The Chinese University of Hong Kong
The Nethersole School of Nursing
CADENZA Training Programme

CTP003 – Module II

Theme I: Practical issues of chronic disease management

Ch 1 –Self-care model for chronic disease management

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香港賽馬會慈善信託基金
The Hong Kong Jockey Club Charities Trust

Lecture Outline

- Definition of chronic disease?
- Deficiencies in current health care system
- Effective and efficient care: Self-management of chronic disease
- Introductory of Chronic disease self-management programme (CDSMP)
  - Local example

Definition of Chronic Disease (CD)

- Any condition **last longer** than 6 months and are **non-communicable**
- Any condition that **can only be controlled** and **not**, at present, **cure**
- Any condition requires ongoing adjustment by the affected person and interactions with the health care system.

(Kozier, Erb, Blais & Wilkinson, 1998; World Health Organisation, 2005)

A New Definition of Chronic Conditions

- The term "***chronic conditions***" includes but expands beyond the traditional ***non-communicable disease***, such as heart disease, diabetes, cancer, and asthma, to several ***communicable disease***, such as HIV/AIDS.
- "***Chronic conditions***" are health problems that require ongoing management over a long period of time or decades.

A New Definition of Chronic Conditions

- Despite the cause, "***chronic conditions***" require lifestyles modification and health care management over time.
- "***Chronic conditions***" include:
  - Non-communicable conditions
    - heart disease, diabetes, cancer, and asthma
  - Persistent communicable conditions
    - HIV/AIDS
  - Long-term mental disorders
    - Depression, schizophrenia
  - Ongoing physical/structural impairments
    - Amputations, blindness, joint disorders

(World Health Organisation, 2002)

Why has effective chronic disease management emerged as a high priority agenda in the social and health care context?

Impact of Chronic Conditions

- "***Chronic conditions***" accounted for 59% of total mortality worldwide and 46% of the global burden of disease in 2000.
- This disease burden is projected to be increased to 60% by the year 2020; with the major causes, heart disease, stroke, depression, and cancer.

(World Health Organisation, 2002)

Impact of Chronic Conditions

- Detrimental impact on patients' quality of life:
  - discomforting physical symptoms
  - debilitation, disability and dependence
  - poor mental health
  - reduced role functioning
  - reduced life expectancy in terms of quality & quantity
- Immense burden on health services and social care resources
- Diminishes productivity of the society

(World Health Organization, 2005)

Is the current health care system effective in response to the chronic conditions?

Health care system

- "***Health care system***" had been defined as that system which encompasses all the activities with the primary purpose to promote, restore, or maintain health.

(World Health Organisation, 2000)

- The "***system***" are remarkably expanding and include patients and their families, health care workers and caregivers with organizations and in the community.

(World Health Organisation, 2002)

Deficiencies of current health care system

- The existing health care system is neither effective nor efficient for the current situation.
- The dominant reason is a contradiction between

The design of the current system --- which is designed for responding
acute disease

&

The principle problem confronting the system ---
Chronic Diseases

(Holman & Lorig, 2004)

Deficiencies of current health care system

- ***Historically,***

  as ***acute diseases*** and ***infectious diseases*** were the major concern for health care system, *the system was developed responding to acute problems and the urgent needs of patients.*

- ***However***,

  chronic diseases began to emerge as the major health care issue. A notable *disparity occurs when applying the acute care system to patients who have chronic problems.*

(World Health Organization, 2002)

The health care for chronic diseases is inherently very different from care for acute problems.

