Rehabilitation in Hospital Authority- Challenges and the Way Ahead

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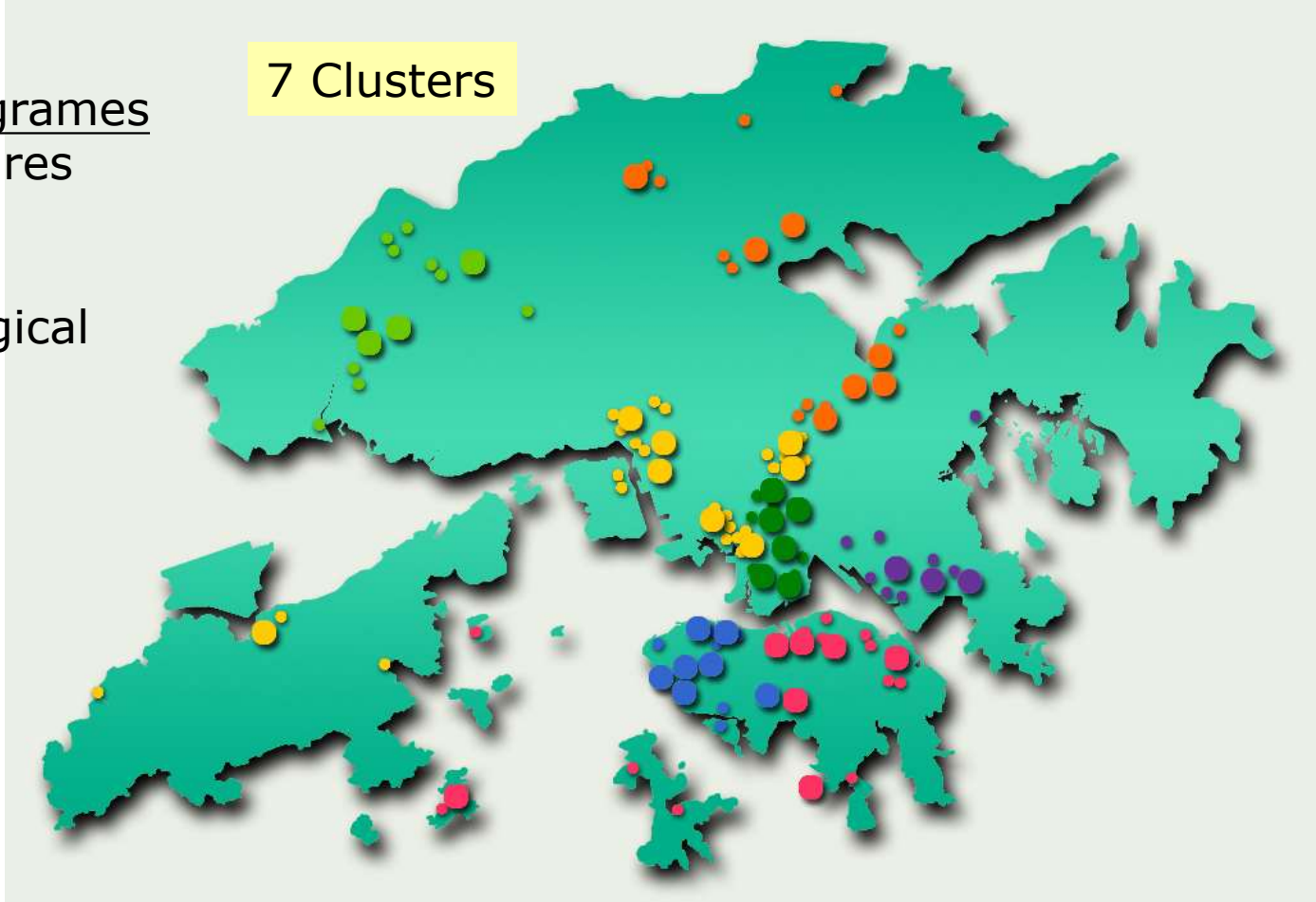
醫院管理局
HOSPITAL AUTHORITY

Rehabilitation Services within Hospital Authority

Rehabilitation programes
- Hip & other fractures
- Back and other musculoskeletal
- Stroke & Neurological
- Cardiac
- Pulmonary
- Spinal Injury
- Amputee
- Pediatric



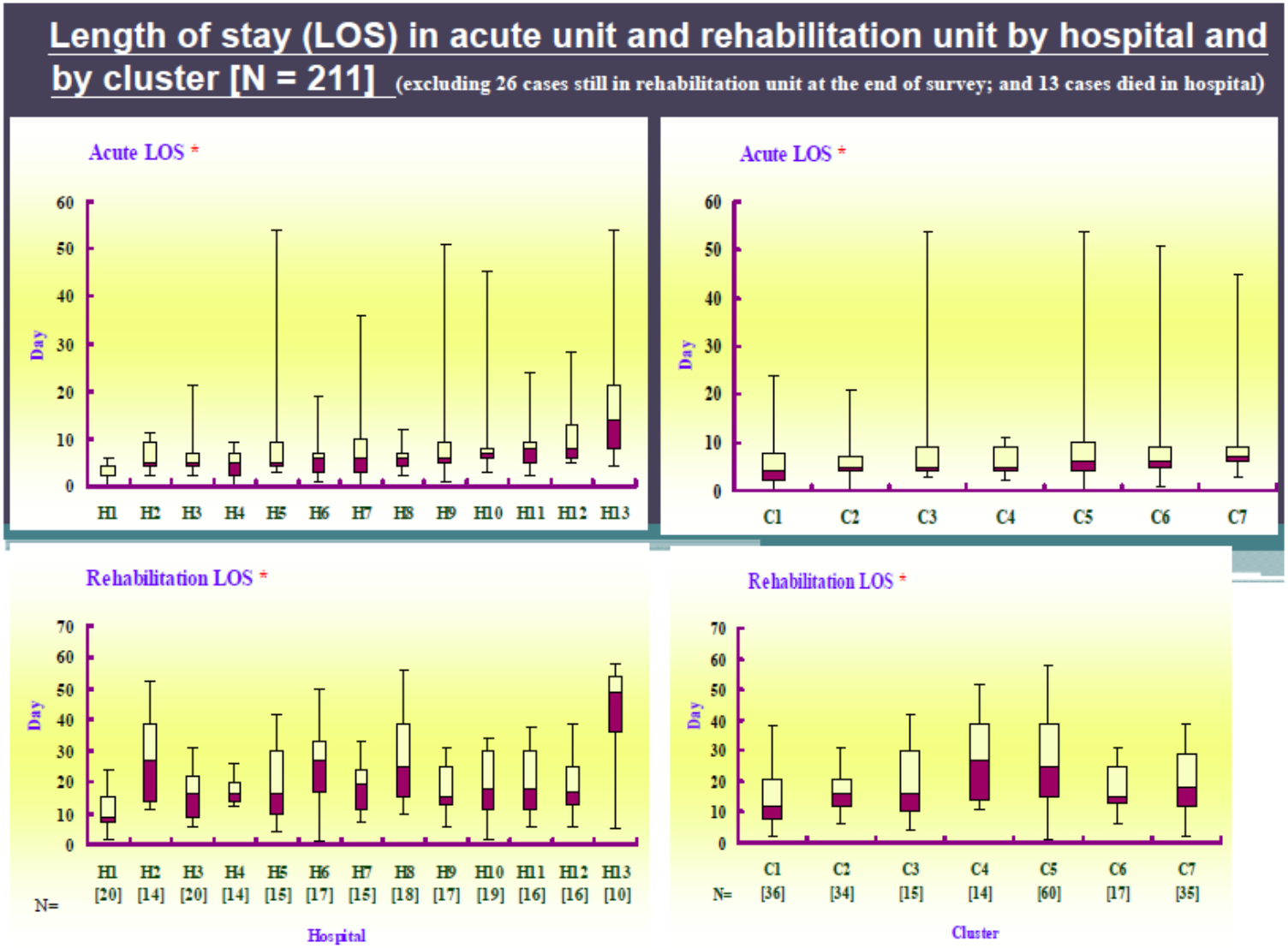
Spinal Rehabilitation Services in Asia

Country	Population[1]	GDP (nominal)[2]	No Access to acute care (%)	No Access to rehab care (%)	No Access to follow-up (%)
Bangladesh	162,221,000	506	80	40	25
Brunei	400,000	37,053	20	50	20
Cambodia	13,388,910	818	80	20	45
China	1,331,670,000	3,315	10	50	50
Chinese Taipei	23,027,672	17,040	0	0	15
Hong Kong	7,008,900	30,755	0	0	0
India	1,162,930,000	1,016	n/a	60	60
Indonesia	230,227,687	2,246	65	65	65
Japan	127,630,000	38,559	0	0	0
Loas	6,320,000	841	60-80	60-90	60-90
Malaysia	28,200,000	8,141	10	25	25
Philippines	92,226,600	1,866	10	35	35-40
Singapore	4,839,400	38,972	0	5	0-5
South Korea	48,333,000	19,505	0	0	0
Thailand	63,389,730	4,115	<1	>1	n/a
Vietnam	88,069,000	1,040	n/a	5	5
Iran	70,495,782	4,732	rarely	Home PT	100

