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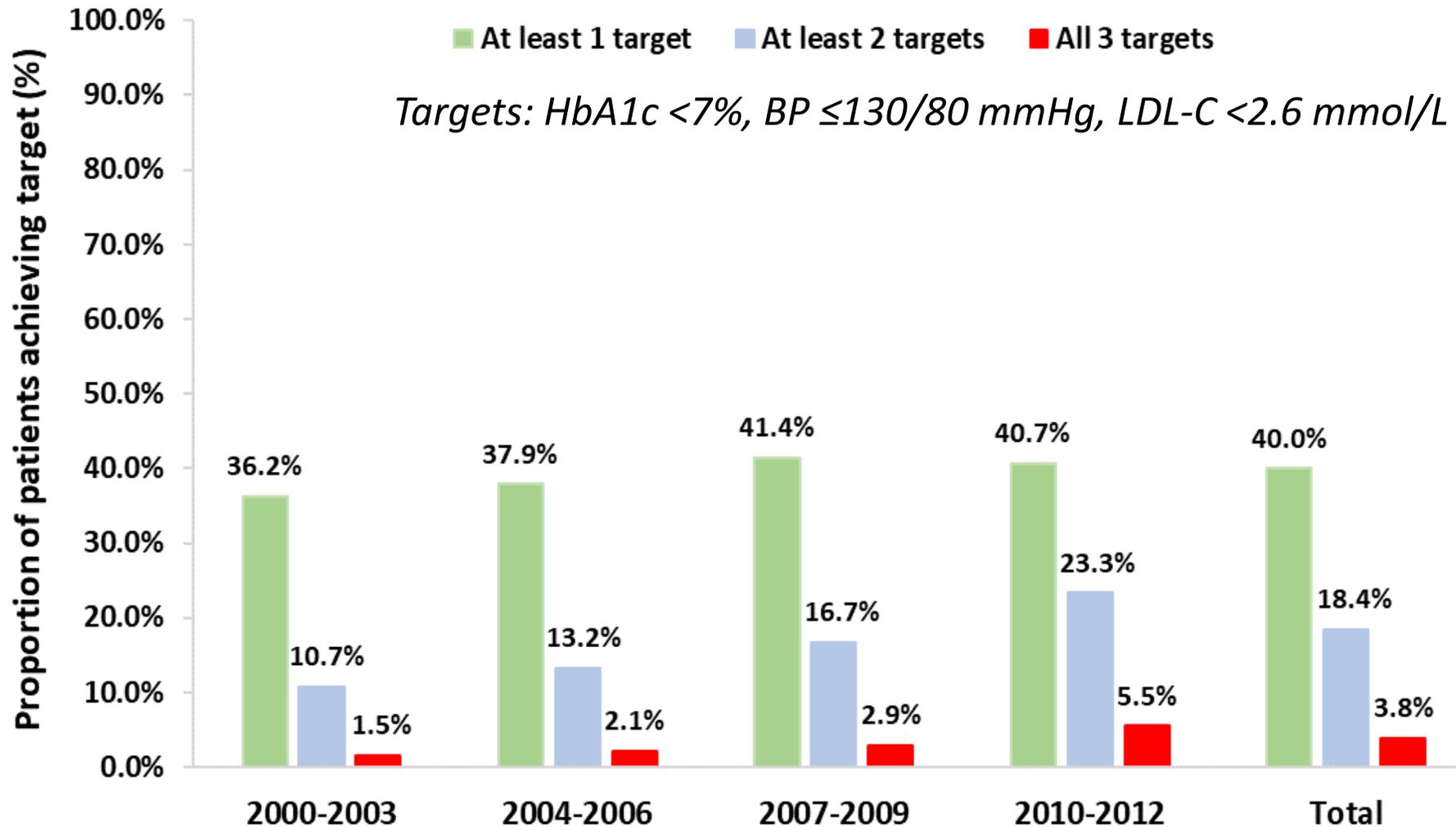
Dept of Medicine & Therapeutics, Prince of Wales Hospital

(Special thanks to Dr LL LIM)

