Pilot-run of a mobile functional cognition program for persons with substance abuse in Hong Kong

Angus Cheung, OTI

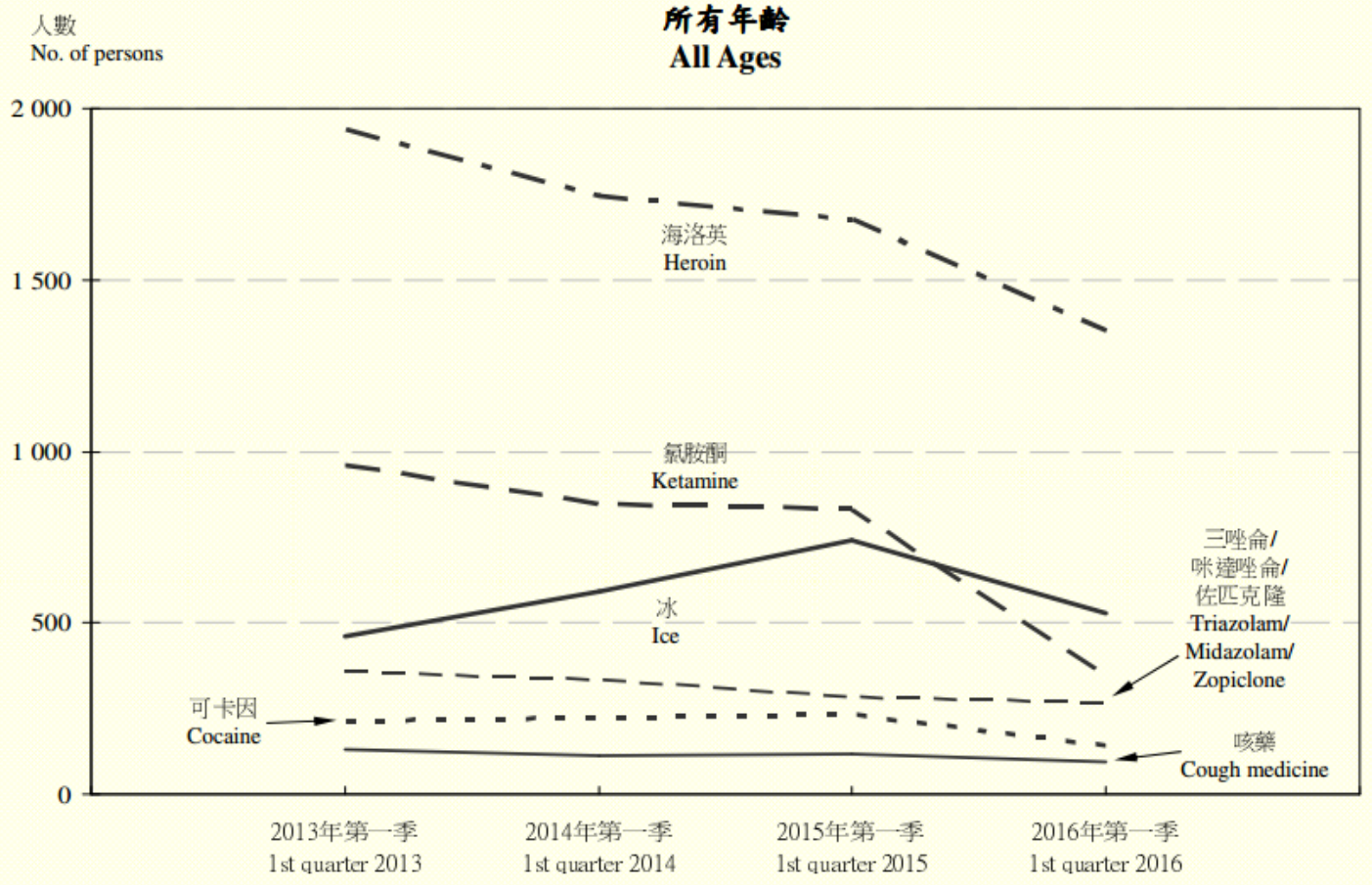
Occupational Therapy Department
United Christian Hospital, Hong Kong