Acute disease characteristics	Chronic disease characteristics
Abrupt onset	Gradual onset common
Limited duration	Unfold over time
Usually single cause	Multivariate causation, changing over time
Diagnosis and prognosis commonly accurate	Undulating course
Specific therapy available	Diagnosis often uncertain; prognosis obscure
Technological interventions usually effective (laboratory, medication, surgery)	Indecisive technologies and therapies with adversities
Cure, likely return to normal health	No cure, management over time necessary
Minimal uncertainty	Uncertainty pervasive
Professional knowledgeable, laity inexperienced	Profession and laity partially and reciprocally knowledgeable

(Table ***acute disease characteristics and chronic disease characteristics***, pp. 240, Holman & Lorig, 2004)

Deficiencies of current health care system

- ***Besides,***

  the current system fail to ***recognize the importance of patients' behaviours*** and ***the value of quality interactions with health care professionals*** in influencing the health care outcomes.
- Two common problems:
  - Failure to empower patients
  - Failure to value patients interactions

(World Health Organization, 2002)

Deficiencies of current health care system

- ***As a consequence***,
  - discontinuity and fragmentation of care
  - technology is often applied needlessly
  - poor development of community and home-based care
  - expenditure on health costs is obviously not comparable to the benefits for patients
  - a large segment of the population cannot obtain appropriate health care

(Holman & Lorig, 2004)

What can be done in order to promote effective and efficient care of chronic diseases?

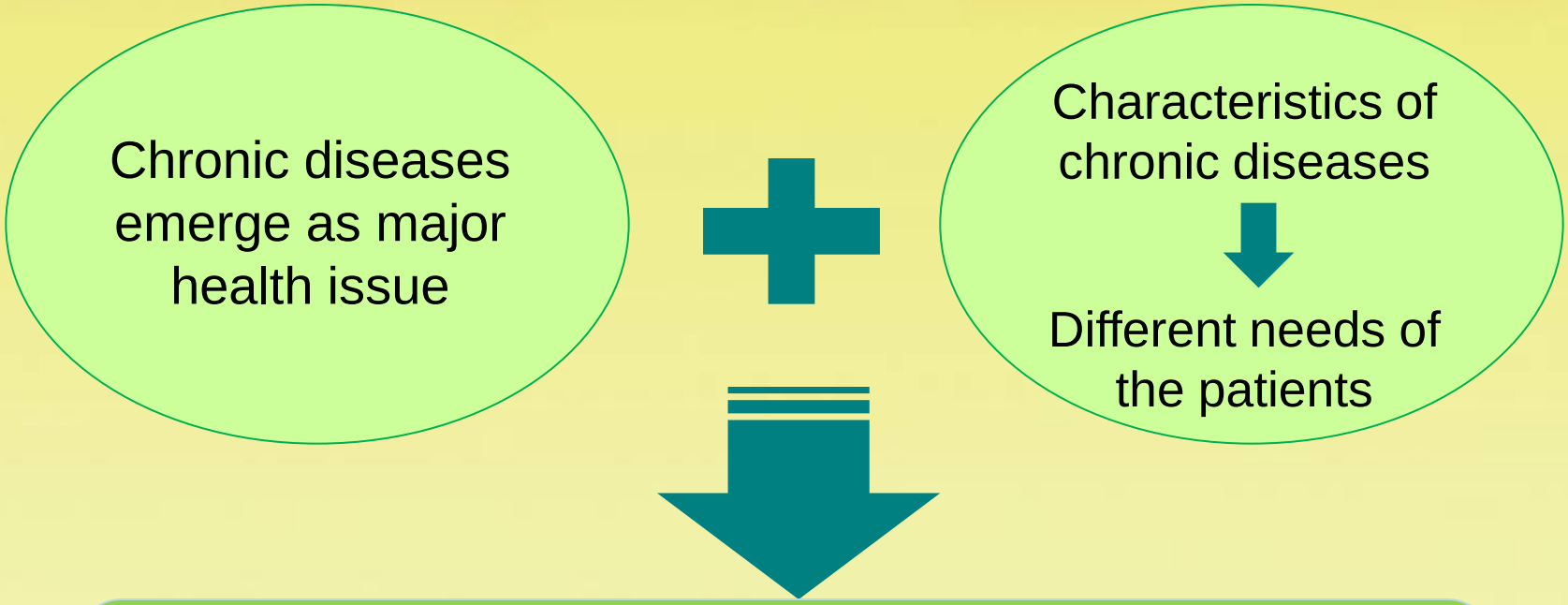
The key for effective and efficient care of chronic disease is ----

Patient self-management!