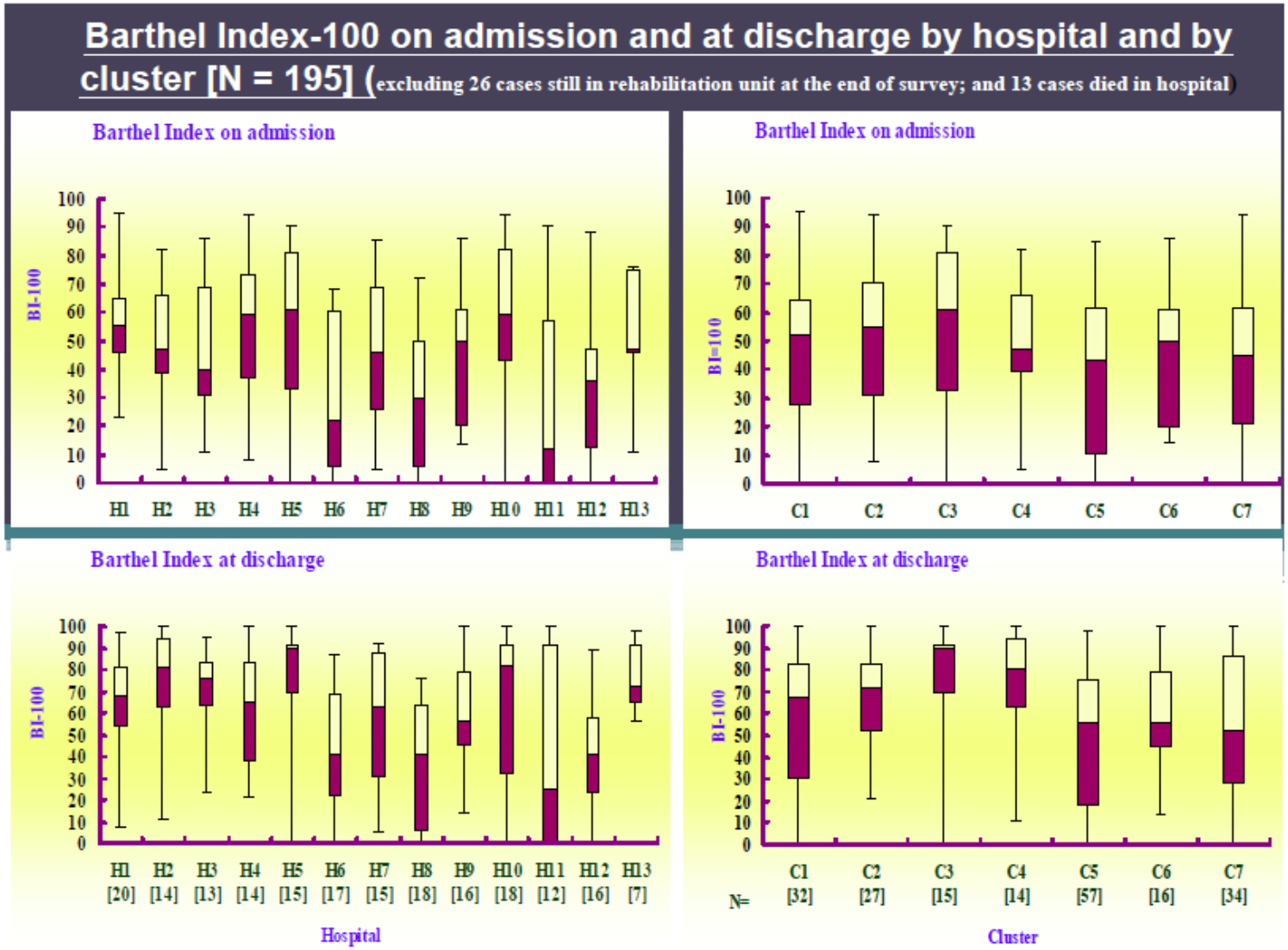
Spinal Rehabilitation Services in Asia

Country	Population[1]	GDP (nominal)[2]	No Rehab (%)	Specialized hospital (%)	SCI unit /ward (%)	SCI Rehab center (%)	General Rehab (%)	Community based Rehab (%)	Other (%)
Bangladesh	162,221,000	506	20	20	5	55			
Brunei	400,000	37,053	50	0	0	0	40	10	
Cambodia	13,388,910	818				50	10	40	
China	1,331,670,000	3,315	50	0	1	5	40	4	
Chinese Taipei	23,027,672	17,040				60	30	10	
Hong Kong	7,008,900	30,755					100		
India	1,162,930,000	1,016	10	40	20	10	10	10	
Indonesia	230,227,687	2,246			10		20	5	
Japan	127,630,000	38,559	0	10	20	40	30	0	
Loas	6,320,000	841	20		20		30	30	
Malaysia	28,200,000	8,141	n/a	n/a	n/a	n/a	n/a	n/a	
Philippines	92,226,600	1,866	20	30	10	10	10	15	5
Singapore	4,839,400	38,972	3			80	15	5	5
South Korea	48,333,000	19,505			60		40		
Thailand	63,389,730	4,115	n/a	n/a	n/a	n/a	n/a	n/a	
Vietnam	88,069,000	1,040				75	20	5	
Iran	70,495,782	4,732	40					60	

Stroke Rehabilitation Services in HA



Stroke Rehabilitation Services in HA



Cardiac Rehabilitation Services in HA

Patients' accessibility to CRP service (AMI)

	HKE			HKW		KC	KE		KW					NTE			NTW	
	PYNEH	TWEH	RHTSK	QMH	TWH	QEH	TKOH	UCH	CMC	KWH	OLMH	PMH	YCH	AHNH	NDH	PWH	POH	TMH
CRP1	✓	✗**	✓	✓	✓	✓	✗*	✓	x	✓	✓	✓	✓	x#	✓	✓	✗*	✓
CRP2	✓ In TWEH	✓	✓	✓ In TWH	✓	✓	x	✓	x	✓	✓	✓	x	-^	✓ In PWH	✓	✓ In TMH	✓

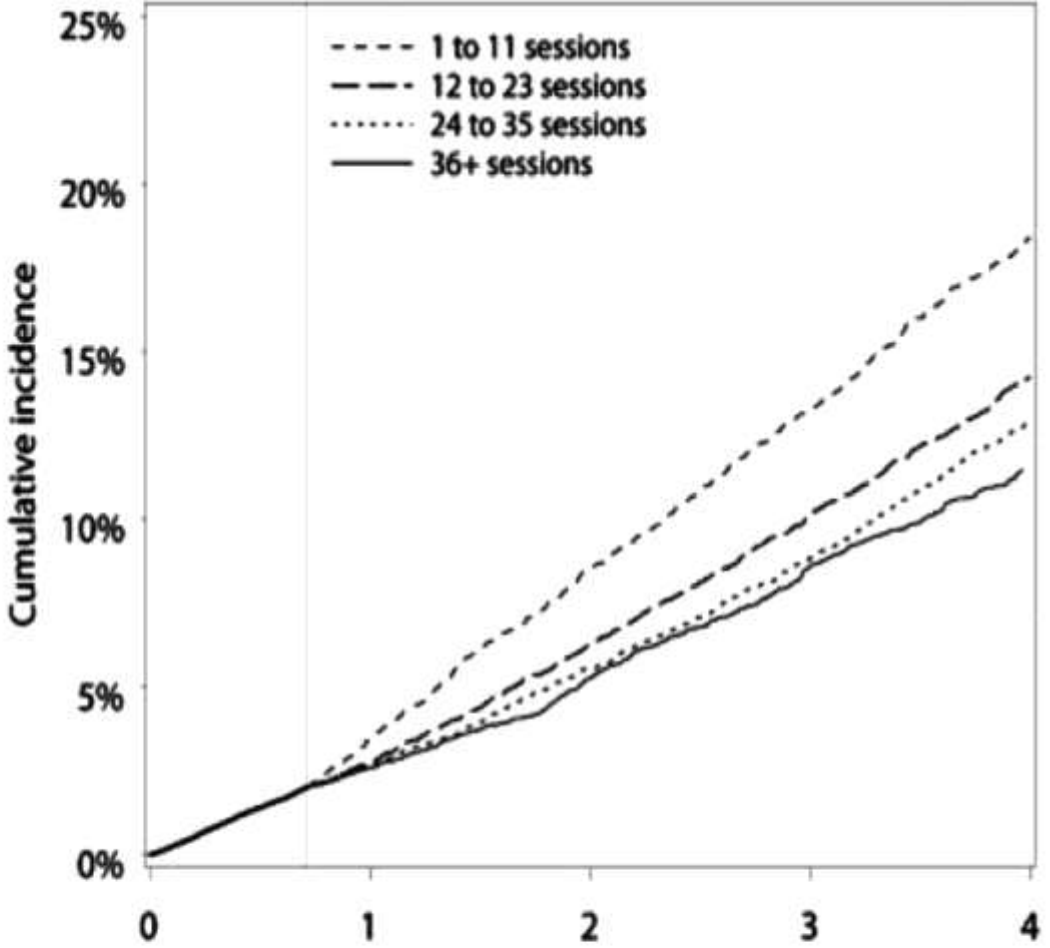
Cardiac Rehabilitation Services (Phase II) in HA