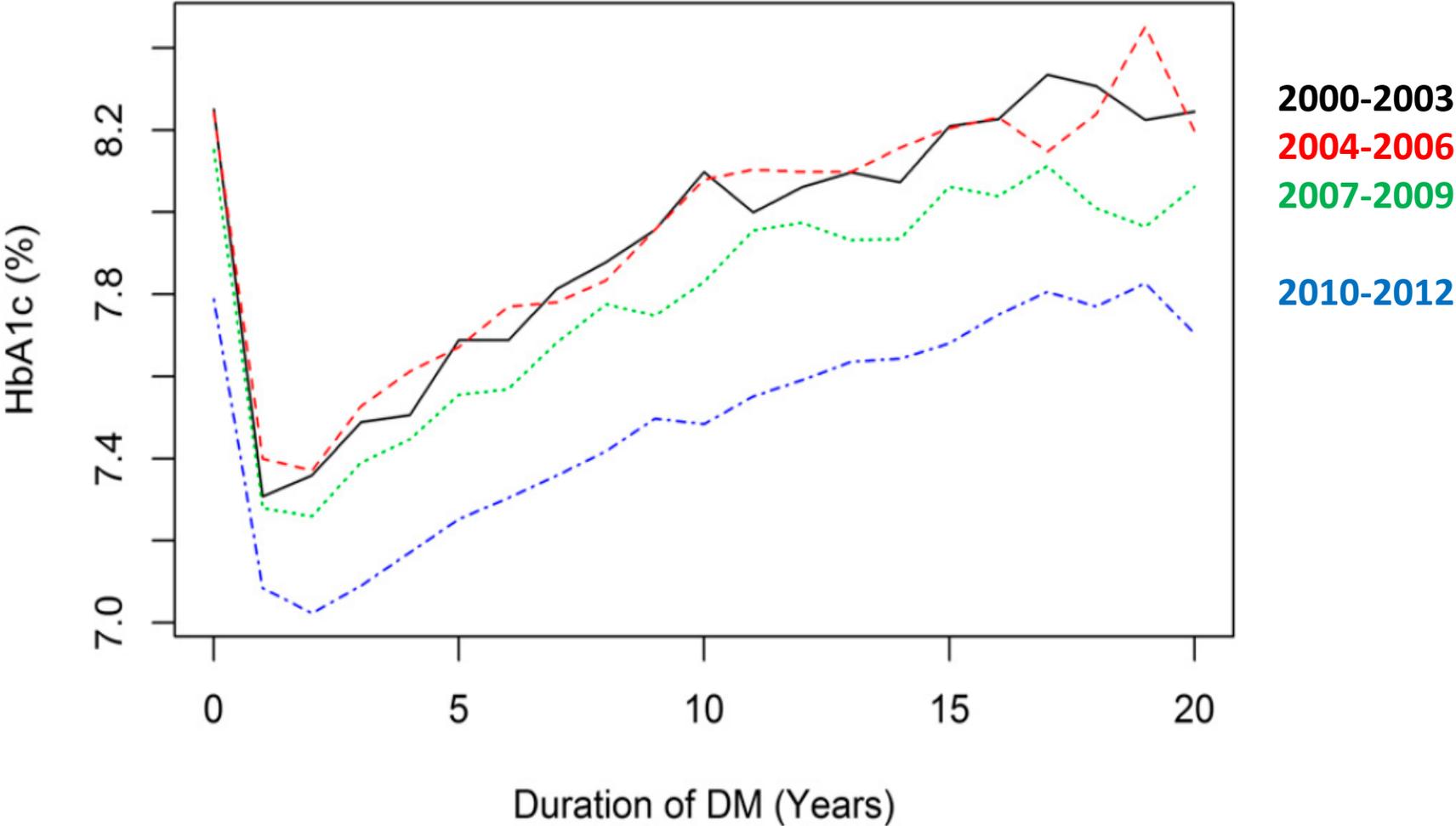
Outline

- Unmet needs in diabetes management
- Can peer support fill in the gaps?
- Current program
 - Study design
 - Results
- Summary