***"Self-management** refer to the individual's ability to manage the symptoms, treatment, physical and psychological consequences and lifestyle changes inherent in living with a chronic condition…" (p.178)*

(Barlow, Wright, Sheasby, Turner & Hainsworth, 2002)

Self-management in chronic disease management



Creates new responsibility for patients and health care professionals

(Holman & Lorig, 2004)

With
acute disease

- ***Patient:***
  is inexperienced
- ***Health care professionals (HCPs):***
  are knowledgeable, experts

HCPs apply that knowledgeable to a passive patient.

With
Chronic disease

- ***Patient:***
  Involved in day-to-day care
- ***Health care professionals (HCPs):***
  provide professional guidance and consultative support

Patient & HCPs are partners in the continuous caring process.

(Bodenheimer, Lorig, Holman & Grumbach, 2002; Holman & Lorig, 2004)

New chronic disease paradigm:

patient-professional partnership

Patient:
Own principal caregiver /
Own health care manager

Professional:
Health care consultant

Collaborative care

+

Self-management education

Collaborative care and ***self-management education*** are embraced in this new paradigm. They are conceptually similar but clinically separable components which.

(Bodenheimer, et. al., 2002)

Collaborative care

- Collaborative care is a description of the patient-professional partnership in which *patients and professional make health decisions together*. Patients and professionals are experts.

Patient:
Experts about their own lives

Professional:
Experts about diseases

(Bodenheimer, et. al., 2002)

Comparison of traditional and collaborative care in chronic diseases

Further reading:

- for the comparison between traditional and collaborative care in chronic diseases, you may refer to: Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. *JAMA, 288*(19), 2469-2475.

"*Patient Empowerment*"

- is an important concept in collaborative care.
- One of the goals in self-management in chronic disease is
  - to ***empower*** them to manage their health by emphasizing their leading role in their own health care.
  - patients accept this responsibility, willing and able to solve their problems with information provided from professionals, not ordered by professionals.

(Bodenheimer, et. al., 2002; Levich, 2007)

Self-management education

- Complements, not substitutes traditional patient education
- While ***traditional patient education*** offers information and technical skills, ***self-management education*** teaches problem-solving skills.

(Bodenheimer, et. al., 2002)

Comparison of traditional patient education and self-management education

Further reading:

- for the comparison between traditional patient education and self-management education, you may refer to: Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. *JAMA, 288*(19), 2469-2475.

"*Action Plan*"

- A major feature of self-management education is the patient-generated action plan.
- Features of the ***action plans***:
  - Developed by patients as something what they want to achieve
  - Not provided by HCPs or chose from a list of choices
- The purpose
  - is to promote patients' confidence in managing their disease.

(Bodenheimer, et. al., 2002;
Lorig, Holman, Sobel, D, Laurent, González & Minor, 2007)

"*Self-efficacy*"

- It is an important concept of self-management.
- It is the confidence to carry out a behaviour in order to reach a desired goal.

(Bodenheimer, et. al., 2002)

- It is defined as "*people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances. It is concerned not with the skills one has but with judgments of what one can do with whatever skills one possesses*"

