Rehabilitation Services in Aging Society: Potentials in Hong Kong and GBA

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Outlines of Lecture

- Global Perspective on aging affecting health care systems
- Demand of Health Professionals in aging population
- National policies affecting the health care development in GBA
- Health Care for aging and Technological Development in GBA

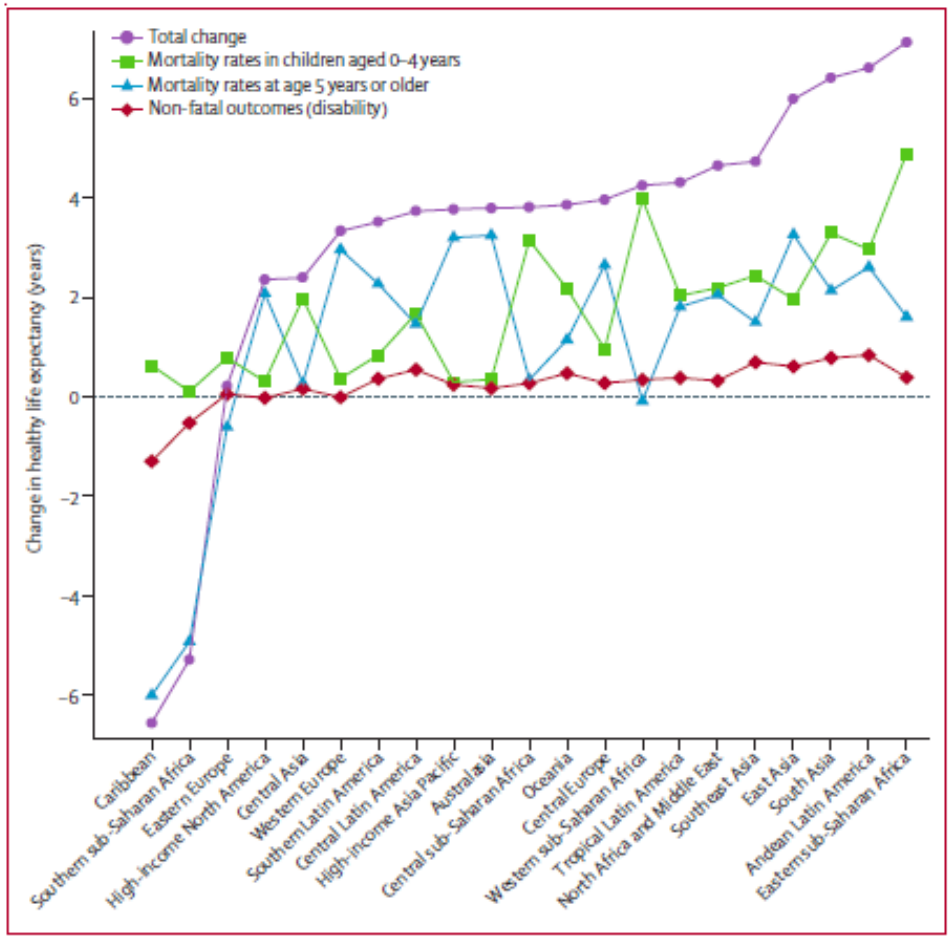
Global Burden of Disease Study 2010

	Male healthy life expectancy		Female healthy life expectancy	
	1990	2010	1990	2010
0 years	54·8 (53·2–56·3)	59·0 (57·3–60·6)	58·7 (56·9–60·3)	63·2 (61·4–65·0)
1 years	58·1 (56·3–59·5)	60·7 (58·9–62·3)	61·4 (59·6–63·1)	64·6 (62·7–66·3)
5 years	55·5 (53·8–57·0)	57·7 (55·9–59·3)	58·8 (57·0–60·5)	61·6 (59·7–63·3)
10 years	51·1 (49·5–52·6)	53·2 (51·5–54·8)	54·4 (52·6–56·1)	57·0 (55·2–58·7)
15 years	46·7 (45·2–48·1)	48·7 (47·1–50·2)	50·0 (48·3–51·6)	52·5 (50·8–54·2)
20 years	42·5 (41·0–43·8)	44·4 (42·8–45·8)	45·8 (44·1–47·3)	48·2 (46·6–49·8)