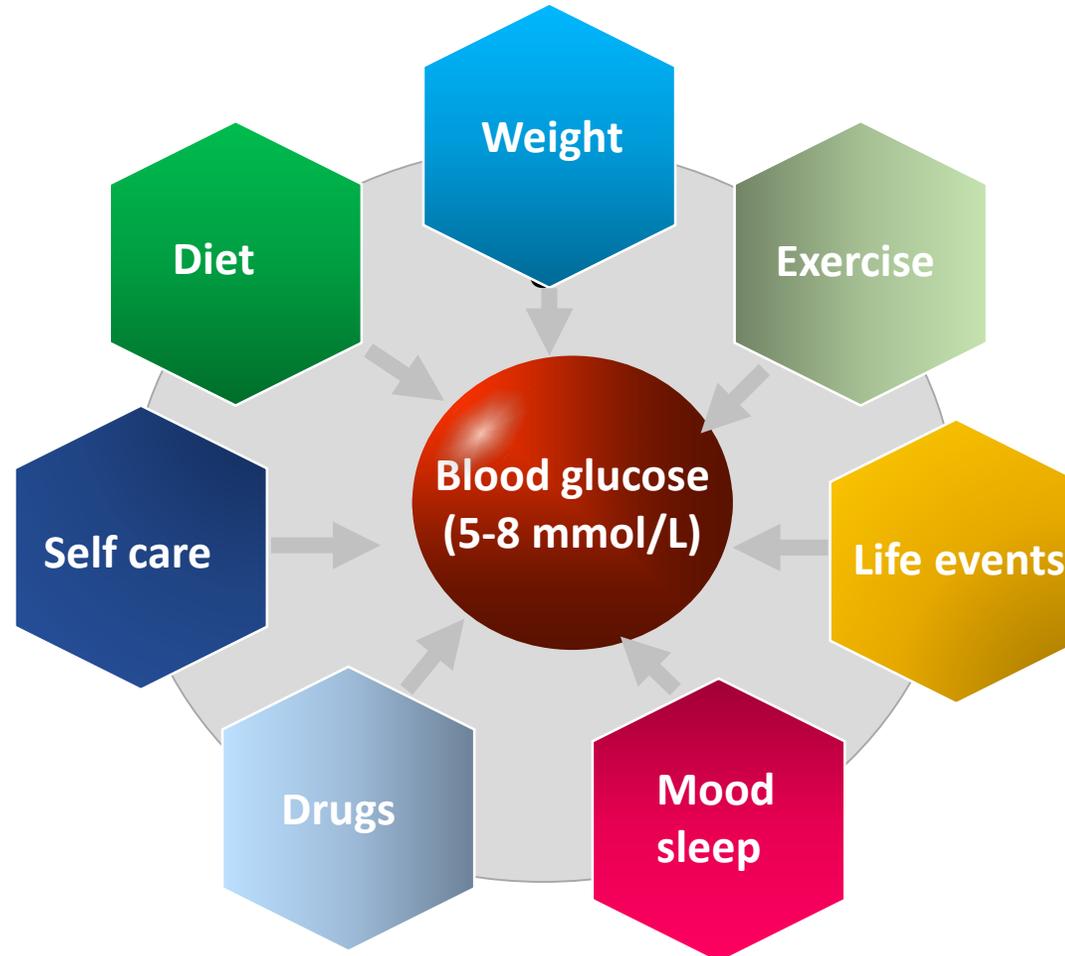
More than 90% of patients with type 2 diabetes failed to achieve all 3 ABC targets in Hong Kong (n=330,000)



Stabilizing glycemic control is challenging and cannot be achieved by drugs alone (n=330,000)



Variability of blood glucose in people with diabetes



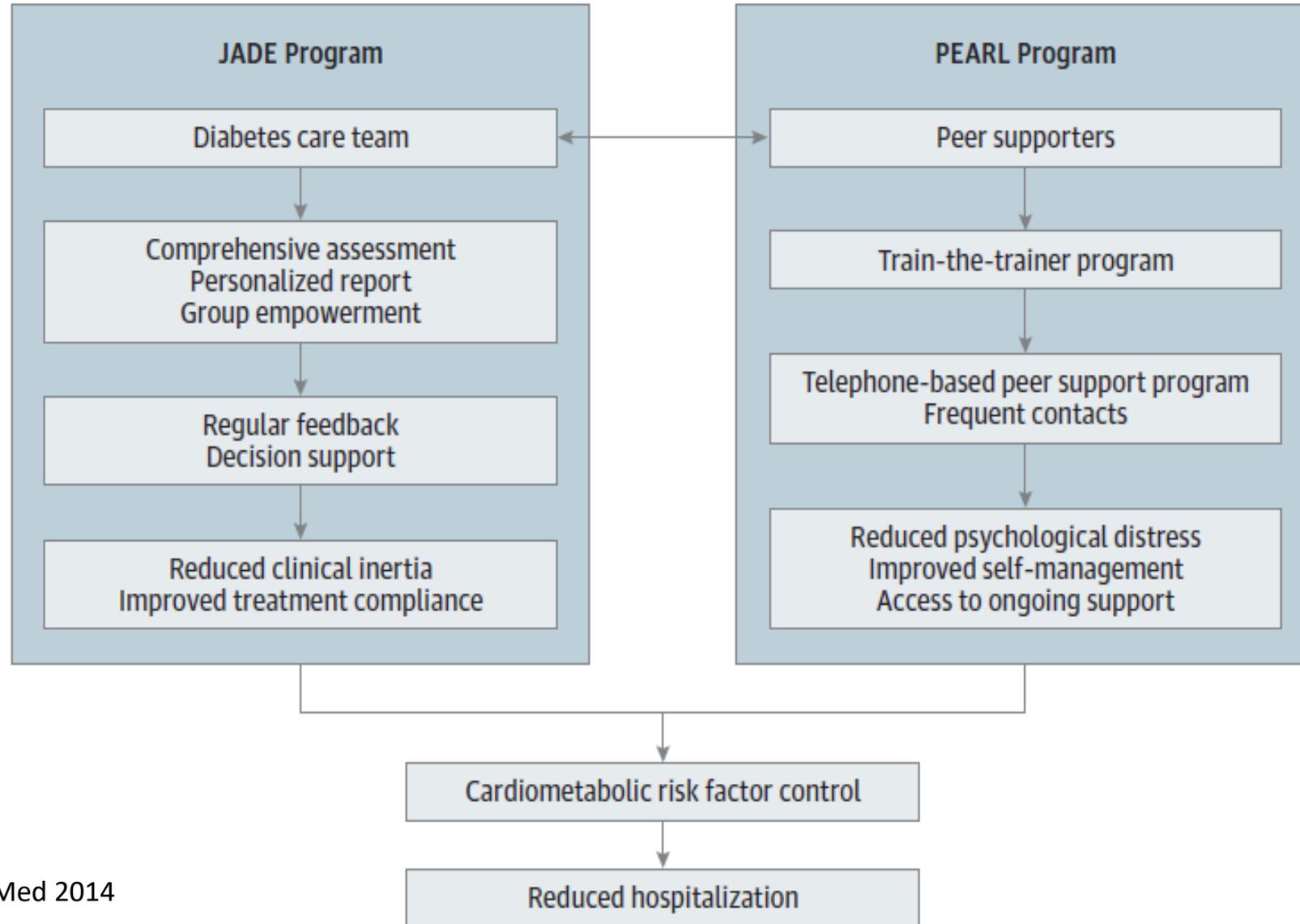
JADE China: Psychosocial stress and self care