基督教聯合醫院
UNITED CHRISTIAN HOSPITAL

醫院管理局
HOSPITAL AUTHORITY

禁毒基金
BEAT DRUGS FUND

按年齡組別及常被吸食的毒品種類劃分的被呈報吸食毒品人士
(2013年第一季至2016年第一季)
Reported drug abusers by age group by common type of drugs abused
(1st quarter 2013 to 1st quarter 2016)

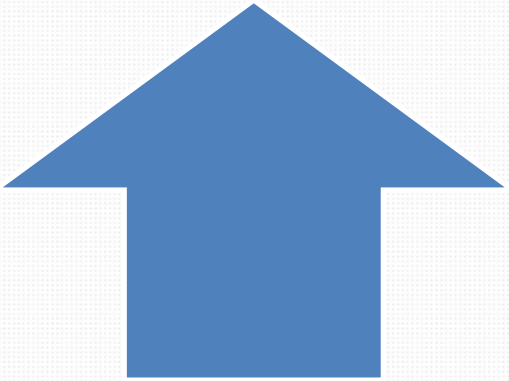


Figures from Narcotics Division, Security Bureau of Hong Kong

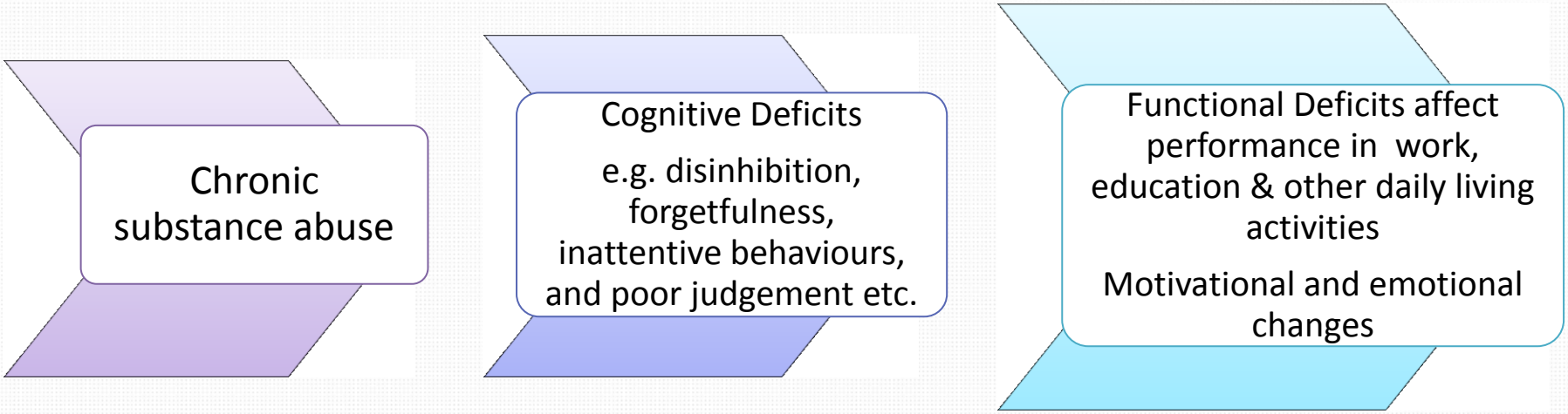
Legislative council panel on security

Ongoing decline in the number of drug abusers

Increased number of hidden drug abusers+ Newly reported cases



Impact of psychotropic drug abuse on cognitive and functional abilities



(Fernandez-Serrano et al., 2012; Goldman, 1992; Ornstein, 2000)