25 years	38·4 (36·9–39·6)	40·2 (38·8–41·6)	41·6 (40·1–43·1)	44·1 (42·5–45·6)
30 years	34·3 (33·0–35·5)	36·2 (34·8–37·6)	37·6 (36·1–38·9)	40·0 (38·5–41·4)
35 years	30·3 (29·1–31·5)	32·3 (30·9–33·5)	33·6 (32·2–34·8)	35·9 (34·5–37·3)
40 years	26·5 (25·3–27·5)	28·4 (27·1–29·6)	29·6 (28·4–30·8)	32·0 (30·6–33·2)
45 years	22·7 (21·6–23·7)	24·6 (23·4–25·7)	25·8 (24·6–26·9)	28·0 (26·8–29·2)
50 years	19·2 (18·2–20·1)	21·0 (19·9–22·0)	22·1 (21·0–23·1)	24·2 (23·1–25·2)
55 years	15·9 (15·1–16·7)	17·6 (16·6–18·5)	18·6 (17·6–19·5)	20·5 (19·5–21·5)
60 years	13·0 (12·2–13·7)	14·4 (13·6–15·2)	15·3 (14·5–16·1)	17·0 (16·1–17·9)
65 years	10·3 (9·7–10·9)	11·6 (10·8–12·3)	12·3 (11·6–13·0)	13·8 (13·0–14·5)
70 years	8·0 (7·4–8·5)	9·0 (8·4–9·6)	9·6 (9·0–10·2)	10·9 (10·2–11·5)
75 years	6·0 (5·6–6·5)	6·9 (6·4–7·4)	7·3 (6·8–7·8)	8·3 (7·8–8·9)
80 years	4·4 (4·1–4·8)	5·1 (4·7–5·5)	5·3 (4·9–5·7)	6·1 (5·7–6·5)

Data are point estimates (95% uncertainty intervals; years).

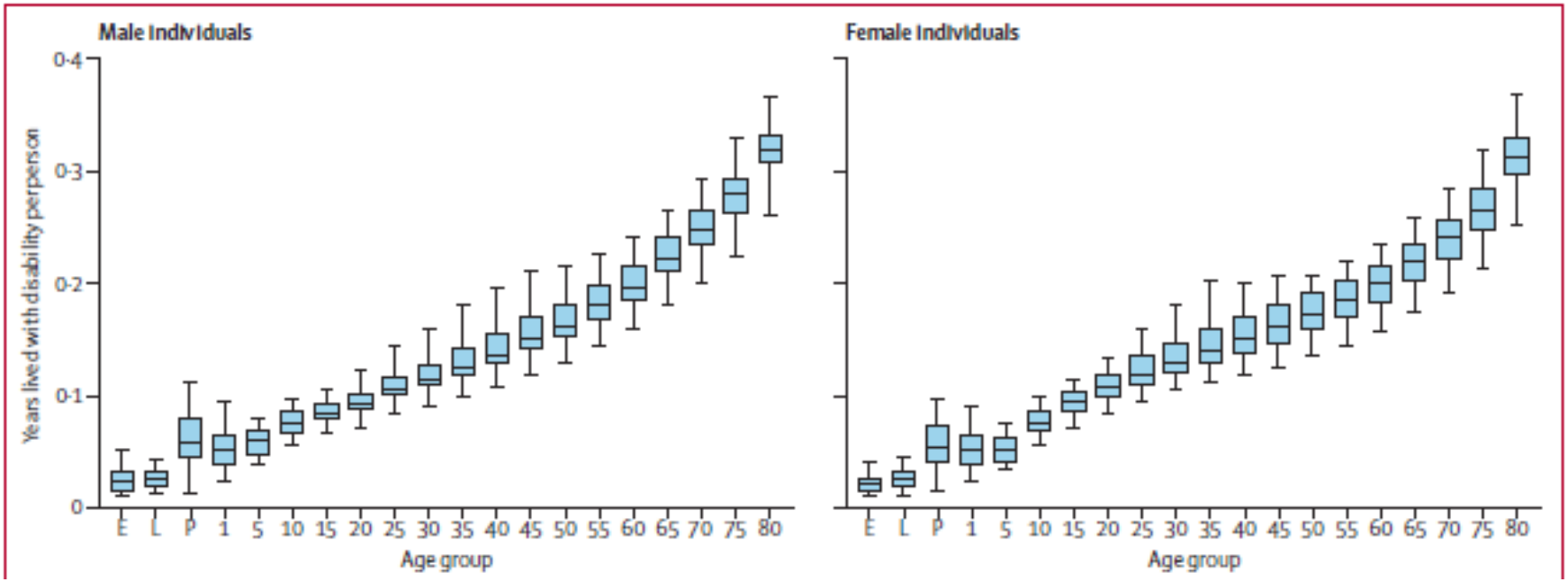
Salomon JA, et al. Lancet 2012; 380: 2144–62