CRP2 service provision - protocol & component (AMI)

			HKE			HKW			KC	KE	
			PYNEH	TWEH	RHTSK	GH	QMH	TWH	QEH	TKOH	UCH
Availability of CRP 2 protocol			Yes	Yes	Yes			Yes	Yes		Yes
Components in CRP 2	Assessment	Exercise testing	Yes	Yes	Yes			Yes	Yes		Yes
		Echocardiogram	No	Yes	No			Yes	Yes		Yes
		Risk stratification	No	Yes	Yes			Yes	Yes		Yes
	Training	Education	Yes	Yes	Yes			Yes	Yes		Yes
		Physical training	Yes	Yes	Yes	/	To TWH	Yes	Yes	/	Yes
		Post-programme evaluation	Yes	Yes	Yes			Yes	Yes		Yes
	Counseling		Yes	Yes	Yes			Yes	Yes		Yes
	Discharge FU by nurse		No	Yes	Yes			Yes	Yes		No
	Others (Please specify)		/	/	/			Phone FU	/		/
Duration of CRP2 (weeks)			2-8	average 8	5			8	8		4 or 12
Number of sessions per patient			Variable*	average 16	6			16	16		12

			KW					NTE			NTW	
			CMC	KWH	OLMH	PMH	YCH	AHN^	NDH	PWH	POH	TMH
Availability of CRP 2 protocol				Yes	Yes	Yes				Yes		Yes
Components in CRP 2	Assessment	Exercise testing		Yes	Yes	Yes				Yes		Yes
		Echocardiogram		No	No	Yes				No		Done before referral
		Risk stratification		Yes	Yes	Yes				Yes		Yes
	Training	Education		Yes	Yes	Yes				Yes		Yes
		Physical training		Yes	Yes	Yes				Yes		Yes
		Post-programme evaluation		Yes	Yes	Yes			To	Yes	To	Yes
	Counseling		/	Yes	Yes	Yes	/	/	PWH	No	TMH	Yes
	Discharge FU by nurse			No	No	No				Yes		No
	Others (Please specify)			/	OT Diet	/				/		rehab in advanced areas/ for co-morbid conditions/ complicated cases
Duration of CRP2 (weeks)				8	8	5				7		variable; usu 4-8wks
Number of sessions per patient				16	12	5				7		variable; usu 8-16 sessions depending on risk & goals

Cumulative incidence of death by number of cardiac rehabilitation sessions attended
(data including 30 161 patients)



No. at risk					
Overall	30,161				
1 to 11 sessions		5937	4883	3865	2859
12 to 23 sessions		6933	5716	4427	3223
24 to 35 sessions		10,978	8955	6905	4885
36 sessions		5465	4513	3523	2481

Hammill BG, et al. *Circulation.* 2010;121:63–70.

Cost-effectiveness

- Resources
- Expertise
  - Credentialling
  - Training
- Technology
- Outcome measurements
  - Simple
  - Minimal time and labour for data collection
  - Measuring the (overall) end effects of the rehabilitation program

Global Burden of Disease Study 2010 – 150 countries (WHO)

Healthy Life Expectancy: summarises mortality and non-fatal outcomes in a single measure of average population health.

	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)

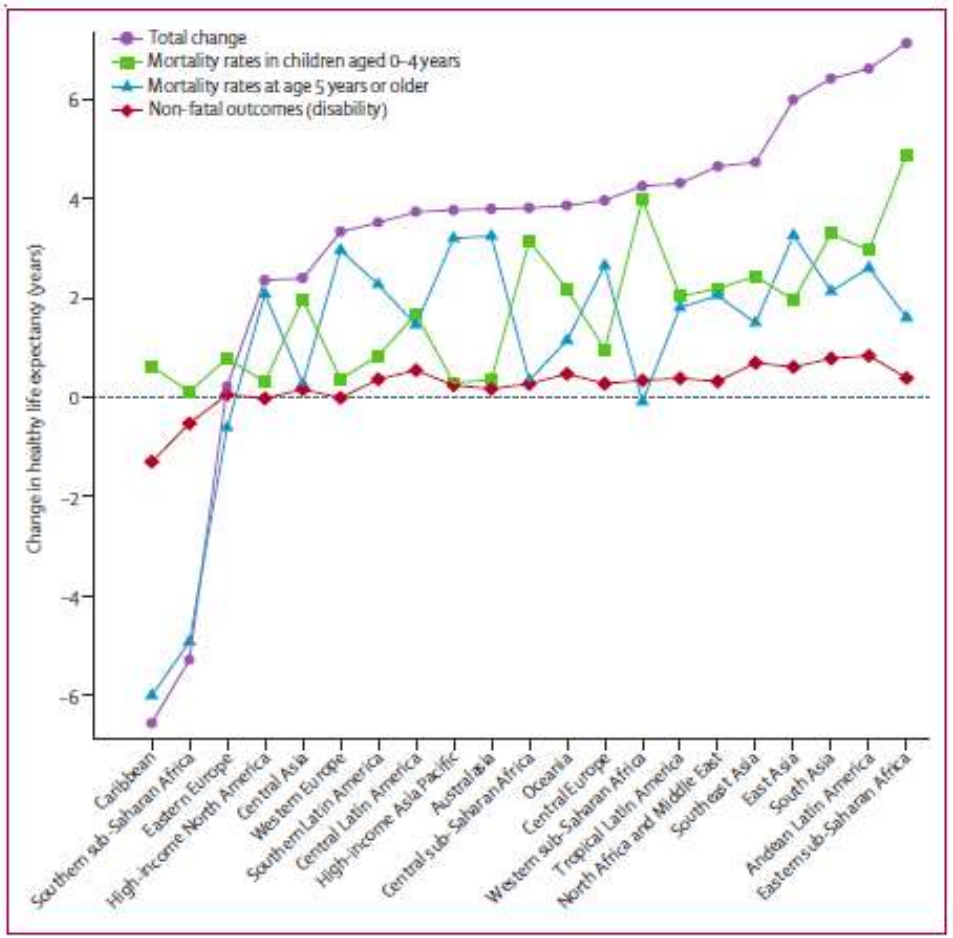
Data are point estimates (95% uncertainty intervals; years).