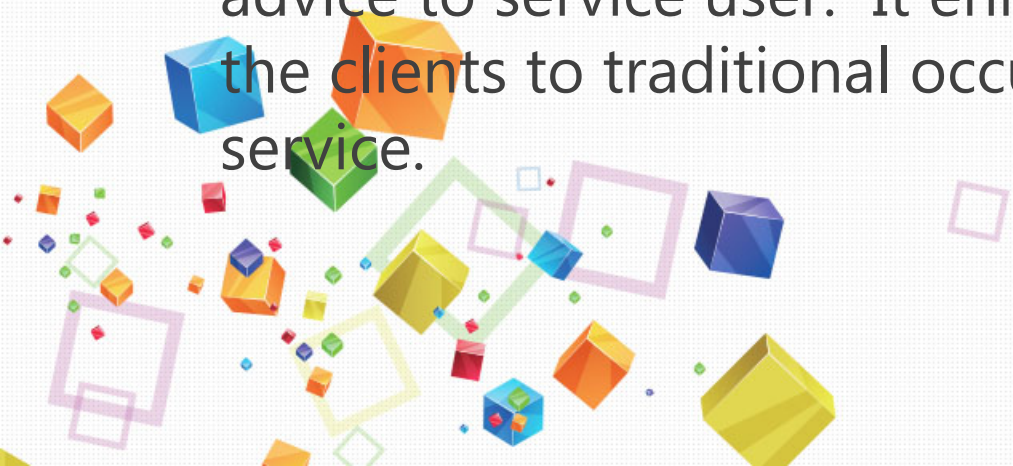
Existing Service Gap in Hong Kong

Traditional service-delivery model requiring clients to attend hospital or clinic-based services **may not be accessible and effective** in **client engagement** resulting in high default rate

Clients with cognitive deficits in by Counselling Centres for Psychotropic Substance Abusers (CCPSAs) and Drug Treatment and Rehabilitation Centres (DTRCs) who are not consulting psychiatric SOPD may be **under referral** for cognitive assessment and training, resulting in life roles dysfunction

Program objectives

- A 2-year territory wide program, from Jul 2015 to Jun 2017
- The program aimed at improving cognitive and occupational functioning of substance abusers referred by CCPSAs and DTRCs
- The program provided on-site cognitive assessment and training, psychoeducation and cognitive active lifestyle advice to service user. It enhanced the accessibility of the clients to traditional occupational therapy (OT) service.



Aim of MFCP

To provide **early and comprehensive assessment** to identify the cognitive and occupational functioning deficits of drug abusers

To provide **group and individual program** on psychoeducation, cognitive training, and lifestyle redesign

To facilitate **case management** by collaboration with staff of treatment and rehabilitation facilities