Drivers of changes in healthy life expectancy between 1990 and 2010



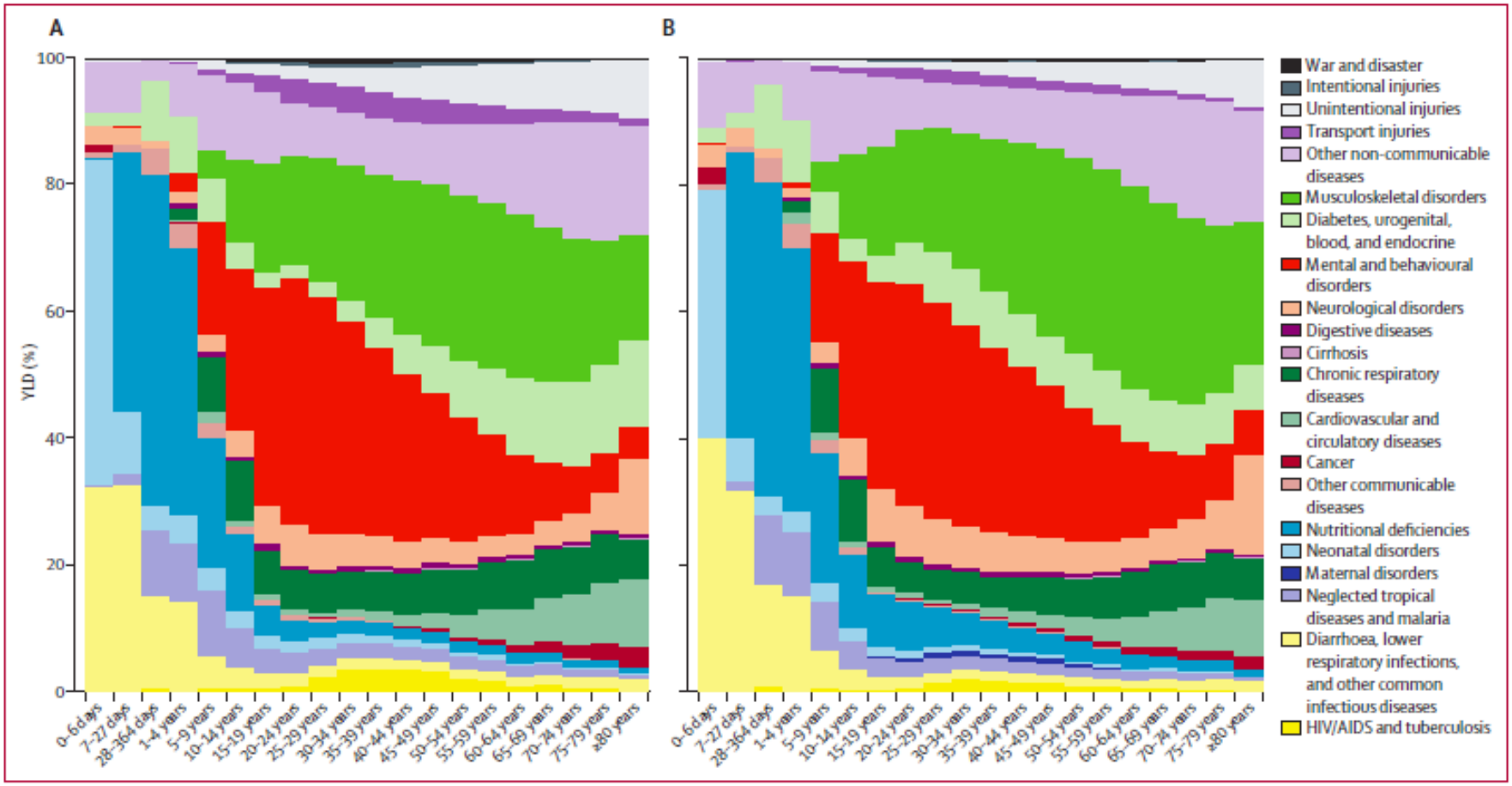
Salomon JA, et al. Lancet 2012; 380: 2144–62