Table 2 Mean number of days in the prior week when patients adhered to diabetes self-care behaviors stratified by depression*

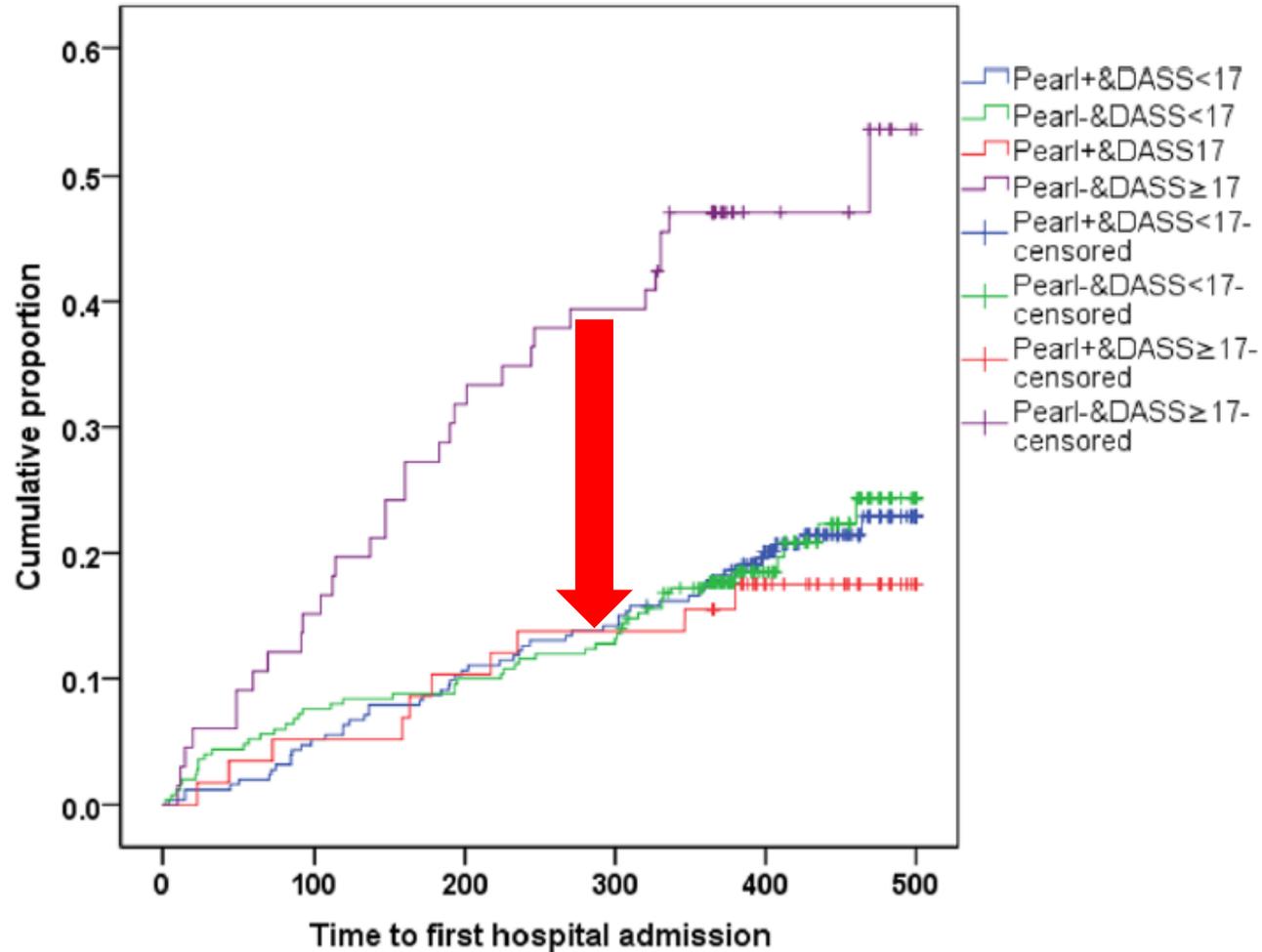
	PHQ-9 < 10	PHQ-9 ≥ 10	<i>P</i> -value
General diet	4.41 ± 0.05	3.97 ± 0.20	0.033
Fruit and vegetables	3.84 ± 0.06	3.51 ± 0.21	0.133
High-fat food consumption	2.41 ± 0.05	2.16 ± 0.19	0.211
SMBG	2.23 ± 0.05	2.32 ± 0.18	0.659
Exercise	3.90 ± 0.06	3.31 ± 0.20	0.005
Foot care	3.97 ± 0.05	3.57 ± 0.17	0.022
Bring along candy	2.60 ± 0.07	2.80 ± 0.25	0.239