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

Life Expectancy vs Healthy Life Expectancy

	1990				2010			
	Male population		Female population		Male population		Female population	
	Life expectancy	Healthy life expectancy	Life expectancy	Healthy life expectancy	Life expectancy	Healthy life expectancy	Life expectancy	Healthy life expectancy
Afghanistan	52·2 (48·8–55·5)	43·3 (40·2–46·2)	51·7 (47·5–55·7)	41·6 (37·8–44·9)	58·2 (54·2–62·8)	48·5 (44·8–52·1)	57·3 (52·2–61·7)	46·2 (42·0–49·9)
Albania	70·4 (69·9–70·8)	61·1 (59·1–63·0)	76·0 (75·5–76·5)	65·0 (62·6–67·1)	72·0 (69·2–74·9)	62·5 (59·7–65·3)	78·1 (75·9–80·2)	67·0 (64·4–69·7)
Algeria	69·3 (66·9–71·5)	59·5 (56·8–62·1)	72·4 (70·4–74·3)	61·2 (58·4–63·8)	74·3 (73·2–75·4)	63·8 (61·3–66·1)	76·5 (75·5–77·5)	64·6 (62·1–67·0)
Andorra	77·2 (75·4–78·9)	66·6 (63·9–69·1)	83·1 (81·6–84·7)	70·6 (67·6–73·3)	79·8 (78·8–81·0)	68·3 (65·6–70·6)	85·2 (84·2–86·2)	72·2 (69·4–74·7)
Angola	43·9 (36·3–51·9)	37·5 (31·3–43·7)	51·7 (43·0–59·0)	43·4 (36·2–49·5)	57·9 (49·5–66·5)	49·7 (43·0–56·5)	63·9 (56·0–72·0)	54·0 (47·9–60·7)
Antigua and Barbuda	70·7 (69·5–71·8)	61·0 (58·6–63·1)	75·7 (74·6–76·7)	64·5 (62·0–66·8)	74·1 (72·2–75·9)	61·2 (58·0–64·2)	79·0 (77·3–80·5)	65·5 (62·4–68·3)
Argentina	69·0 (68·9–69·2)	60·5 (58·7–62·1)	76·1 (75·9–76·3)	65·9 (63·6–67·7)	72·5 (72·4–72·6)	63·5 (61·4–65·1)	79·3 (79·2–79·4)	68·7 (66·5–70·6)
Armenia	66·2 (65·2–67·1)	57·5 (55·3–59·4)	74·2 (73·4–75·1)	63·5 (61·1–65·6)	68·9 (67·2–70·5)	59·9 (57·7–62·3)	78·5 (77·4–79·6)	67·2 (64·7–69·5)
Australia	73·8 (73·7–73·9)	64·1 (62·1–65·8)	80·0 (79·9–80·1)	68·8 (66·6–70·7)	79·2 (79·1–79·3)	68·4 (66·3–70·3)	83·8 (83·7–83·9)	71·8 (69·5–73·9)
Austria	72·2 (72·0–72·3)	63·1 (61·0–64·8)	78·9 (78·7–79·0)	68·2 (65·7–70·2)	77·7 (77·5–77·9)	67·0 (64·7–69·0)	83·3 (83·2–83·5)	71·2 (68·7–73·5)
Azerbaijan	62·3 (61·4–63·3)	54·2 (52·2–55·9)	71·0 (70·1–71·9)	60·5 (58·0–62·6)	68·9 (67·6–70·2)	59·9 (57·7–62·0)	76·2 (74·9–77·4)	65·1 (62·6–67·3)
Bahrain	70·8 (69·5–72·1)	60·0 (57·5–62·5)	72·3 (71·1–73·5)	60·1 (57·1–62·6)	76·4 (74·8–78·2)	64·3 (61·5–66·9)	79·1 (77·5–80·7)	65·2 (62·0–68·0)
Bangladesh	58·1 (56·2–60·0)	48·7 (46·3–51·2)	59·8 (57·7–62·1)	49·9 (47·2–52·4)	67·2 (65·6–68·8)	57·1 (54·6–59·4)	71·0 (69·4–72·8)	59·8 (57·3–62·3)
Barbados	69·0 (68·3–69·7)	59·6 (57·5–61·5)	74·4 (73·8–75·1)	62·9 (60·3–65·2)	74·3 (72·7–76·0)	61·9 (58·8–64·7)	77·0 (75·6–78·3)	64·7 (61·9–67·3)
Belarus	65·5 (64·9–66·0)	57·4 (55·6–59·1)	75·0 (74·6–75·5)	64·6 (62·3–66·5)	64·1 (63·4–64·9)	56·4 (54·6–58·1)	76·0 (75·5–76·5)	65·6 (63·3–67·6)
Belgium	72·6 (72·4–72·7)	63·4 (61·5–65·0)	79·2 (79·0–79·3)	68·0 (65·8–70·1)	76·7 (76·4–77·1)	66·5 (64·4–68·4)	82·3 (81·9–82·6)	70·6 (68·4–72·7)
Belize	69·9 (69·0–70·9)	60·0 (57·7–62·1)	74·3 (73·4–75·2)	62·6 (60·0–65·0)	68·9 (67·3–70·3)	57·3 (54·5–60·0)	73·6 (72·3–75·0)	61·5 (58·9–64·1)
Benin	53·0 (51·5–54·6)	44·8 (42·6–46·7)	58·6 (57·1–59·9)	48·3 (45·9–50·6)	60·7 (57·6–63·5)	52·2 (49·2–55·0)	65·9 (63·2–68·5)	55·1 (52·1–58·0)
Bhutan	57·5 (50·7–63·7)	48·9 (43·7–53·8)	60·4 (53·0–66·7)	51·2 (45·2–56·4)	67·6 (60·9–73·3)	58·2 (53·1–62·9)	71·7 (65·7–77·1)	61·5 (56·7–66·1)
Bolivia	61·0 (59·6–62·6)	52·3 (50·2–54·3)	63·5 (62·0–65·0)	54·1 (51·8–56·3)	69·7 (67·3–72·5)	60·1 (57·2–62·8)	71·7 (69·5–74·1)	61·5 (58·7–64·3)
Bosnia and Herzegovina	68·9 (68·7–69·1)	59·8 (57·8–61·5)	74·8 (74·6–75·0)	63·7 (61·3–65·8)	74·1 (73·9–74·4)	64·4 (62·3–66·2)	78·8 (78·5–79·0)	68·1 (65·8–70·2)
Botswana	63·9 (60·2–67·9)	54·6 (51·3–58·4)	69·3 (66·0–73·0)	58·5 (55·3–61·8)	68·1 (63·6–73·6)	57·1 (53·0–61·6)	74·0 (69·2–80·6)	61·3 (57·1–66·9)
Brazil	65·4 (65·1–65·8)	56·6 (54·9–58·2)	73·1 (72·7–73·4)	62·4 (60·3–64·2)	70·5 (70·2–70·8)	61·1 (59·1–62·8)	77·7 (77·5–77·9)	66·6 (64·5–68·5)
Brunei	73·1 (72·4–73·8)	64·0 (61·7–65·9)	76·0 (75·3–76·7)	66·0 (63·6–67·9)	75·5 (74·3–76·6)	66·2 (63·8–68·2)	79·1 (78·0–80·3)	68·6 (66·1–70·9)
Bulgaria	68·2 (68·1–68·4)	60·1 (58·3–61·7)	74·8 (74·6–75·0)	65·0 (62·9–66·9)	70·1 (69·9–70·3)	61·5 (59·5–63·2)	77·0 (76·8–77·2)	66·8 (64·7–68·7)
Burkina Faso	49·6 (48·0–51·2)	42·0 (40·1–44·0)	54·5 (53·1–56·1)	45·6 (43·4–47·6)	52·8 (46·6–58·1)	45·4 (40·1–50·3)	57·6 (52·7–62·1)	48·8 (44·3–52·9)
Burma	54·4 (45·8–61·9)	47·1 (40·2–52·9)	58·7 (50·9–65·9)	50·2 (44·1–55·8)	60·7 (51·4–69·8)	53·2 (45·9–60·3)	67·6 (60·1–73·6)	58·3 (52·7–63·4)

Drivers of changes in healthy life expectancy between 1990 and 2010



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

Implications

- **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.**
- **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

Cost-effectiveness

Motor and Functional Recovery After Stroke

A Comparison of 4 European Rehabilitation Centers

Liesbet De Wit, PT, PhD; Koen Putman, PT, PhD; Birgit Schuback, PT, MSc; Arnošt Komárek, PhD; Felix Angst, MD, MPH; Ilse Baert, PT, MSc; Peter Berman, MB, BS, FRCP; Kris Bogaerts, MSc; Nadine Brinkmann, PT, BSc; Louise Connell, PT, BSc; Eddy Dejaeger, MD, PhD; Hilde Feys, PT, PhD; Walter Jenni, MD; Christiane Kaske, PT, BSc; Emmanuel Lesaffre, PhD; Mark Leys, PhD; Nadina Lincoln, PhD; Fred Louckx, PhD; Wilfried Schupp, MD; Bozena Smith, OT, MSc; Willy De Weerdt, PT, PhD

Background and Purpose—Outcome after first stroke varies significantly across Europe. This study was designed to compare motor and functional recovery after stroke between four European rehabilitation centers.

Methods—Consecutive stroke patients (532 patients) were recruited. They were assessed on admission and at 2, 4, and 6 months after stroke with the Barthel Index, Rivermead Motor Assessment of Gross Function, Rivermead Motor Assessment of Leg/Trunk, Rivermead Motor Assessment of Arm, and Nottingham Extended Activities of Daily Living (except on admission). Data were analyzed using random effects ordinal logistic models adjusting for case-mix and multiple testing.

Results—Patients in the UK center were more likely to stay in lower Rivermead Motor Assessment of Gross Function classes compared with patients in the German center (ΔOR, 2.4; 95% CI, 1.3 to 4.3). In the Swiss center, patients were less likely to stay in lower Nottingham Extended Activities of Daily Living classes compared with patients in the UK center (ΔOR, 0.7; 95% CI, 0.5 to 0.9). The latter were less likely to stay in lower Barthel Index classes compared with the patients in the German center (ΔOR, 0.6; 95%CI, 0.4 to 0.8). Recovery patterns of Rivermead Motor Assessment of Leg/Trunk and Rivermead Motor Assessment of Arm were not significantly different between centers.

Conclusions—Gross motor and functional recovery were better in the German and Swiss centers compared with the UK center, respectively. Personal self-care recovery was better in the UK compared with the German center. Previous studies in the same centers indicated that German and Swiss patients received more therapy per day. This was not the result of more staff but of a more efficient use of human resources. This study indicates potential for improving rehabilitation outcomes in the UK and Belgian centers. (***Stroke*. 2007;38:2101-2107.)**

Actions

- Quantify the volume of services
- Appropriate resources
- Outcome measurements for effectiveness

Cost-effective model

Meta-analysis of Cardiac Rehabilitation Service (2005)

- reduced recurrent MI by 17% at a median of 12 months;
- mortality benefit became apparent with longer follow-up: 15% overall and 47% at 2 years.
- showed that survival benefit was similar in recently published trials to those of over 2 decades earlier

Clark AM, Hartling L, et al.. Ann Intern Med 2005;143:659 –72.

Cost-effectiveness of cardiac rehabilitation

Short Course of Cardiac Rehabilitation Program is highly cost-effective in improving long-term Quality of Life with recent myocardial infarction or Percutaneous Coronary Angioplasty. *Archives of Physical Medicine and Rehabilitation*, , Vol 85 (12), 1915-1922. 2004 Dec.