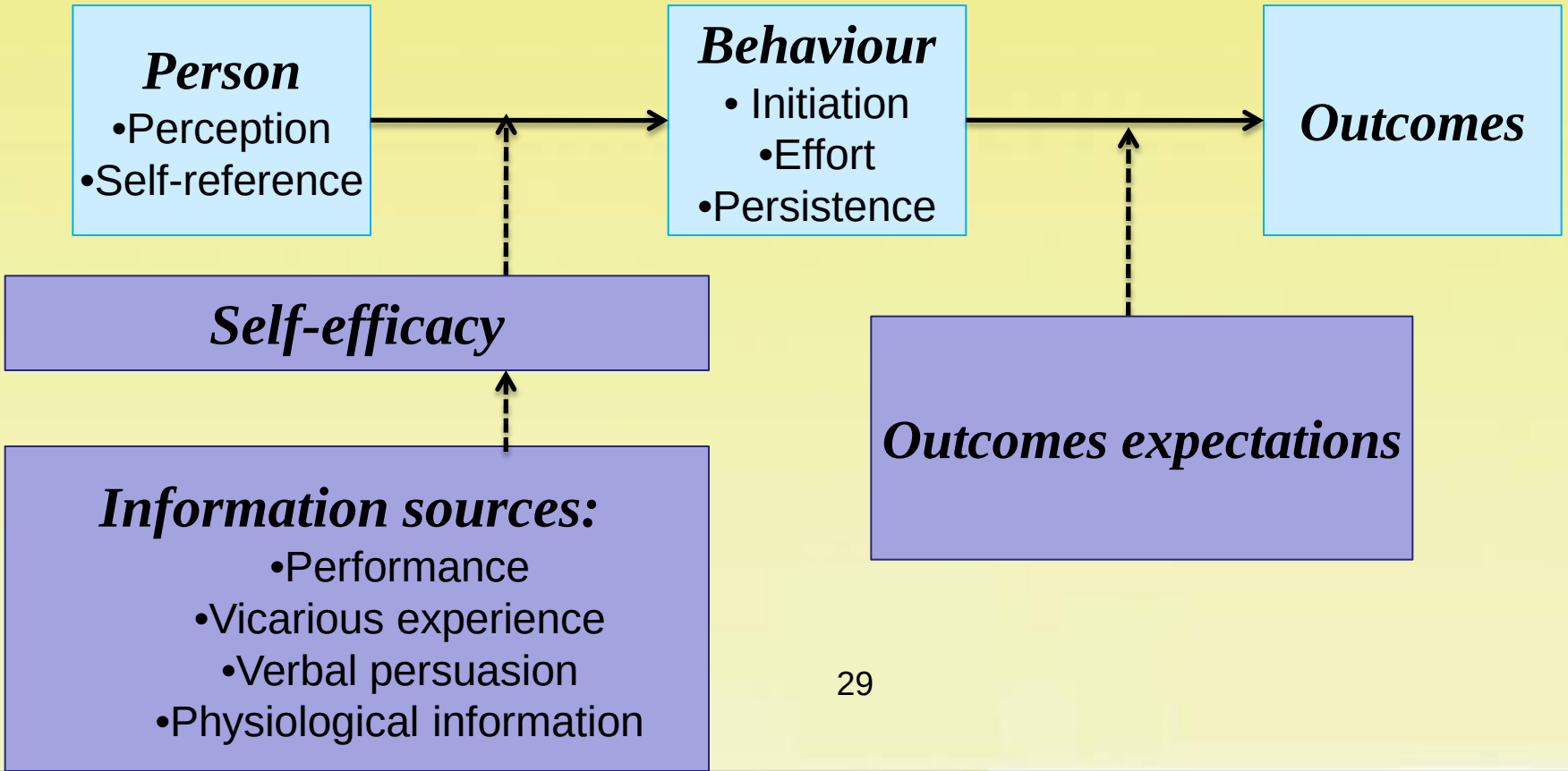
(Bandura, 1986, p. 391)

- It is not the capabilities in general, but related to specific situations.