n=2538 patients with T2D from 4 cities in China
(HK, Beijing, Shanghai, Guangzhou)

Conceptual framework of JADE-PEARL Project: integrated care + personalized feedback + peer support



JADE-PEARL Project: Patients with negative emotions benefit most from peer support



n=628, post-hoc analysis

Adjusted RR for **hospitalization:**
0.52 (95% CI 0.35, 0.79)

Adjusted RR for **shortened inpatient stay:**
0.46 (95% CI 0.25, 0.85)

From JADE-PEARL to a Multicentre Peer Support Program



- DMEC, Prince of Wales Hospital
- Alice Ho Miu Ling Nethersole Hospital
- United Christian Hospital
- Ruttonjee Hospital
- Our Lady of Maryknoll Hospital
- Pamela Youde Nethersole Eastern Hospital
- Queen Elizabeth Hospital
- HK Society of Community Rehabilitation Network

Selection criteria

Inclusion criteria

Peer supporters:

- Cantonese-speaking
- Aged 18-75 years
- A1c <7.5% in the last 6 months
- Previous formal DM education
- PHQ-8 score <7
- Good communication skill
- Positive attitude

Peers:

- Suboptimal glycemic control
- Aged 18-75 years
- Social isolation
- Emotional distress

Exclusion criteria

Peer supporters:

- Failure to have 100% attendance in the training workshops
- Inadequate knowledge about DM after the workshops

Peers:

- Without telephone access
- Have serious mental/physical disabilities
- Life expectancy <1 year

Study design and intervention

Adapted from JADE-PEARL Project





1 球來



2 控球



3 全情



伊



醫護

朋儕關顧計劃，透過分享、互相學習，控制糖尿病，控制病情。回看這段日子，參加訓練班，組長與醫院小組活動，看到組員彼此鼓勵，坦承困難，可以肯定這個計劃的價值。



努力、和勇氣

雅

從2015年開始，47位糖友一同參與「雅集」活動。大家都有個共同目標，齊齊達至良好健康。從互不認識，到組長與組員互相認識，建立友誼。



各組長及組員除了「雅集」活動，還有「多健運動」小食。一方面可讓組員增加對健康小食的認識，另一方面可讓組員互相支持。

在2016年11月的「雅集」活動中，組員齊齊學唱歌，還在「雅集」活動中，互相面對的困難，互相支持。



「雅集」活動，亦多了一位「雅集」活動，亦有「雅集」活動，精彩紛呈。

東區

組長們接受培訓：



組長和組員互相支持：



東區朋儕關顧計劃：



基督教聯合醫院 —朋儕關顧計劃

聯合齊心展活力 舞動健康樂陶陶



莫姑娘

Dr. Kam



WATER
(2L A DAY)





嘉賓大合照



威爾斯親王醫院表演



基督教聯合醫院表演

我的故事

曾愛玲組員



(左) 組長寶玲及 (右) 曾愛玲

我有了糖尿已經二十多年，但糖尿病的控制一直都不好，因為我覺得自己都一把年紀了，應該喜歡吃什麼就吃什麼，即使是我的兒子和媳婦勸告我戒口和控制糖尿，我通通都不理會，一直我行我素！