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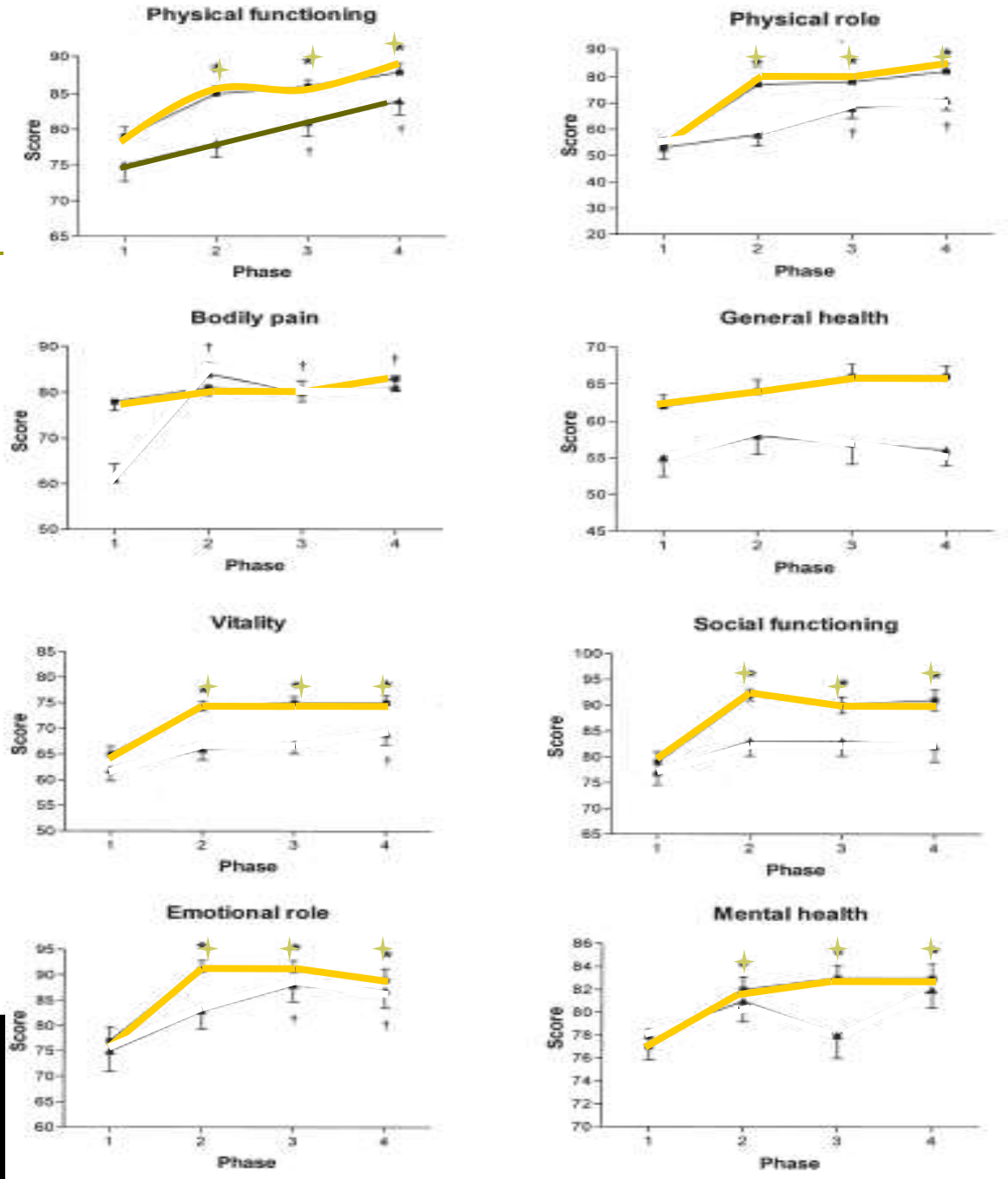
Arch Phys Med Rehabil , Vol 85 (12), 1915-1922. 2004 Dec.



Mean cost of medical expenditure per patient

QALY = 0.6

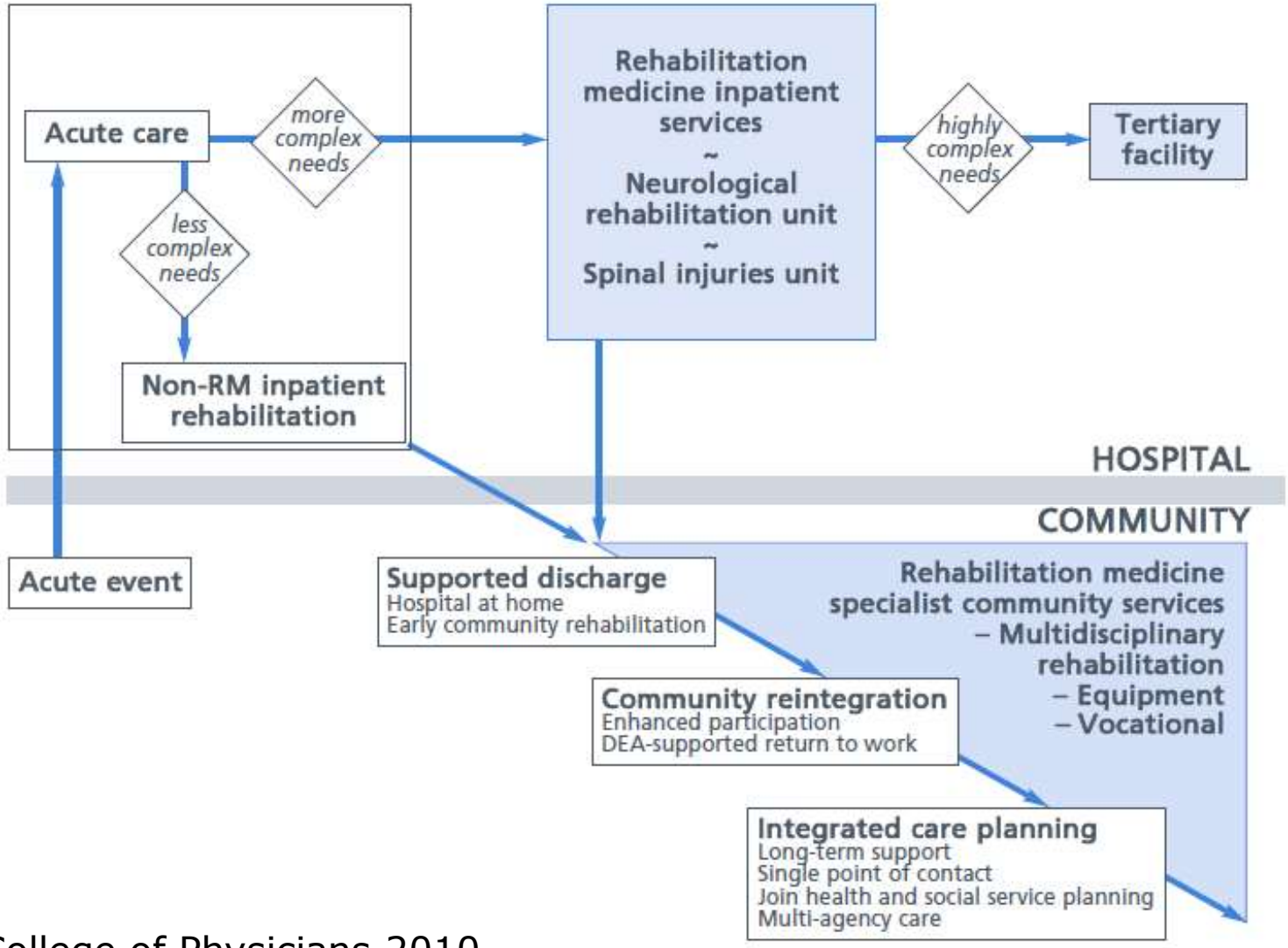
Incremental cost = -$416

Cost-utility ratio =
- $650 per QALY gained per patient

Item	CRPP Group (US$)	Control Group (US$)
Staff salary	776.6	415.0
Equipment	4.6	0.0
Hospitalizations	3553.6	2747.0
Investigations		
Coronary angiogram	871.8	1025.6
Echocardiography	448.7	448.7
Holter	118.6	118.6
Exercise test	553.8	553.8
Electrocardiogram	140.4	140.4
Blood tests	1013.1	1013.1
Chest radiogram	48.7	48.7
Revascularization procedures		
PCI	4885.0	6481.2
CABS	256.4	205.1
Private clinic visits	82.0	53.5
Public cardiac clinic visits	425.3	435.2
Public noncardiac clinic visits	146.3	155.0
Casualty visits	27.4	30.0
Drugs	1939.6	1836.5
Mean total costs per patient	15,291.9	15,707.4

Arch Phys Med Rehabil , Vol 85 (12), 1915-1922. 2004 Dec.