YLD per person at 2010



Salomon JA, et al. Lancet 2012; 380: 2144–62

YLDs in 2010, by cause and age



Male

Female

Vos T., et al. Lancet 2012; 380: 2163–96

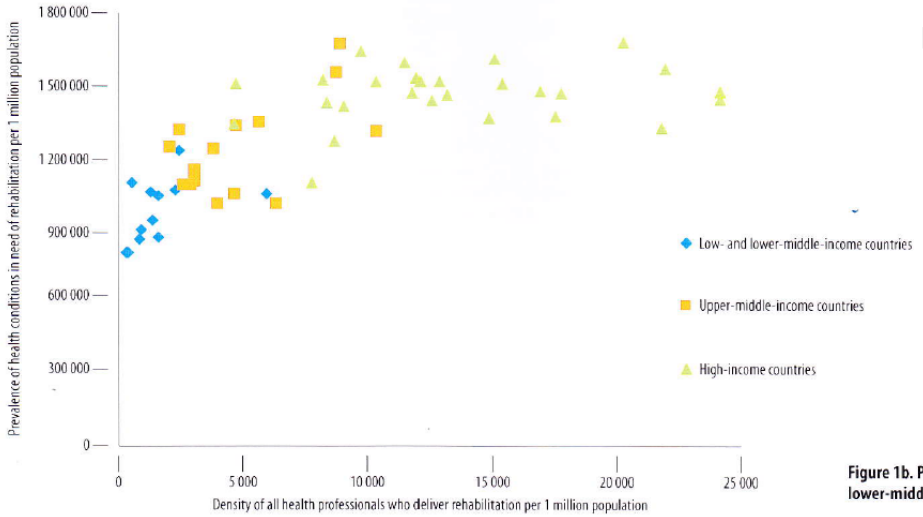
Summary

- **Health systems will need to address the needs of the rising numbers of individuals with a range of disorders that largely cause disability but not mortality.**
- **Quantification of the burden of non-fatal health outcomes will be crucial to understand how well health systems are responding to these challenges**
- **Effective and affordable strategies to deal with this rising burden are an urgent priority for health systems in most parts of the world.**

Vos T., et al. Lancet 2012; 380: 2163–96

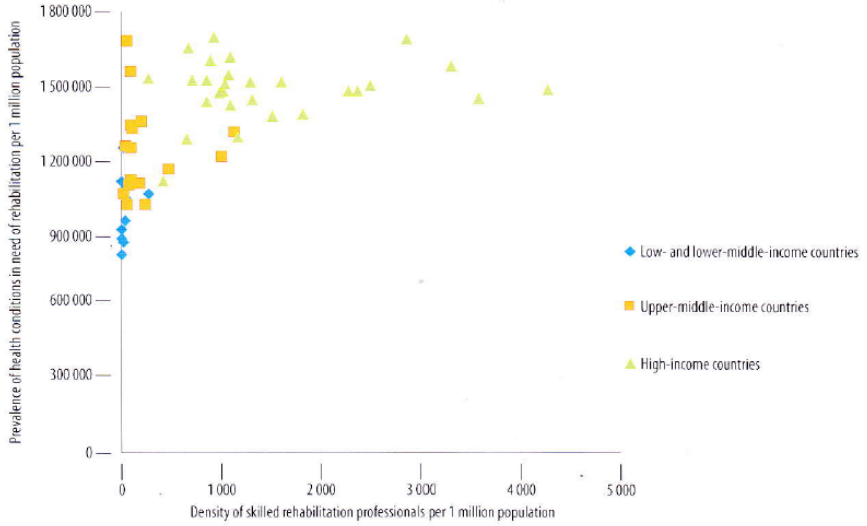
WHO Survey of manpower of rehabilitation personnels in low, middle and high income countries

Figure 1a. Prevalence of rehabilitation-relevant health conditions compared to the density of all health professionals who can deliver rehabilitation services in 12 low- and lower-middle-income countries, 16 upper-middle-income countries, and 31 high-income countries per 1 million population



