospital Authority**

**Department of Rehabilitation Sciences,  
the Hong Kong Polytechnic University**

**Local Organizations  
Medical Sector**





# Professional Staff

Professional Staff

Professional staff from  
community centers and home care service  
are equipped with knowledge  
of elderly fall and fracture prevention

Planning and Delivery of  
District Wide Fall Prevention Programmes



# Training for professional Staff

Target:

Professional staff in elderly service units of Kowloon City

No. of Participants:

- District Elderly Community Centre, **DECC** (1)
- Neighbourhood Elderly Centre, **NEC** (1)
- Social centres for the Elderly, **SE**(1)
- Integrated Home Care Service, **IHCST**(6)
- Integrated Family Service Network, **IFSC** (2)
- Churches and Religion Organizations (1)
- Enhanced Home & Community Support Service, **EHCSS** (1)



# Training for professional Staff

- "Train-the-Trainers" Course on prevention of falls and fractures
- Workshop on Use of Rehabilitative Aids
- Workshop on Use of Stair Chair



# "Train-the-Trainers" Course on prevention of falls and fractures (For professional staff)

- Epidemiology of elderly fall and fractures in Hong Kong
- Pathology of osteoporosis, causes of falls and prevention measures
- First aid towards fractures



# "Train-the-Trainers" Course on prevention of falls and fractures (For professional staff)

- Fall prevention exercises introduction and practice
- Fall Risk Screening Test CUHK



# "Train-the-Trainers" Course on prevention of falls and fractures (For professional staff)

- Home safety assessment
- Use of assistant device and rehabilitation equipment





# "Train-the-Trainers" Course on prevention of falls and fractures (For professional staff)

- Assessment for Stair Chair



# Frontline Staff

Frontline Staff

Frontline staff from  
community centers and home  
care service are equipped with knowledge  
on home safety assessment & fall risk assessment

Enhance client safety and avoid fall  
in course of service delivery



# "Train-the-Trainers" Course on prevention of falls and fractures (For frontline staff)

- Target :  
Frontline staff in elderly service units (including private home, home care) of Kowloon City
  
- No. of Participating Units :
  - District Elderly Community Centre (1)
  - Private Home (4)
  - Enhanced Home & Community Support Service (1)
  - Integrated Home Care Service(6)
  
- No. of Participants : 191



# "Train-the-Trainers" Course on prevention of falls and fractures (For frontline staff)

- Workshop on Assessment of Elderly Fall Risk
- Workshop on Assessment of Home Environment Safety
- Workshop on Use of Assistant Device and Rehabilitation Equipment
- Workshop on Safe Transfer
- Workshop on Use of Stair Chair



# "Train-the-Trainers" Course on prevention of falls and fractures (For frontline staff)

- Workshop on Assessment of Elderly Fall Risk (1)

No. of participant : 48 p

- Workshop on Assessment of Home Environment Safety (1)

No. of participant : 50p



# "Train-the-Trainers" Course on prevention of falls and fractures (For frontline staff)

- Workshop on Use of Assistant Device and Rehabilitation Equipment (1)
- No. of participant : 24p
- Workshop on Safe Transfer (1)
- No. of participant : 52p



# "Train-the-Trainers" Course on prevention of falls and fractures (For frontline staff)

- Workshop on Use of Stair Chair(1)  
No. of participant : 17p



# Volunteers

Volunteers

Volunteers are  
equipped with knowledge  
on home safety assessment  
& fall risk assessment

Spread message of fall prevention  
and provide support  
to elders in need





# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- Target:  
Volunteers at elderly service units of Kowloon City
- No. of Participating Units :
  - District Elderly Community Centre (1)
  - Children & Youth Integrated Service (1)
  - Secondary School (3)
  - School of Nursing, H.K. Polytechnic U.
  - Church (1)
- No. of Participants : 291p



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- 'Fall Prevention Ambassador' Project
- Workshop on Fall Risk Screening Test CUHK
- Workshop on Assessment of Home Safety
- Training of Volunteer Tai Chi Masters
- Training on Operation of Vibration Platform



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- 'Fall Prevention Ambassador' Project (4)  
No. of Participant : 66p



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- Workshop on Assessment of Fall Risk (3)  
No. of Participant : 124p



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- Workshop on Assessment of Home Environment Safety (2)  
No. of participant : 68p



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- Training of Volunteer Tai Chi Masters (1)  
No. of participant : 12p



# "Train-the-Trainers" Course on prevention of falls and fractures (For volunteers)

- Training on Operation of Vibration Platform (2)

No. of participant : 21p



# Elders & their Families

**Elders & their family  
care-givers are equipped with  
knowledge & training on fall prevention**

**Enhancing the elder's health & mobility  
eliminating environmental hazards  
Reduction of fall risk**





# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Target :  
Elders assessed with fall risk  
Members of Community Project on Falls Prevention
- Collaborating Organizations :
  - Department of Orthopaedics & Traumatology, CUHK
  - Physiotherapy Department, Kowloon Central Cluster, Hospital Authority
  - Department of Rehabilitation Sciences, H.K. Polytechnic University
  - 青宜太極學會 Tai Chi Association
- No. of Participants : 1725p