Clinical Pathway



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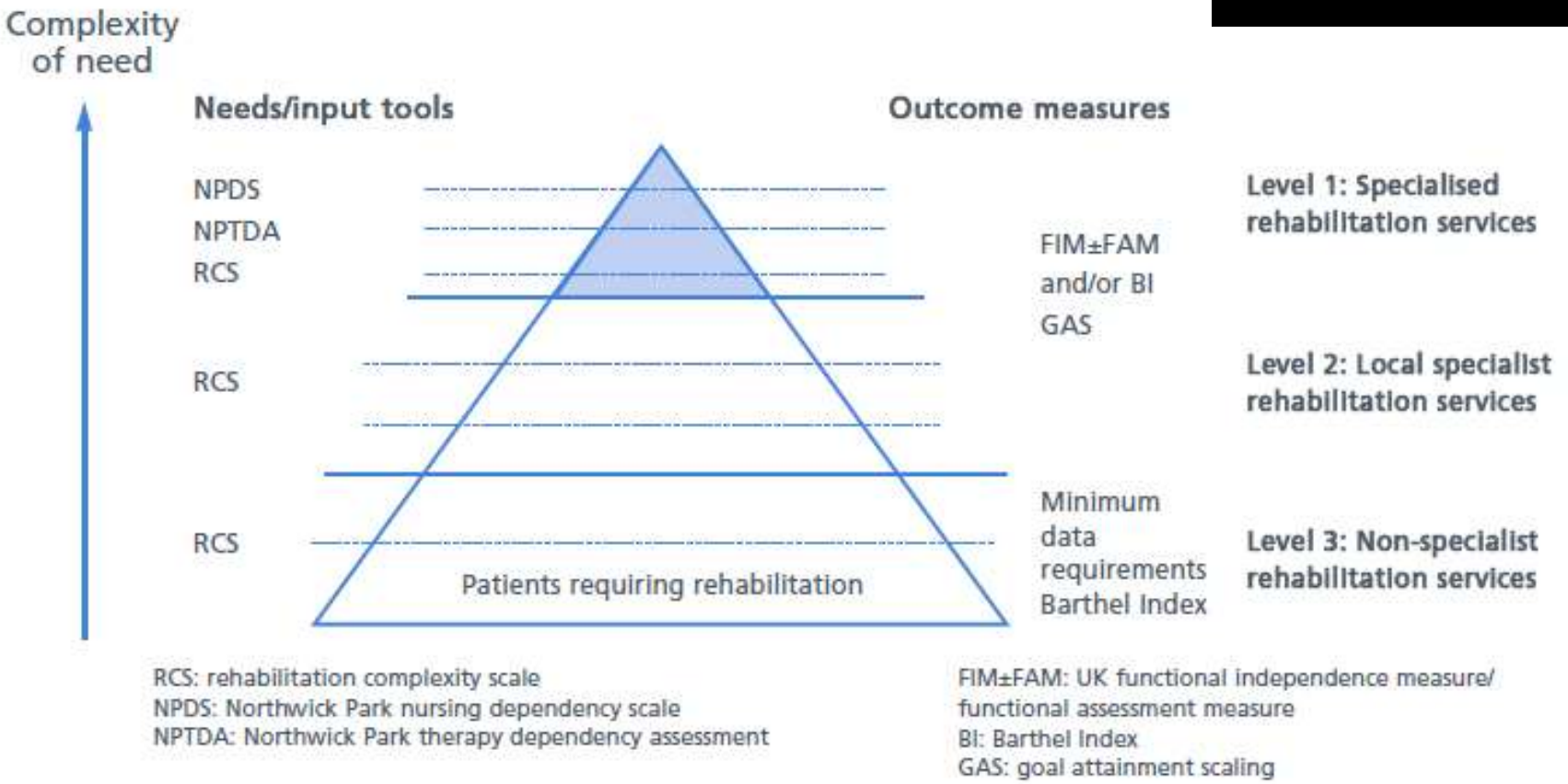
Level of Complexity of Rehabilitation Services



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Analysis 01.01. Comparison 01 Electromechanical and robotic assisted gait training plus physiotherapy versus physiotherapy (or usual care), Outcome 01 Independent walking at the end of intervention phase, all electromechanical devices used

Review: Electromechanical-assisted training for walking after stroke

Comparison: 01 Electromechanical and robotic assisted gait training plus physiotherapy versus physiotherapy (or usual care)

Outcome: 01 Independent walking at the end of intervention phase, all electromechanical devices used

Study	Treatment n/N	Control n/N	Odds Ratio (Fixed) 95% CI	Weight (%)	Odds Ratio (Fixed) 95% CI
× Dias 2006	20/20	20/20		0.0	Not estimable
× Husemann 2007	0/17	0/15		0.0	Not estimable
Peurala 2005	14/30	9/15		35.0	0.58 [0.17, 2.05]
Pohl 2007	41/77	17/78		43.2	4.09 [2.03, 8.23]
Saltuari 2004	1/8	1/8		4.8	1.00 [0.05, 19.36]
Schwartz 2006	11/28	1/18		4.0	11.00 [1.28, 94.88]
Tong 2006	14/30	3/20		10.5	4.96 [1.20, 20.55]
Werner 2002	1/15	0/15		2.5	3.21 [0.12, 85.20]
Total (95% CI)	225	189		100.0	3.06 [1.85, 5.06]

Total events: 102 (Treatment), 51 (Control)

Test for heterogeneity chi-square=9.67 df=5 p=0.08 I^2 =48.3%

Test for overall effect z=4.37 p=0.00001

0.1 0.2 0.5 1 2 5 10

Favours control Favours treatment

Electromechanical-assisted training for walking after stroke (Review)