(van der Bijl & Shortridge-Baggett, 2002)

"*Self-efficacy Theory*"

- It is crucial important to enhance patients' self-efficacy in self-management of chronic disease.
- According to "*Self-efficacy Theory*"



"Self-efficacy Theory"

- Self-efficacy beliefs are influenced by four important sources of information:
  - ***Performance accomplishments***
    - Practicing and earlier experiences is the most important source of self-efficacy as it is based on an individual's experience.
  - ***Vicarious experience***
    - Observation of others is also an important source of self-efficacy.
  - ***Verbal persuasion***
    - It is the most often used source of self-efficacy, but are weaker source than the previous two. It can be a good supplementation of other sources
  - ***Physiological information***
    - An individual can judge his/her own capacities by their physiological and emotional situation. This can influence self-efficacy negatively.

(van der Bijl & Shortridge-Baggett, 2002)

Barriers hinder the spread of self-management education:

- A lack of trained personnel to train patients.
- Patients are socialised into the medical model, fostering dependence on professionals and this hinders the recruitment of patients to educational programmes.

(Bodenheimer, et. al., 2002)

Impact of self-management interventions

- A review of 145 RCTs of self-management interventions training on patients with chronic conditions done in 2002 shows that different self-management approaches are effective in :
  - ***increasing participants' knowledge***
  - ***improving symptoms management and well-being of the patients***
  - ***increasing the use of self-management behaviours***
  - ***increasing self-efficacy***

Impact of self-management interventions

- This review also suggests:
  - Greater ***use of peer education*** may build on and values the experiences of patients with chronic conditions, and prove to be cost-effective.
  - ***Using combination or series of disease-specific and generic interventions*** could optimize patients ability to effectively self-manage across the course of the disease duration.

(Barlow, et.al., 2002)

Impact of self-management interventions

- Although self-management interventions are not standardized across clinical trials, Bodenheimer and his colleagues (2002) have summarized the impact on outcomes and costs.
  - Self-management skills education programmes are could :
    - ***improving clinical outcomes***
    - ***in improving outcomes and reducing costs with chronic conditions***

Chronic disease self-management programme CDSMP

CDSMP is one famous self-management approach in chronic conditions care with evidence supported empirically.

Living Well with Chronic Conditions Stanford Model of CDSMP

- CDSMP was developed by Stanford University's 'Patient Education' programme.

- Aims at teaching people with chronic diseases to live healthy lives with their chronic condition.

(Lorig, Holman, Sobel, D, Laurent, González & Minor, 2007)

Living Well with Chronic Conditions Stanford Model of CDSMP

- Based on self-efficacy theory
- Complements traditional patient education
- Co-facilitated group learning and peer leader