Health professionals delivered rehabilitation services

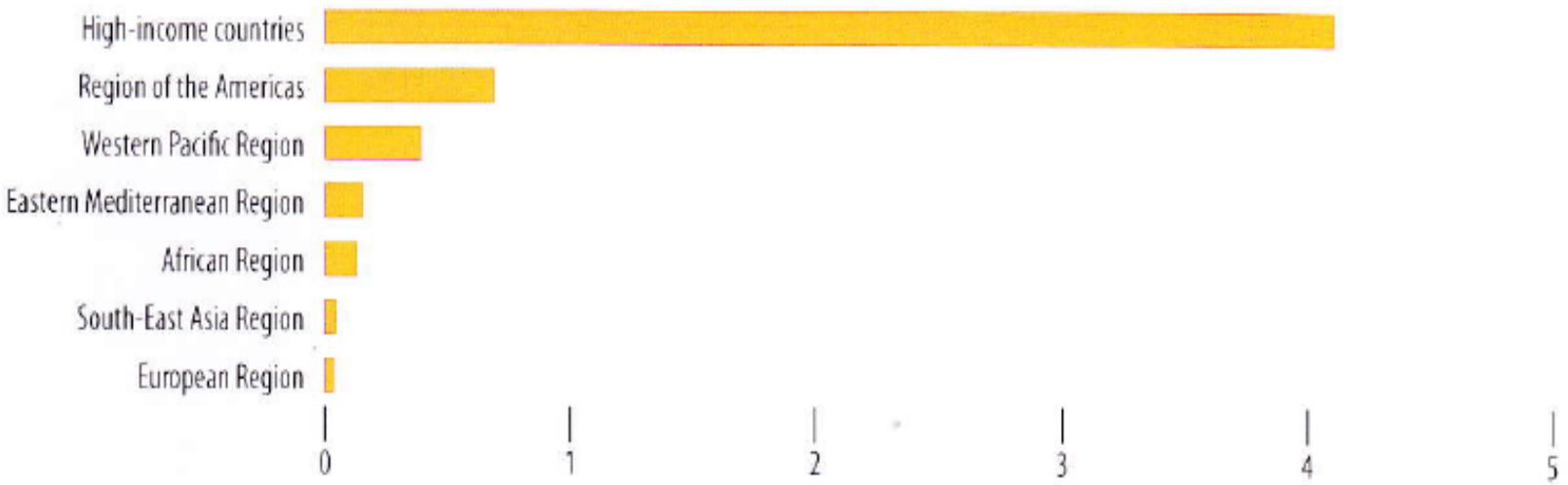
Figure 1b. Prevalence of rehabilitation-relevant health conditions compared to the density of skilled rehabilitation professionals in 12 low and lower-middle income countries, 16 upper-middle income countries, and 31 high-income countries per 1 million population



Skilled Rehabilitation Professionals

WHO Rehab 2030

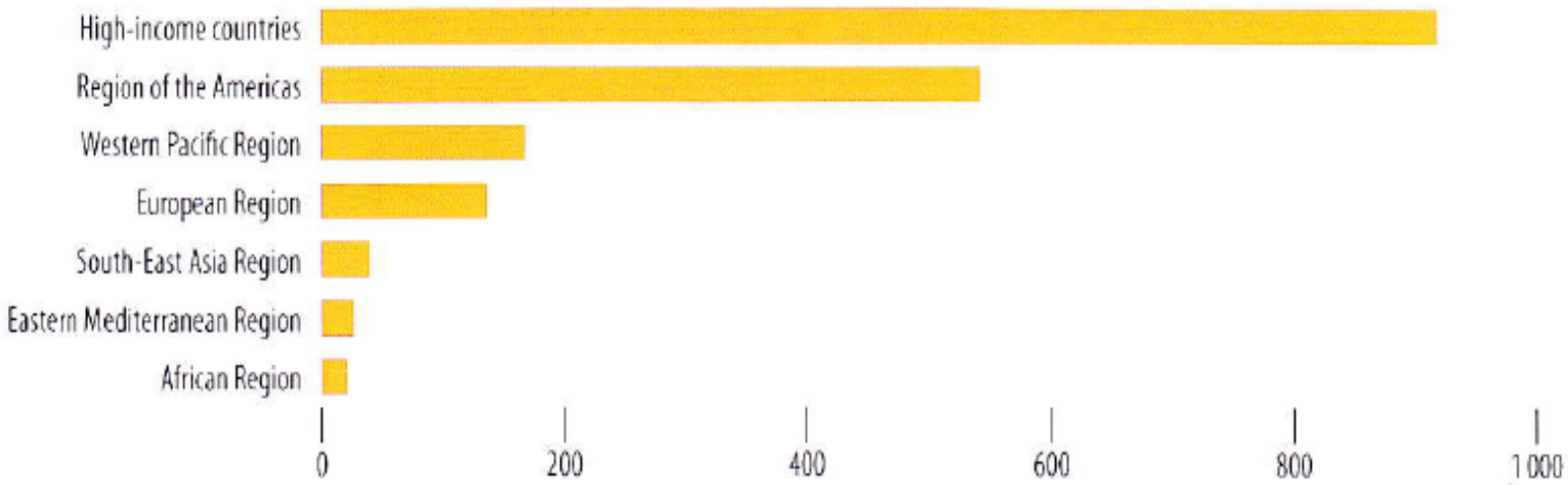
Figure 3. Density of occupational therapists per 1 million population by Region (data from 79 countries)