Electromechanical Gait Trainer

Methotze et al. Cochrane Library, 2007, issue 4

Robotic Training

- Repetitive and Task-specific training

Technology in Rehabilitation

Motor Recovery after Stroke

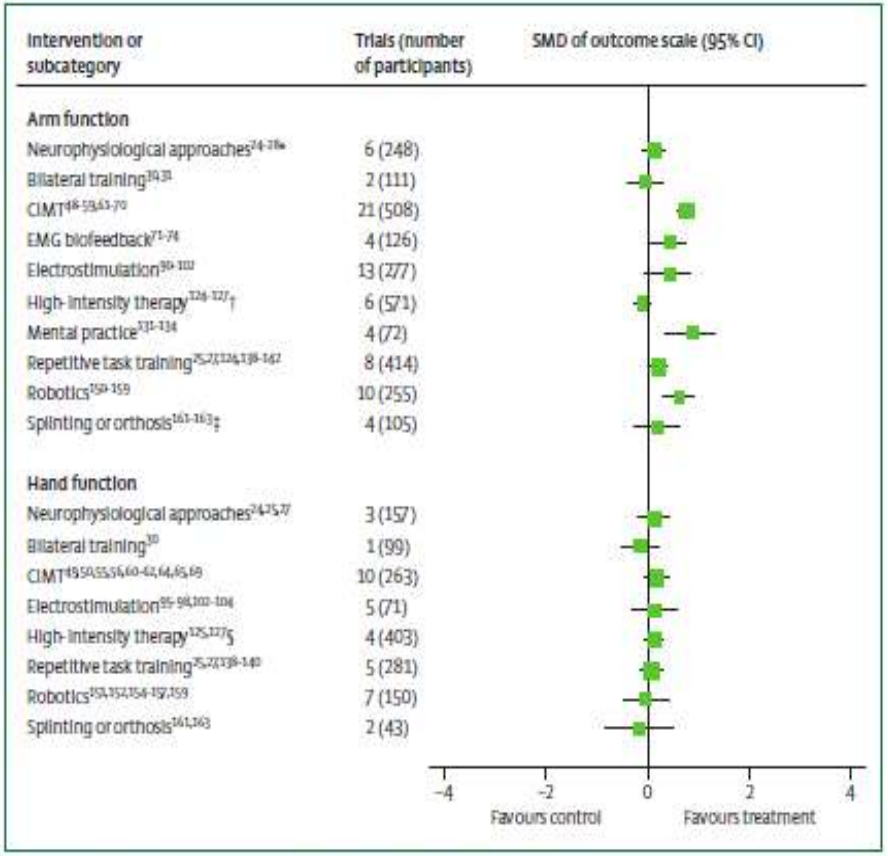


Figure 2: Interventions to improve upper-limb motor recovery after stroke

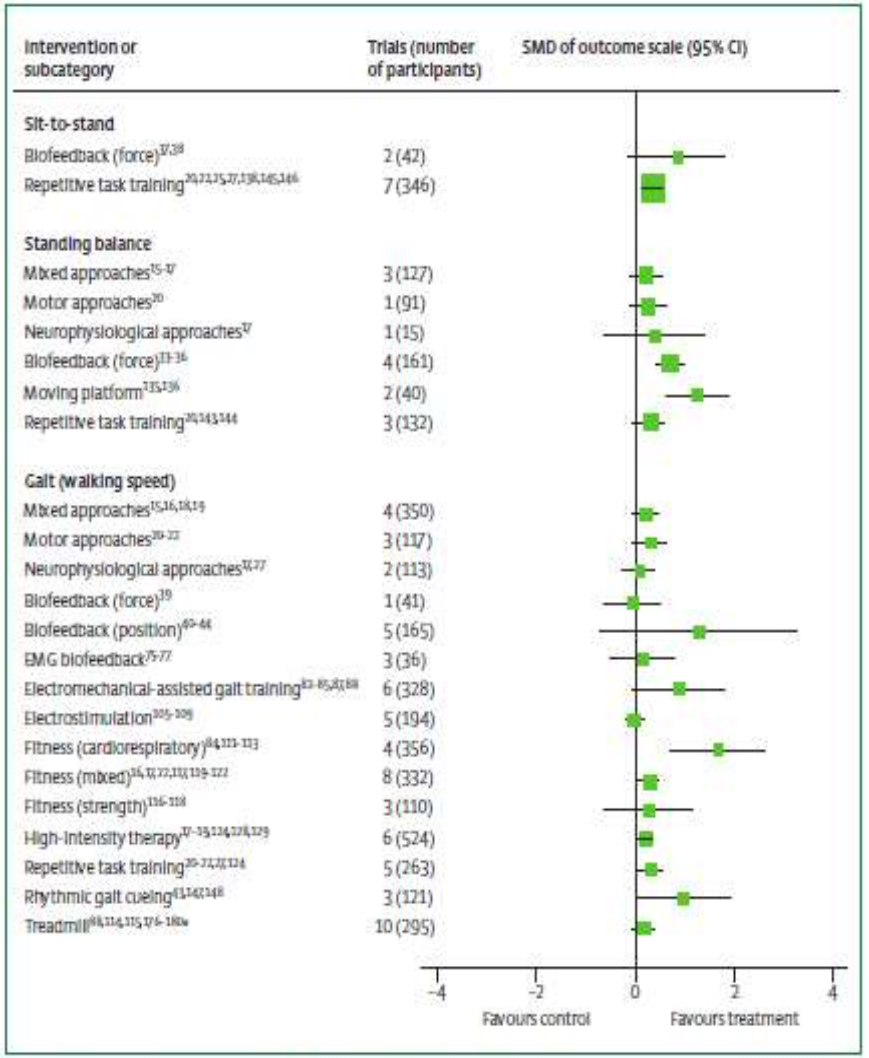
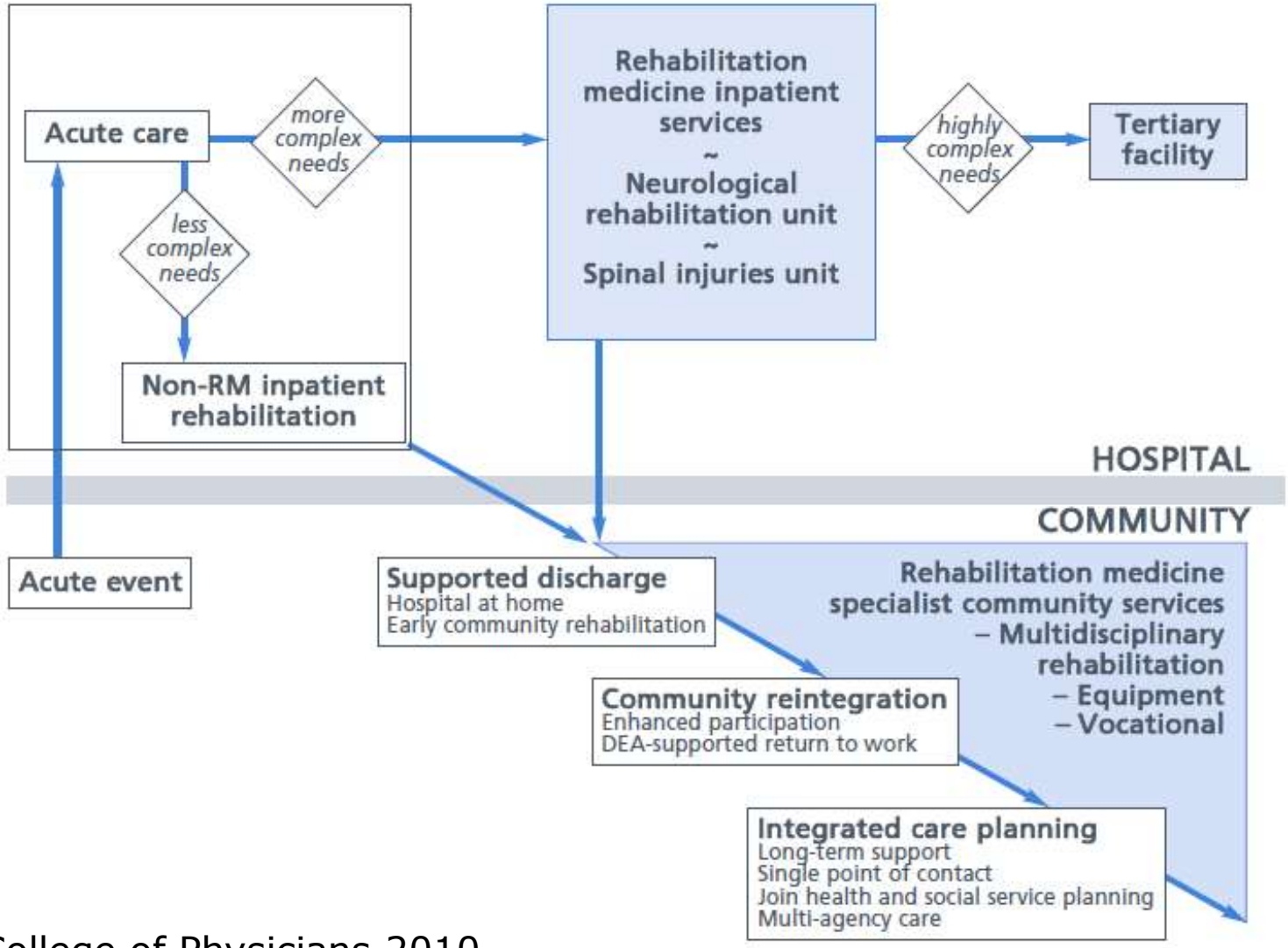


Figure 3: Interventions to improve balance, gait, or mobility after stroke

Langhorne P et al. Lancet Neruol 2009:8:441-54

Clinical Pathway



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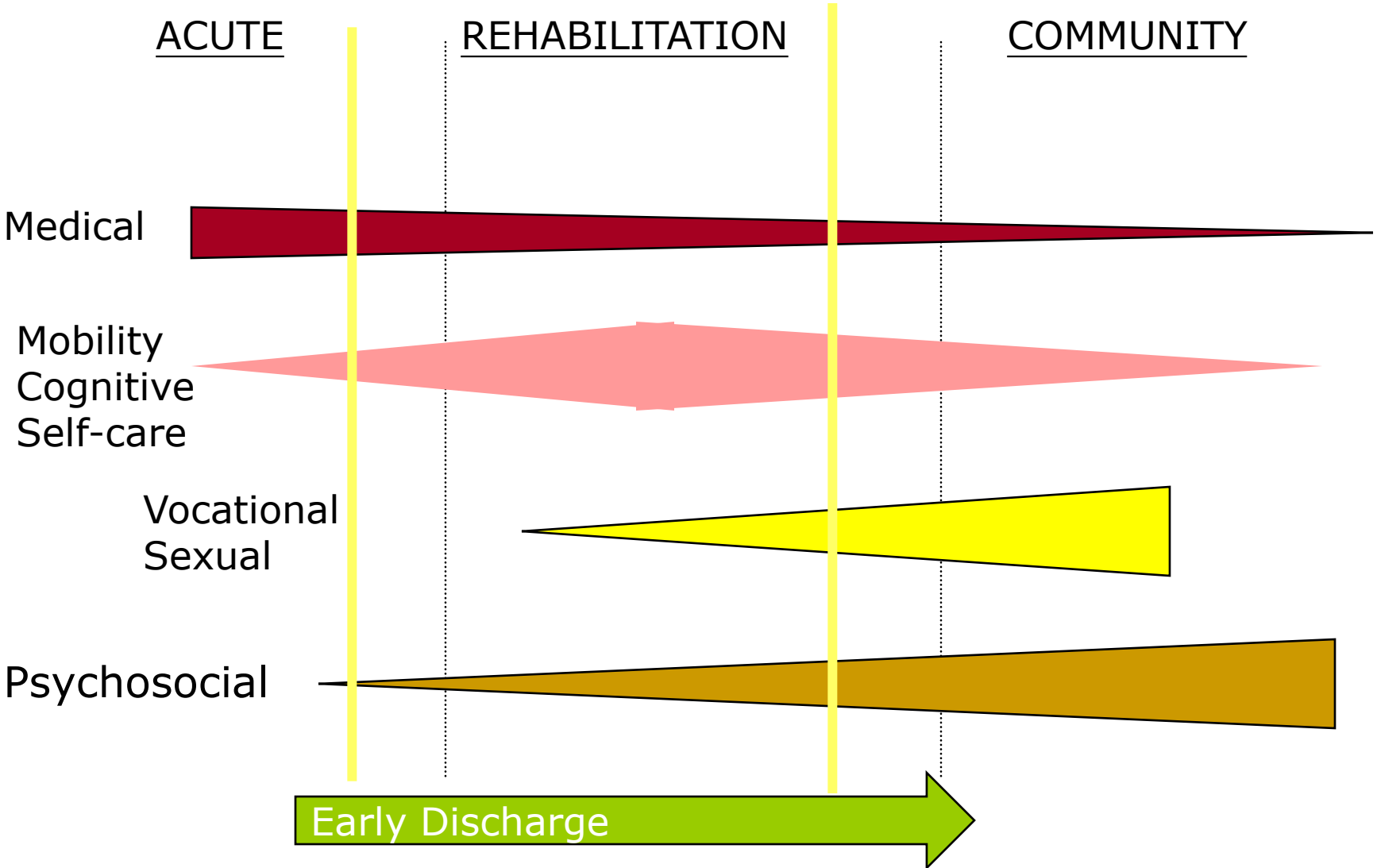
Interface and Triage: What is the optimal in HK?