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Establishment of Community Project on Falls Prevention  
425 Members (as at end of March 2007)



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- "Fall and Fracture Prevention" Educational Talk
- Physiotherapy Exercise Group
- No-Fall Exercise - Ten Combos Training
- Rehabilitation Exercise Group for Stroke Patients
- Physiotherapy Exercise (Individual Session)
- Vibration Therapy (Individual Session)
- Introduction of Community Resource on Fall Prevention



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- "Fall and Fracture Prevention" Educational Talk (8)

No. of participants : 720p



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Physiotherapy Exercise Group (36)
- No. of participant : 330p



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- 防跌太極十式No-Fall Exercise - Ten Combos Training (16)  
No. of Participant : 180p



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Rehabilitation Exercise Group for Stroke Patients (4)  
(Sun Style Tai-chi Chuan /Physiotherapy Exercise)

No. of participants : 15(Stroke patients),  
7(family care-givers)



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Physiotherapy Exercise (Individual Session)  
No. of participant : 72p





# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Vibration Therapy (Individual Session)  
No. of participants : 52p



# "Train-the-Trainers" Course on prevention of falls and fractures (Elders & their Families)

- Introduction of Community Resource on Fall Prevention (不倒翁家族情報站)  
Copies distributed : 2400



# Community

Community

**Multi-measure taken  
to spread message of fall prevention**



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- "Fall and Fracture Prevention" Educational Talk
- Fall Risk Assessment Service
- Check up of bone mineral density
- Foot Assessment
- Mobile Exhibition
- Introduction of community resource on fall prevention



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- "Fall and Fracture Prevention" Educational Talk (19)  
No. of participant : 1039p



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- Fall Risk Assessment Service (Balance Master Test)  
No. of people assessed : 714 p



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- Fall Risk Assessment Service (Fall Risk Screening Test CUHK)

No. of programme held : 6

No. of participant : 1054p

Result : High risk (123p)  
Moderate risk (397p)



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- Fall Risk Assessment Service

(30 second chair stand/ single leg standing/ timed up & go)

No. of participant: 309p

No. of programme held : 8

Result : High risk (21)

Moderate risk (149)





# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

- Check up of bone mineral density for women & elders

No. of programme held : 2

No. of participant : 280p



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

## ■ Foot Assessment

No. of programme held : 1

No. of participant : 56p



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

## ■ Mobile Exhibition

No. of programme held : 5

No. of participant : 1600p



# "Train-the-Trainers" Course on prevention of falls and fractures (for public)

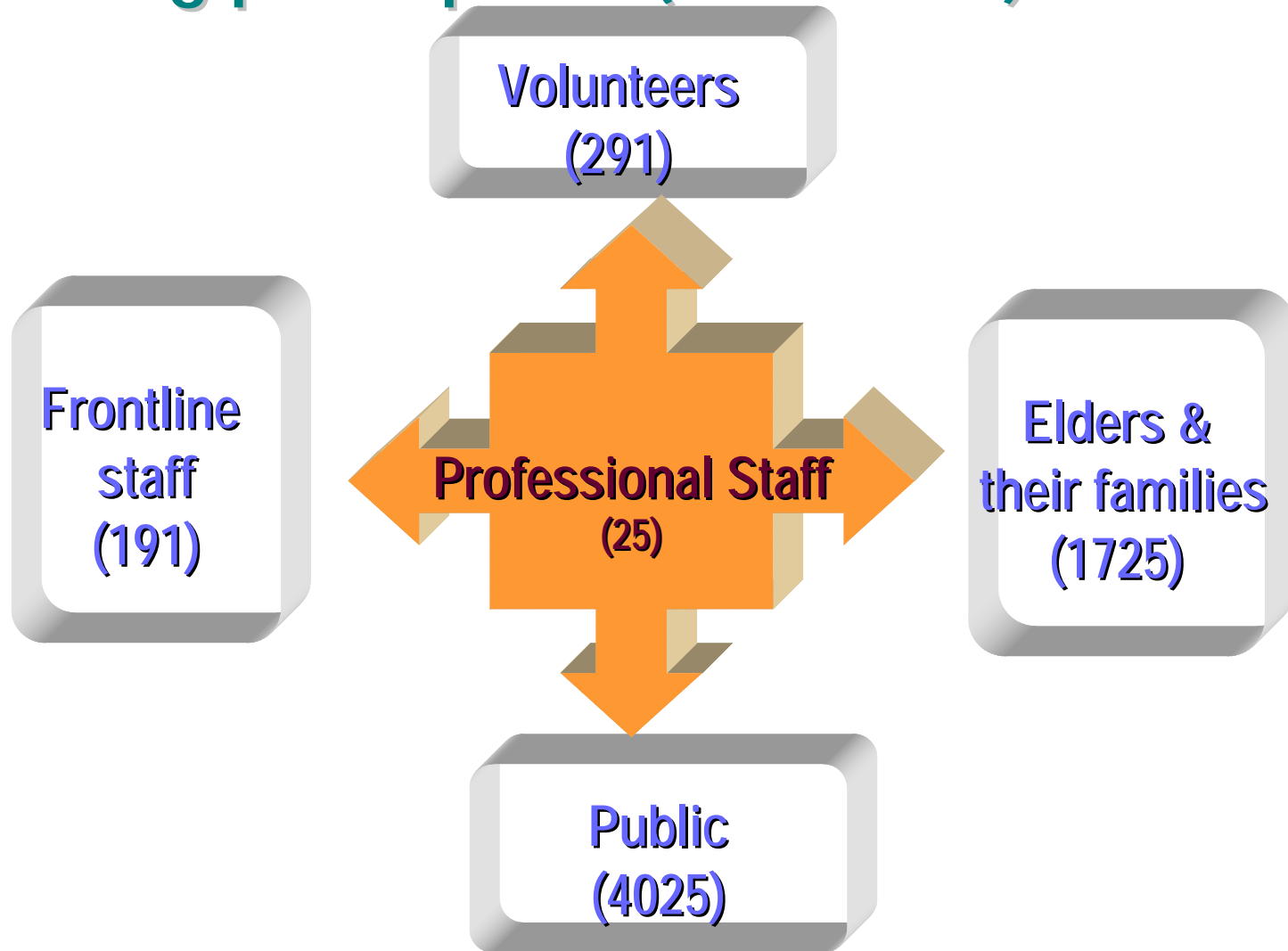
- Introduction of community resources on fall prevention