回想起一年多前，慶幸糖尿科護士邀請我參加「糖尿朋儕關顧支援小組計劃」，當初我是不願意參加的，其後被護士們的誠意深深地打動，才答允參加。

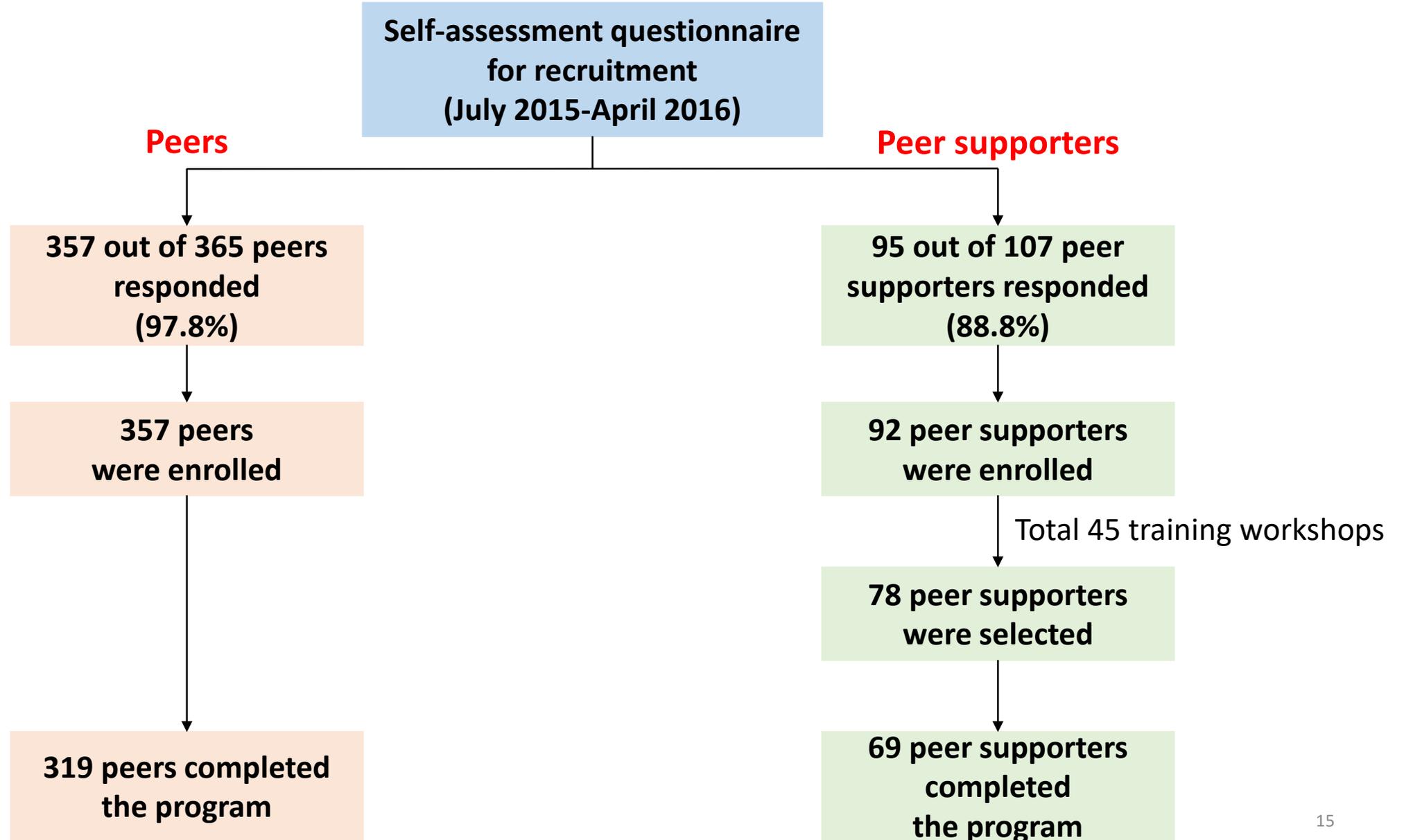
記得第一次在「相睇會」(即組長和組員第一次的見面會)認識我的組長寶玲，覺得她很有心和友善，當時我和她還不太熟絡，但心裏想認識多一個朋友也是無妨。「相睇會」後，組長多次打電話和我交談、主動關心我，並分享她控制糖尿病的困難，令我感到很有共鳴，原來大家的經歷相同，終於有人明白我啦！隨後她更告訴我照顧糖尿病的心得，令我十分受落！漸漸地我覺得既然組長可以把血糖控制得好，我也要向她多多學習，因此決定要控制飲食和多做運動。

Study design and outcomes



- Quasi-experimental
- Primary outcome:
 - change of A1c from baseline to 12 months amongst peers
- Secondary outcomes:
 - Clinical assessment: Blood pressure, lipid profile, waist circumference, BMI
 - Psychosocial assessment:
 - World Health Organization Quality of Life questionnaire (WHOQoL-26)
 - 15-item Chinese Diabetes Distress Scale (CDDS-15)
 - Patient Health Questionnaire (PHQ-8)
 - 14-item Summary of Diabetes Self Care Activities Assessment (SDSCA-14)