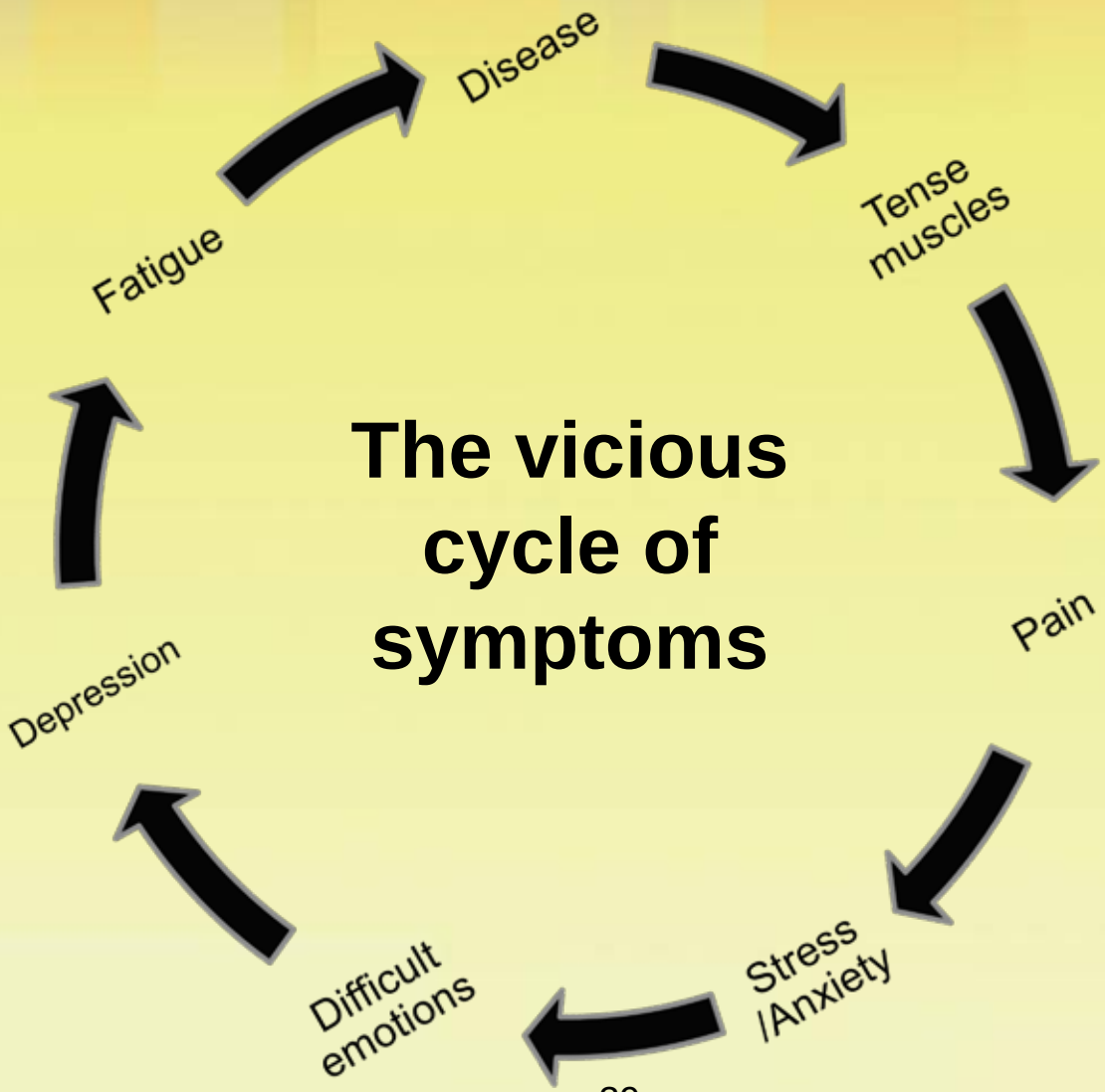
(Stanford School of Medicine, 2011)

Healthy Living

- Health is soundness of body and mind.
- Healthy living is to achieve that soundness.
- The aim of this is to:
  - overcome the physical and emotional problems caused by the disease.
  - achieve the greatest possible physical capability and satisfaction from life.

(Lorig, Holman, Sobel, D, Laurent, González & Minor, 2007)

Breaking the vicious cycle



Breaking the vicious cycle

- Chronic condition symptoms can affect each other, and all can worsen each other.
  - For example: depression can cause fatigue, stress causes tense muscles, and this in turn causes more pain or shortness of breath, etc.
- Breaking the cycle is the way to get rid of the physical and emotional problems caused by the chronic condition and thus promote healthy living.

(Lorig, et al., 2007)

Aims of CDSMP

- Participants learn
  - ways to identify problems
  - ways to act on problems
  - ways to generate short-term action plans
  - problem-solving skills related to chronic conditions

(Lorig, et al., 2007)

Underlying assumption of CDSMP

- People with chronic conditions:
  - have similar self-management problems and disease-related tasks
  - can take responsibility for the daily management of their diseases
  - must deal with their disease(s), and also the impact of these on their lives and emotions
  - those practicing self-management will experience improvement in their health status and will utilise fewer health care resources
  - lay people can teach the CDSMP as effectively as HCPs when given a detailed ‘leader’s manual’

(Catholic Healthcare West, 2010; Vermont’s Health Care Reform, 2011)

Features of the programme

- Series of ***6 sessions***, 1 session per week, ***2 .5 hours per session***;
- Held in ***community settings***;
- People ***with different chronic health problems*** attend together;
- Facilitated by two trained leaders, one or both of whom are ***non-health professionals with chronic diseases*** themselves.