Note: High-income countries are those with a gross national income per capita of US$ 12 475 or more in 2015, as estimated by the World Bank. The remaining data in this figure are from low- and middle-income countries only.
To cover the needs of all individuals for occupational therapists, at least 750 professionals per 1 million population are needed
Source: WFOT

WHO Rehab 2030

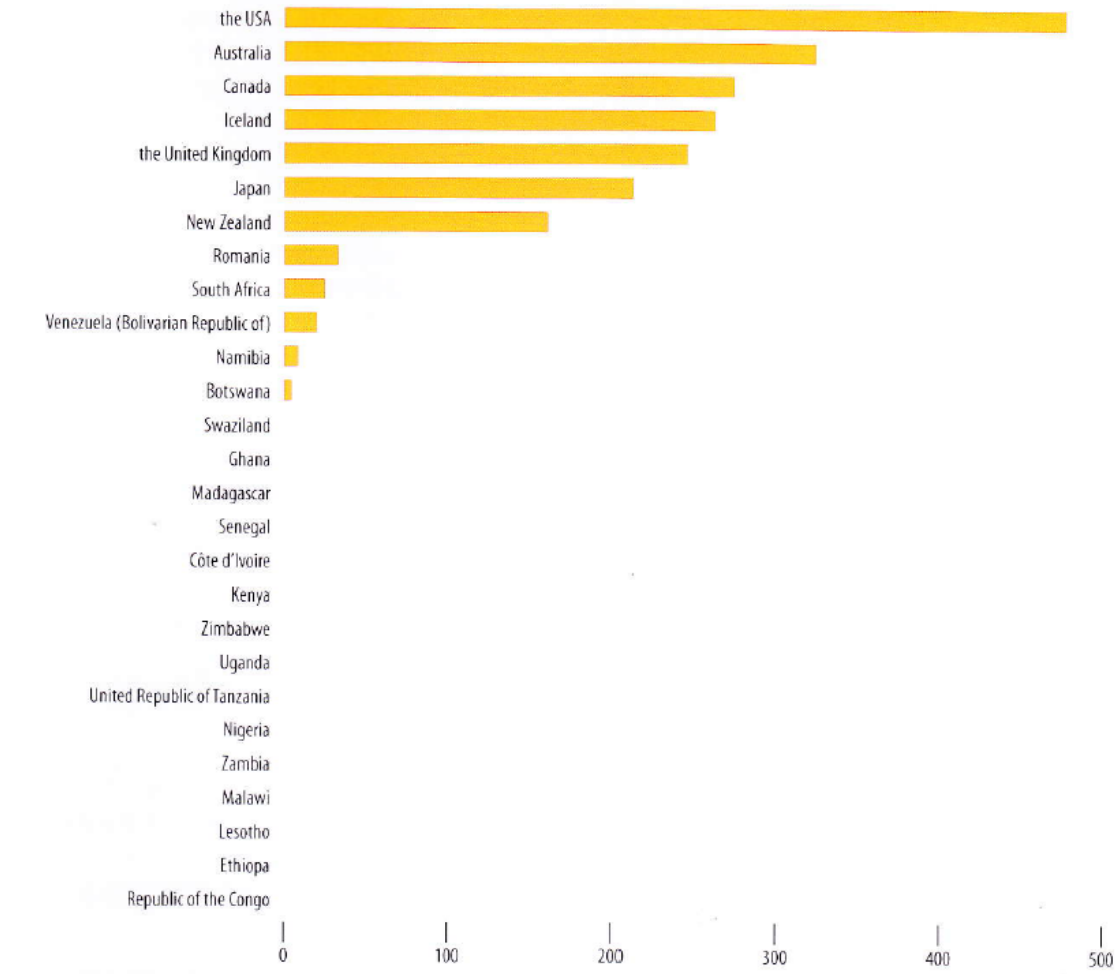
Figure 4. Density of physiotherapists per 1 million population by Region (data from 107 countries)



Note: High-income countries are those with a gross national income per capita of US$12 475 or more in 2015, as estimated by the World Bank. The remaining data in this figure are from low- and middle-income countries only.
Source: WCPT, and OECD

WHO Rehab 2030

Figure 6. Density of speech and language therapists per 1 million population in 27 countries



Source: International Association of Logopedics and Phoniatrics, and Fagan JJ & Jacobs M 2009 *(20)*

Manpower of Skilled Rehabilitation Professionals

- It is a universal phenomenon of lacking skilled workers in rehabilitation services to address the needs of aging population.