# Project Outcome



# Training participants (2003-2006)



# Service delivered by: Home Care Workers, Social Workers, Programme Staff, Volunteers

- Home Environment Safety Assessment
- Target: Elderly service recipients of Home Care Elderly singletons in the community
- No. of elders assessed : 753p
- Result :
  - Improved : 75p



# Service delivered by: Home Care Workers/Volunteers

- Fall Risk Screening Test CUHK
- Target : Elderly service recipients of Home Care / Elderly residing in Tokwawan old urban area & elderly
- Assessment Tool : Fall Risk Screening Test CUHK
- No. of elders assessed : 1054 p
- Result :
  - High risk : 123p (11.6%)
  - Moderate risk : 397p (37.6%)
  - Low risk : 534p (50.8%)





# Value-added Service

- Additional resources from funding body
- Installation of grab bars : 112
- Provision of shower chair : 54
- Provision of bath board : 6
- Provision of Automatic Night Bulbs : 600
- Provision of safety shower mat : 220
- Provision of walking aids (such as walking frames, walking sticks, crutches) : 26

Total: 1,018



# Value-added Service

- Liaise community resources
- Minor Works & Repair : 151
- Improvement of lighting of the building : 1 bldg. (with about 80 residents)



Ceiling water leakage



After Repair



Broken glass



After Repair



# Value-added Service

- Referrals
- Special Out-patient Clinic : 27p
- Rehabilitation Exercise : 223p
- Poly University Rehabilitative Centre for Assessment : 16p



# Programme Outcome

- **Physiotherapy Exercise :**
- No. of participant joining the pre-test & post-test : **59p**
- Test Time : Before commencement of physiotherapy exercise and three months after completion of physiotherapy exercise
- Assessment tool : 30 second chair stand/ single leg standing/ timed up & go
- Assessment area : Level of improvement of Lower limb muscle strength & balance
- Findings :
  - 30 second chair stand : **98%**
  - single leg standing : **67%**
  - Time up & go : **83%**



# Programme Outcome

## ■ Vibration Therapy :

- No. of participant joining the pre-test & post-test : 52p
- Test Time : Before commencement of Vibration Therapy and three months after completion of Vibration Therapy
- Assessment tool : Functional reach/ Balance Master
- Assessment area : reaction time/movement velocity / end-point excursion/ maximum excursion/directional control
- Findings :
  - Functional reach : 65.4%
  - Reaction time : 59.6%
  - Movement velocity : 59.6%
  - End-point excursion : 75%
  - Maximum excursion : 76.9%
  - Directional control : 67.3%



# Conclusion

- Utilization of Community assets
- Expansion of existing service scope
- Synergy of co-operation between welfare and medical sector
- Enhancement of service output & quality
- Spread of message of fall prevention in community



# Future Plan

- Expand alliance network  
(Renowned medical/health organizations)
- Expand network of professionals  
(Pharmacist, Optometrists , Dietitian, Podiatrist, etc)
- Expand volunteer network  
(Schools, churches, local organizations)
- Service Promotion



**Building up No Fall Community**





Thank You

謝謝