(Stanford School of Medicine, 2011)

Subjects covered in CDSMP

1. ***techniques*** to deal with problems such as frustration, fatigue, pain and isolation,
2. appropriate ***exercise*** for maintaining and improving strength, flexibility, and endurance,
3. appropriate ***use of medications***,
4. ***communicating*** effectively with family, friends, and health professionals,
5. ***nutrition***, and,
6. how to evaluate ***new treatments***.

http://patienteducation.stanford.edu/programs/cdsmp.html

(Stanford School of Medicine, 2011)

Self-manager

- An individual with chronic condition is the manager of him/herself.
- The programme emphasize that

“ YOU ARE THE MANAGER.”

" YOU ARE THE MANAGER."

- Manager:
  - Similar to the one at home or in work, ***manager direct the show.***
  - doesn't do everything by him/herself; but work together with others, including consultants, in order to get the job done.
  - have the responsibility to ***make decision*** and ***assure these decisions are carried out.***

“ YOU ARE THE MANAGER.”

- The manager must:
  - decide what is to be accomplished
  - look for alternative way to achieve the goal
  - make action plans
  - carry out the plans
  - assess the results
  - make changes as necessary
  - reward him/herself

(Lorig, Holman, Sobel, D, Laurent, González & Minor, 2007)

Self-management skills

- Good managers have to learn ***skills*** to manage their chronic conditions. These skills fall into three main categories:

Skill needed to deal with the illness	Skill needed to continue your normal life	Skill needed to deal with emotions
• For example: • use of medication • lifestyle modification • use of technology • physician partnership, etc.	• For example: • new skills to maintain daily activities, employment, chores, social life, etc.	• For example: • skill to handle different emotional changes due to the illness, such as anger, uncertainty about the future, etc.

(Lorig, Holman, Sobel, D, Laurent, González & Minor, 2007)

CDSMP Outcomes

Improved Outcomes	6 months after CDSMP	2 years after CDSMP
Self-efficacy	ü	ü
Self-rated health	ü	ü
Disability	ü	
Role activity	ü	
Health distress	ü	ü
Energy / Fatigue	ü	ü
Hospitalisation	ü	
Emergency room visits	ü	ü

(Lorig, et al, 1999; Lorig, et al, 2001)

Review of findings on Chronic Disease Self-manage Program (CDSMP) outcomes: physical, emotional & health-related quality of life, healthcare utilisation and costs

- Major published studies on healthcare utilisation and CDSMP were reviewed.
- Thirteen CDSMP studies reviewed; eight contained sufficient utilisation data.
- Six studies from USA, two from UK.
- Participants were generally 40+ years of age.
- Sample sizes ranged from 171 to 1140, with a mean of 682.

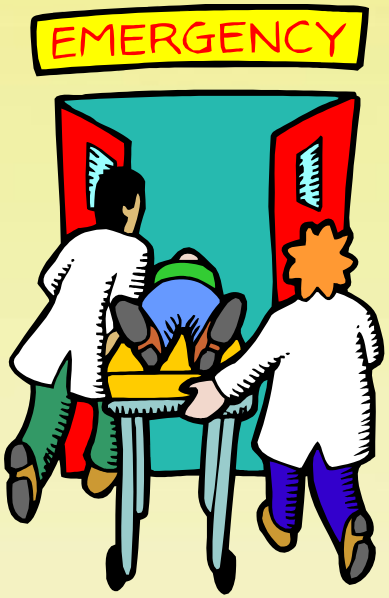
(Utah Department of Health, 2008)

Summary of health effects:

- Greater energy / reduced fatigue
- More exercise
- Fewer social role limitations
- Better psychological well-being
- Enhanced partnerships with physicians
- Improved health status
- Greater self-efficacy
- Reductions in pain symptoms