Study flow



Results

Baseline characteristics of 319 peers who completed the program

		Value
	n	
Age (years)	318	61.4±8.0
Women (%)	318	171 (53.8%)
Duration of diabetes (years)	311	16.3±9.0
At least secondary school / college education	302	186 (61.6%)
Former / current smoker	313	79 (25.2%)
Diabetes regime	316	
Lifestyle modification only		8 (2.5%)
Oral glucose lowering drugs only		96 (30.4%)
Insulin only		21 (6.6%)
Oral glucose lowering drugs and insulin		191 (60.4%)

mean ± SD or number (%)

Changes in cardiometabolic risk factors in peers

	n	At baseline	At end of study	Mean difference (95% CI)	P-value
Number of contacts with peer supporter	243	NA	5.0 (2.0-10.0)	NA	NA
A1c (%)	307	8.8±1.4	8.1±1.3	-0.76 (-0.94, -0.58)	<0.001*
Systolic blood pressure (mmHg)	279	135.5±15.9	135.5±17.9	0.1 (-2.1, 2.2)	0.961
Diastolic blood pressure (mmHg)	278	74.2±9.9	74.3±11.3	0.1 (-1.2, 1.4)	0.856
Total cholesterol (mmol/L)	297	4.2±0.9	4.1±0.8	-0.11 (-0.20, -0.02)	0.016*
LDL-cholesterol (mmol/L)	286	2.3±0.7	2.2±0.7	-0.11 (-0.18, -0.03)	0.006*
HDL-cholesterol (mmol/L)	298	1.2±0.4	1.2±0.3	0.01 (-0.01, 0.04)	0.360
Triglyceride (mmol/L)	298	1.5 (1.0-2.2)	1.4 (1.0-2.1)	0.01 (0.10, -0.12)	0.953
Body mass index (kg/m ²)	250	27.5±4.3	27.5±4.8	0.02 (-0.32, 0.35)	0.909
Waist circumference (cm)	176	92.8±10.8	93.3±11.0	0.49 (-0.30, 1.27)	0.223
A1c <7%	284	19 (6.7%)	67 (23.6%)	NA	<0.001*
Systolic blood pressure <130 mmHg	262	100 (38.2%)	115 (41.6%)	NA	0.380
LDL-cholesterol <2.6 mmol/L	267	202 (69.3%)	221 (77.2%)	NA	0.004*
Body mass index <25 kg/m ²	250	69 (27.6%)	71 (28.4%)	NA	0.855

*P<0.05 indicates a statistically significant difference from baseline to study end.

Changes in psychosocial outcomes in peers (1)

	n	At baseline	At end of study	Mean difference (95% CI)	P-value
15-item Chinese Diabetes Distress Scale (CDDS-15)					
Total score	218	40.7±12.4	38.8±12.9	-1.89 (-3.59, -0.18)	0.030*
Emotional burden subscale score	246	17.6±5.9	16.4±6.6	-1.19 (-1.96, -0.41)	0.002*
Physician-related subscale score	242	6.5±3.2	6.2±3.2	-0.35 (-0.80, 0.11)	0.133
Regimen-/social support-related subscale score	239	16.9±5.7	16.5±5.5	-0.37 (-1.17, 0.43)	0.361
WHO Quality of Life Questionnaire (WHOQoL-26)					
Physical health domain score	252	12.7 (1.8)	12.8 (1.9)	0.10 (-0.14, 0.34)	0.415
Psychological domain score	251	12.5 (1.9)	12.8 (2.2)	0.24 (-0.02, 0.51)	0.068
Social relationships domain score	249	13.9 (2.4)	14.2 (2.4)	0.32 (0.02, 0.61)	0.037*
Environment domain score	251	13.8 (2.2)	14.2 (2.4)	0.40 (0.12, 0.67)	0.006*
Total score	252	26.0 (25.0-26.0)	26.0 (25.0-26.0)	0.03 (-0.07, 0.13)	1.000

* $P < 0.05$ indicates a statistically significant difference from baseline to study end.

Changes in psychosocial outcomes in peers (2)

	n	At baseline	At end of study	Mean difference (95% CI)	P-value
Total PHQ-8 score	246				
Total PHQ-8 ≥ 7					0.603
Total PHQ-8 ≥ 10					0.511
General diet (days in prior week)	246				
Specific diet (days in prior week)					0.182
Exercise (days in prior week)					0.479
Blood glucose testing (days in prior week)					0.836
Foot care (days in prior week)					0.038*
Medications (days in prior week)					1.000
Smoking (number of cigarettes/day)					0.508
Hypoglycaemia prevention (days in prior week)					0.276

* $P < 0.05$ indicates a statistically significant difference from baseline to study end.