- Factors that would affect the supply
  - Education and Training
  - Mobility of workers
  - Social environment

Government Policies and Investment

China rolls out measures to address population aging, boost well-being of elderly
Updated: November 25, 2021 07:38 Xinhua

BEIJING — China has released a guideline for measures to further implement its national strategy to address population aging and boost the sense of fulfillment, happiness and safety among the elderly.
The guideline, jointly issued by the Central Committee of the Communist Party of China and the State Council, outlines a range of measures to meet the needs of the elderly in a coordinated manner while tackling the issue of population aging through joint efforts from the Party, government and society.
China will improve elderly care services at home and through communities, according to the **guideline**.
Government-funded institutions for public, accessible elderly care services will prioritize certain groups, including incapacitated elderly individuals with financial difficulties, senior citizens with disabilities, and those who have made contributions to society, per the document.
A list-based system for basic elderly care will be established, and a comprehensive senior citizen capability appraisal system, which is recognized across departments nationwide, will be built by the end of 2022, according to the document.
The country will also **expand the coverage of old-age insurance and move faster to improve the unified management of enterprise workers' basic old-age pensions at the national level,** according to the document.
Efforts should be made to improve the healthcare system for the elderly, the document said, noting the importance of efforts to better shield elderly people from chronic diseases through early monitoring and intervention, focusing on oral health and dementia, among others.
Healthcare facilities such as geriatric centers and rehabilitation hospitals for senior citizens will also be strengthened.
To better meet the demand of incapacitated elderly people, the guideline proposes **developing "internet plus nursing services," advancing trials of the long-term care insurance scheme, and promoting the integration of medical resources with elderly care services.**
To increase the level of social participation among the elderly, the guideline also sets out measures to boost the supply of education resources, raise the quality of cultural and sporting services for the elderly, and fully tap their potential by providing flexible employment, training and volunteering opportunities.
Regarding the construction of an elderly-friendly society, the guideline specifies efforts to protect seniors' legal rights and incorporate the supply of barrier-free facilities into renovation projects in both urban and rural areas.
Efforts should be made to grow the "grey hair economy," and support the development of industries tailored to fit the food, medical, and insurance needs of the elderly, according to the guideline.
Efforts concerning talent-building for elderly care services, the provision of service facilities and relevant policy supports should also be enhanced,