Summary of utilization effects:

- Reduction in healthcare expenditures
- Fewer emergency room visits
- Fewer hospitalizations
- Fewer days in hospital
- Reduction in outpatient visits
- No costs increased



Summary of other benefits:

- Effective across chronic diseases
- Effective across socioeconomic and educational levels
- Enable participants to manage progressive, debilitating illness
- Important health benefits persist over time

Local example

CADENZA Community Project: Chronic disease self-management programme

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CADENZA Community Project: Chronic disease self-management programme

- ***Aim:***
  - To train elders to be lay-leaders to promote self-management behaviours and a sense of responsibility for personal health in older population
- ***Evaluation:***
  1. To evaluate the effectiveness of the CDSMP delivery model adapted to Hong Kong Chinese older people with chronic diseases
  2. To compare the effectiveness of the programmes led by professional staff leaders and elder lay-leaders.

- ***Design***:
  - To compare the outcomes of the study group participants with wait-list control at 6 months
  - The study group participants were further divided into 2 subgroup:
    - Professional staff-led
    - Elder lay-led
    - The effectiveness between these two subgroups was also compared.

- ***Participants***:
  - 567 participants were recruited
    - Study group: 265 participants
      - 136 joined the programmes led by elder lay-led participants
      - 129 joined the programmes led by staff leaders
    - Control group: 302 participants
  - Mean age: 74.29
  - Gender: 80.62% women
  - The mean number of years of education: 3.9
  - The major chronic disease:
    - Osteoarthsitis, 67.4%
    - Hypertension, 63.44%
    - Diabetes, 29.96%
    - Heart disease, 22.03%
    - Stroke, 15.86%
    - Chronic lung disease, 7.93%
    - Severe frailty, 28.85%

- ***Assessment***:
  1. Participants were assessed at baseline and 6 months using questionnaires
     - The following outcomes were measured and analyzed:
       - Self-management behaviour
       - Self-efficacy
       - Health status
       - Health care utilization

- ***Result at 6 months***:
  - Self-management behaviours
    - Study group demonstrated significantly better results in all 4 self-management behaviours
      - » Stretching and strengthening exercises
      - » Aerobic exercise
      - » Cognitive symptom management
      - » Communication with physician

- ***Result at 6 months***:
  - Self-efficacy
    - Study group showed significantly greater improvement.
  - Health care utilization
    - Study group showed a strong trend of reduction in total physician visits.

- ***Result at 6 months*** :
  - Health status
    - Participants in study group showed significantly reduce in
      - » Social /role activities limitation
      - » Depression symptoms
      - » Health distress
      - » Distress
    - Participants in study group showed significantly improved in
      - » Psychological well-being
      - » Self-rated health

- ***Result at 6 months*** :
  2. ***No significant difference*** was observed between the effectiveness of the programmes led by professional staff leaders and elder lay-leaders in most of the outcome measures
     - This findings further substantiate that elder lay-leaders could lead the programme as effectively as professional staff.

- ***Conclusion:***
  - This project showed that
    - CDSMP successfully improved self-management behaviours, self-efficacy, and health outcomes of community-dwelling older people with chronic disease in HK.
    - Older lay people with chronic disease could be trained to lead CDSMP and were as effective as health care professionals.
    - Similar result was found in a Chinese and in Western cultures, that reflects CDSMP could be applied effectively in Chinese population.

(Woo, Hui, Chan, Cheung, Chan & Hu, 2009)

Conclusion

The prevalence of chronic disease and the scope of its consequence have create a new situation in our health care system. A new chronic

disease paradigm: ***patient-professional partnership*** emerge in response to the situation. And ***patient self-management*** has become the key for effective and efficient care of chronic disease.

Conclusion

And evidence showed that ***Chronic disease self-management programme CDSMP***, is a model that could fit in the new situation, and promote healthy living for the patients and reduce the health utilization.

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The End of Chapter 1