Stratified by mean A1c at baseline

	A1c <8% (n=101)		A1c ≥8% (n=218)		Between group	
	n	Mean difference (95% CI)	n	Mean difference (95% CI)	Mean difference (95% CI)	P-value
Number of contacts with peer supporter	76	6.0 (3.0-10.0)	167	5.0 (2.0-10.0)	NA	NA
A1c (%)	96	-0.02 (-0.21, 0.17)	211	-1.10 (-1.33, -0.87)	-1.08 (-1.38, -0.78)	<0.001*
Systolic blood pressure (mmHg)	88	-0.78 (-3.32, 4.89)	191	-0.28 (-2.82, 2.25)	-1.07 (-5.70, 3.57)	0.651
Diastolic blood pressure (mmHg)	89	2.53 (0.36, 4.72)	189	-1.02 (-2.60, 0.55)	-3.56 (-6.29, -0.83)	0.011*
Total cholesterol (mmol/L)	93	-0.15 (-0.27, -0.02)	204	-0.09 (-0.21, 0.22)	0.05 (-0.14, 0.25)	0.604
LDL-cholesterol (mmol/L)	88	-0.16 (-0.28, -0.05)	198	-0.08 (-0.18, 0.02)	0.08 (-0.08, 0.25)	0.327
HDL-cholesterol (mmol/L)	93	0.00 (-0.04, 0.05)	205	0.02 (-0.02, 0.05)	0.01 (-0.04, 0.07)	0.676
Triglyceride (mmol/L)	93	0.05 (-0.17, 0.27)	205	-0.01 (-0.13, 0.11)	-0.07 (-0.30, 0.16)	0.574
Body mass index (kg/m ²)	84	-0.37 (-0.67, 0.08)	166	0.22 (-0.26, 0.70)	0.59 (-0.12, 1.30)	0.100
Waist circumference (cm)	70	-0.13 (-1.71, 1.45)	106	0.90 (0.09, 1.70)	1.02 (-0.58, 2.63)	0.210

* $P < 0.05$ indicates a statistically significant difference between the two groups.

Stratified by median number of contacts with peer supporters

	<5 (n=138)		≥5 (n=105)		Between group	
	n	Mean difference (95% CI)	n	Mean difference (95% CI)	Mean difference (95% CI)	P-value
A1c (%)	135	-0.55 (-0.77, -0.33)	104	-0.85 (-1.12, -0.58)	-0.30 (-0.65, 0.04)	0.087
Systolic blood pressure (mmHg)	126	1.25 (-2.20, 4.69)	98	1.29 (-2.25, 0.48)	0.04 (-4.93, 5.01)	0.987
Diastolic blood pressure (mmHg)	125	1.78 (-1.78, 3.74)	97	-1.47 (-3.63, 0.68)	-3.26 (-6.17, -0.35)	0.028*
Total cholesterol (mmol/L)	129	-0.04 (-0.17, 0.09)	104	-0.14 (-0.31, 0.02)	-0.10 (0.10, -0.10)	0.323
LDL-cholesterol (mmol/L)	124	0.01 (-0.11, 0.13)	102	-0.21 (-0.34, -0.09)	-0.22 (-0.39, -0.05)	0.011*
HDL-cholesterol (mmol/L)	130	0.00 (-0.04, 0.05)	104	0.02 (-0.03, 0.06)	0.01 (-0.05, 0.08)	0.684
Triglyceride (mmol/L)	130	0.02 (-0.14, 0.17)	104	0.02 (-0.17, 0.22)	0.00 (-0.24, 0.25)	0.973
Body mass index (kg/m ²)	108	0.26 (-0.44, 0.96)	93	-0.05 (-0.36, 0.26)	-0.31 (-1.11, 0.50)	0.453
Waist circumference (cm)	74	0.78 (-0.14, 1.71)	67	0.06 (-1.30, 1.42)	-0.72 (-2.32, 0.88)	0.374

* $P < 0.05$ indicates a statistically significant difference between the two groups.

Summary

- A 12-month nurse-coordinated, structured peer support program targeting at patients with emotional distress, social isolation and poor glycemic control improve health outcomes:
 - reduced A1c and LDL-C levels
 - increased proportion of attaining A1c<7% and LDL-C <2.6 mmol/L goals
 - improved self-efficacy (foot care)
 - improved emotional distress
- Patients with poor glycemic control ($\geq 8\%$) and frequent telephone contacts (≥ 5) had better outcomes
- Team-based care and ongoing social support in selected patients improves health outcomes

Acknowledgements

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HK Society of Community Rehabilitation Network	Po-Ki Yau
Our Lady of Maryknoll Hospital	Dr Jo Jo Kwan
Pamela Youde Nethersole Eastern Hospital	Tracy Lau
Queen Elizabeth Hospital	Winnie Cheng
Ruttonjee Hospital	Shimen Au
United Christian Hospital	Pik-Hung Mok
YCK Diabetes Assessment Centre, HKIDO, CUHK	Hau-Yee Chung

糖尿自理康莊路、同舟互助相益彰；
醫社患融携手創、朋儕關顧顯光芒！

Thank You!