Technology and Health Care in GBA









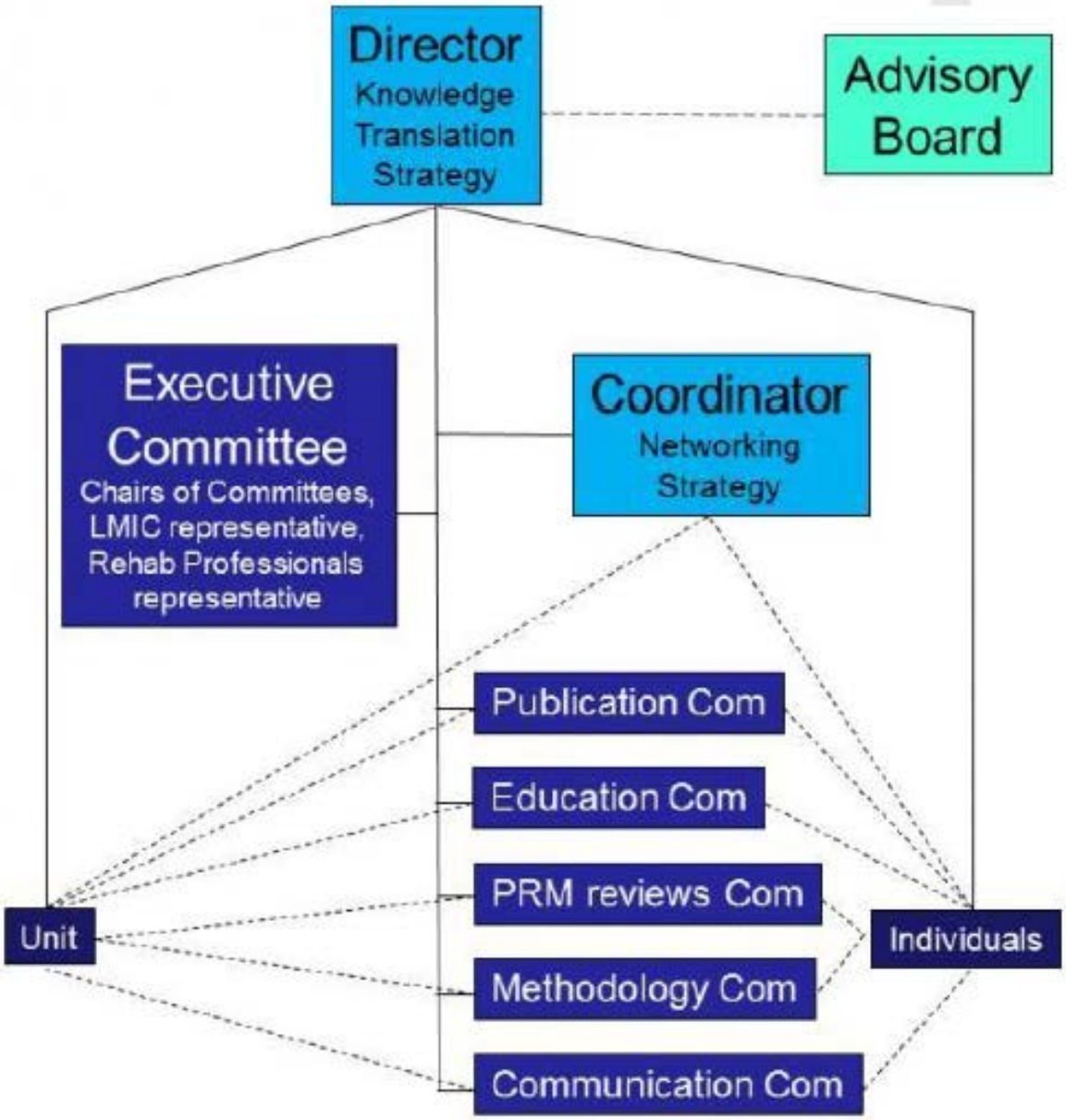
Evidence-based Medicine
实证医学

- Gold Standard 最高标准： RCT 随意对照研究
- Issues for RCT in Rehabilitation 随意对照研究在康复治疗的争论问题



Cochrane Rehabilitatior

- Approved by Cochrane in October 2016



Clinical Trial Models临床研究模式: From Pharmaceutical to Rehabilitation 从药物到康复

	Pre-clinical 前临床期	Phase I 一期	Phase II 二期	Phase III 三期	Phase IV 四期
Drug trial 药物研究	Animal study 动物研究	Safety & Tolerability 安全与尚可性	Efficacy 效力	Effectiveness 有效性	Post - marketing monitoring 消售后监控
Rehabilitation Trial 康复研究	Explorative 探测性	Innovative Treatment 创新疗法	Efficacy 效力	Effectiveness 有效性	Impact on Health service 对医疗复务影响
Rehabilitation Trial Design 康复研究设计	Case, robotic design 机器人設計, 个案	1-sample 单一样本	RCT,AB, Crossover 随意对照控制, AB组,交换组	Multicentre Meta-analysis 多中心荟萃分析	Cost - effectiveness Cost utility 成本效益

Clinical Trials 臨床研究



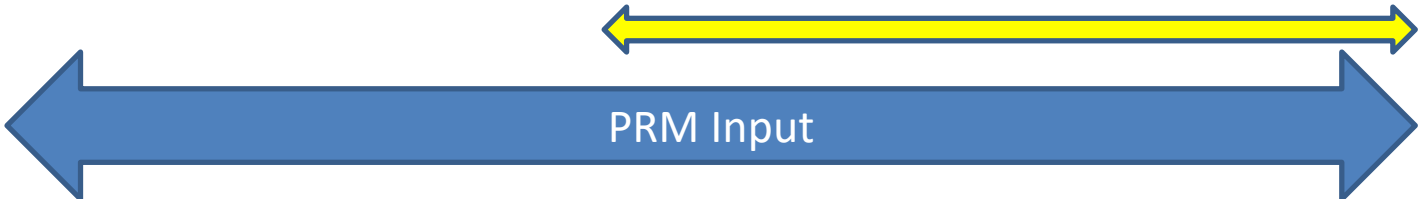
Conference of Chinese Rehabilitation Specialists and Technology Scientists



Clinical Trial Models临床研究模式: From Pharmaceutical to Rehabilitation 从药物到康复

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医学



Great Bay Area



Technological products: One Belt One Road