- Acute to Rehabilitation
  - Inpatient
  - Day patient
- Inpatient to Community
  - Day patient
  - Home rehabilitation
  - NGOs
  - Satellite centres

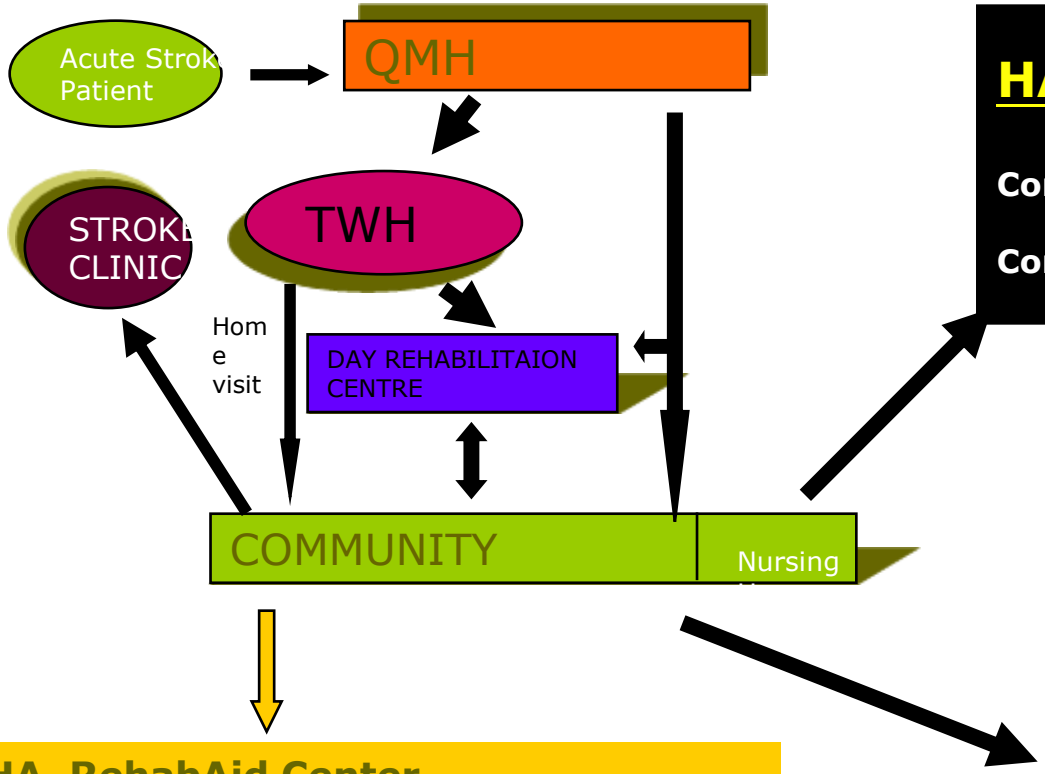
Phases of Neurological Care



Early Supported Discharge Trials

		Length of stay (LOS)		Institutional care		Readmission rates		
	Number of subjects	Conventional care	ESD	% reduction LOS	Conventional care(%)	ESD(%)	Conventional care(%)	ESD(%)
London	331	32	25	22	15	8	26	26
Newcastle	92	22	13	41	12	7	12	11
Stockholm	83	29	14	52			10	10
Akershus	251	38	10	74	11	13		
Adelaide	86	30	15	50	11	5	27	36
Montreal	114	16	10	38				
Oslo	82	31	22	29				

Community Rehabilitation and Services outside the hospital



HA community outreaching

Community Geriatric Assessment Team

Community Nurse Services

HA RehabAid Center

Specialised disabled driving assessment

Sexual Rehabilitaion Program

NGOs

St. James Settlement

Caritas Centre

Haven of Hope Day Centre

TWGH Day Centre

Geriatric Day Care Centre

Community Rehabilitation Network (CRN)

Patient Self-help Groups

Haven of Hope Day Rehabilitation Centre

Rehabilitation Network: Self Management Programme

Seif-Support Group: Outdoor Activities

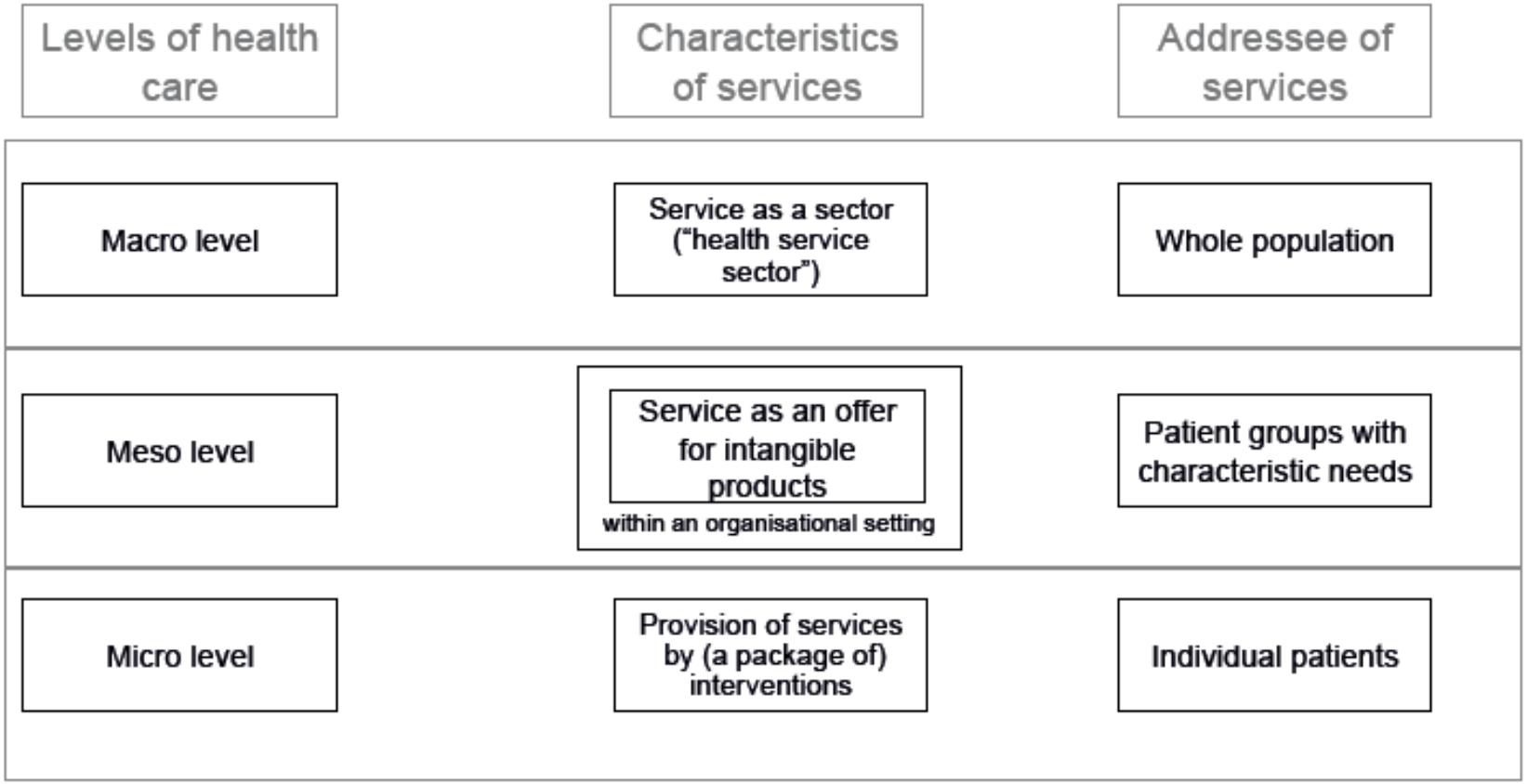
Interface and Triage: What is the optimal in HK?

- Acute to Rehabilitation
  - Inpatient
  - Day patient
- Inpatient to Community
  - Day patient
  - Home rehabilitation
  - NGOs
  - Satellite centres?

1. Communication – case manager
2. Quantification of service – bed allocation

1. Communication-case manager
2. Macro resource allocation
3. Cost-effective evaluation

Conceptual Description of Rehabilitation-related Services



Myer T., Grutenbrunner C. et al. J Rehabil Med 2014; 46:1-6

Summary

Micro	**Individual patient**	**1. Scopes of intervention 2. Credentialing of service providers 3. Staff training 4. Appropriate resources: staff and facilities 5. Outcome assessment**
Meso	Patient groups	1. Level of specialization needed 2. Traige, interface (patient journey)
Macro	Whole population	1.Public vs Private 2. Resource allocation 3. Community linkage


Thank You