Targeted outcome measurement

Relapse rate

- BDF Question Set no. 5, to compare pre and post drug use pattern

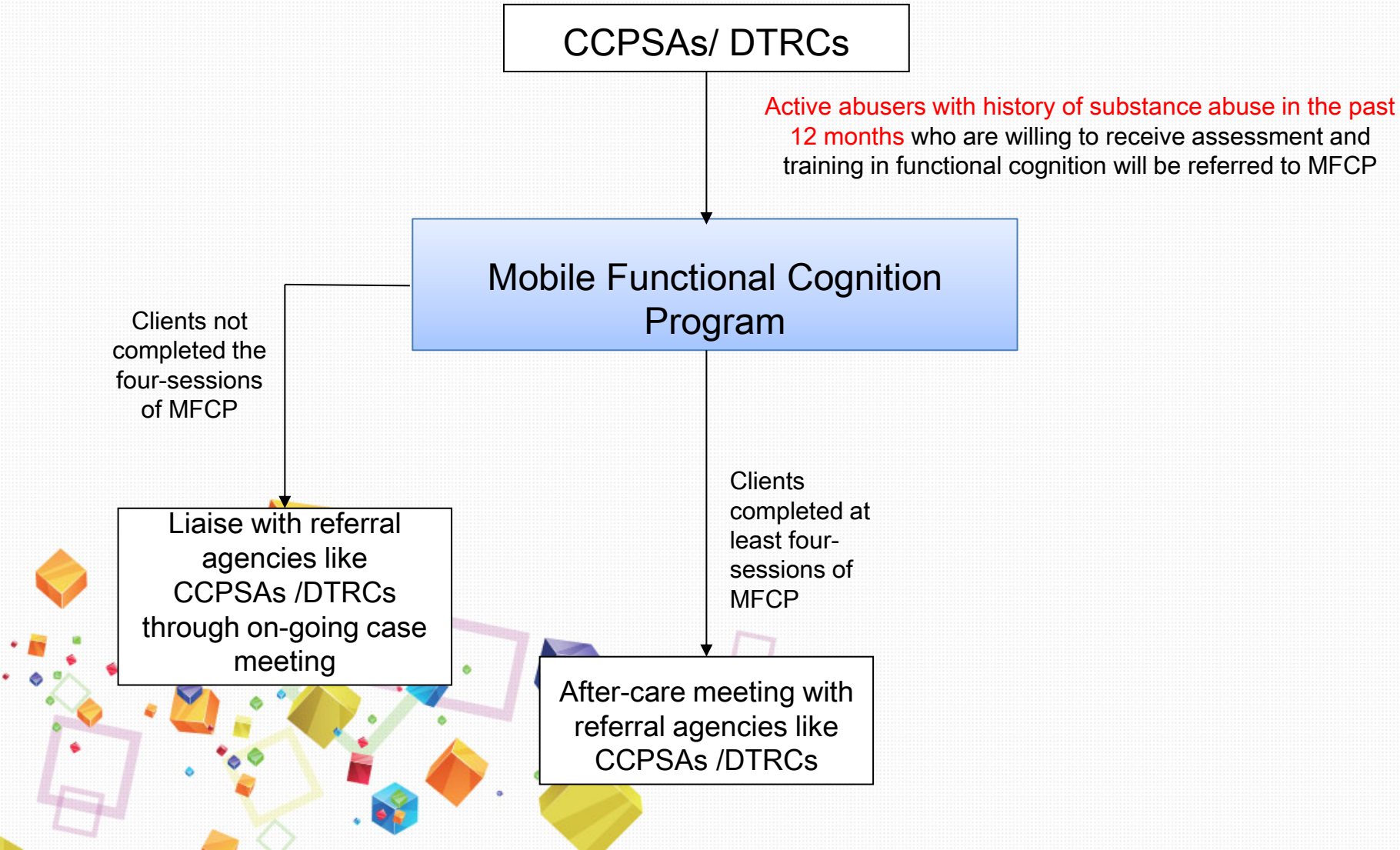
Cognitive functioning

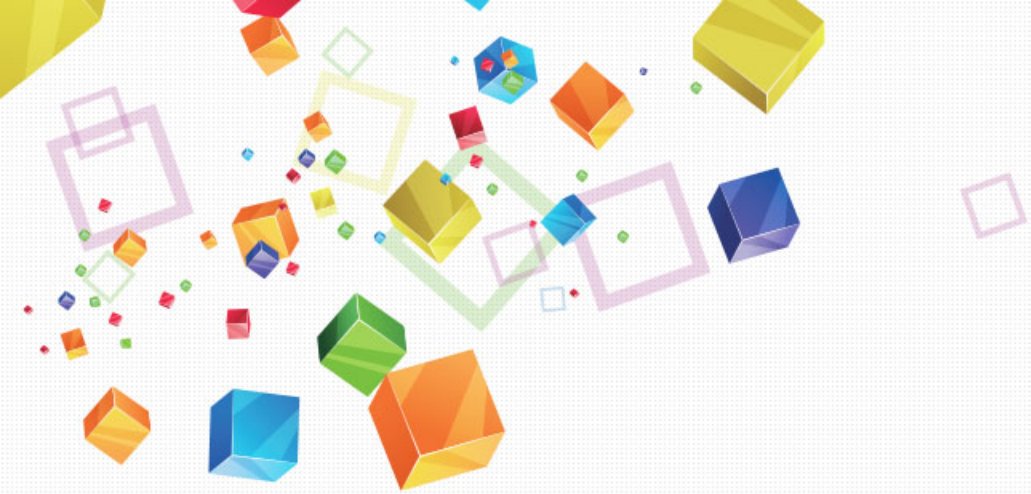
- Addenbrooke's Cognitive Examination-Revised (ACER)

Occupational functioning

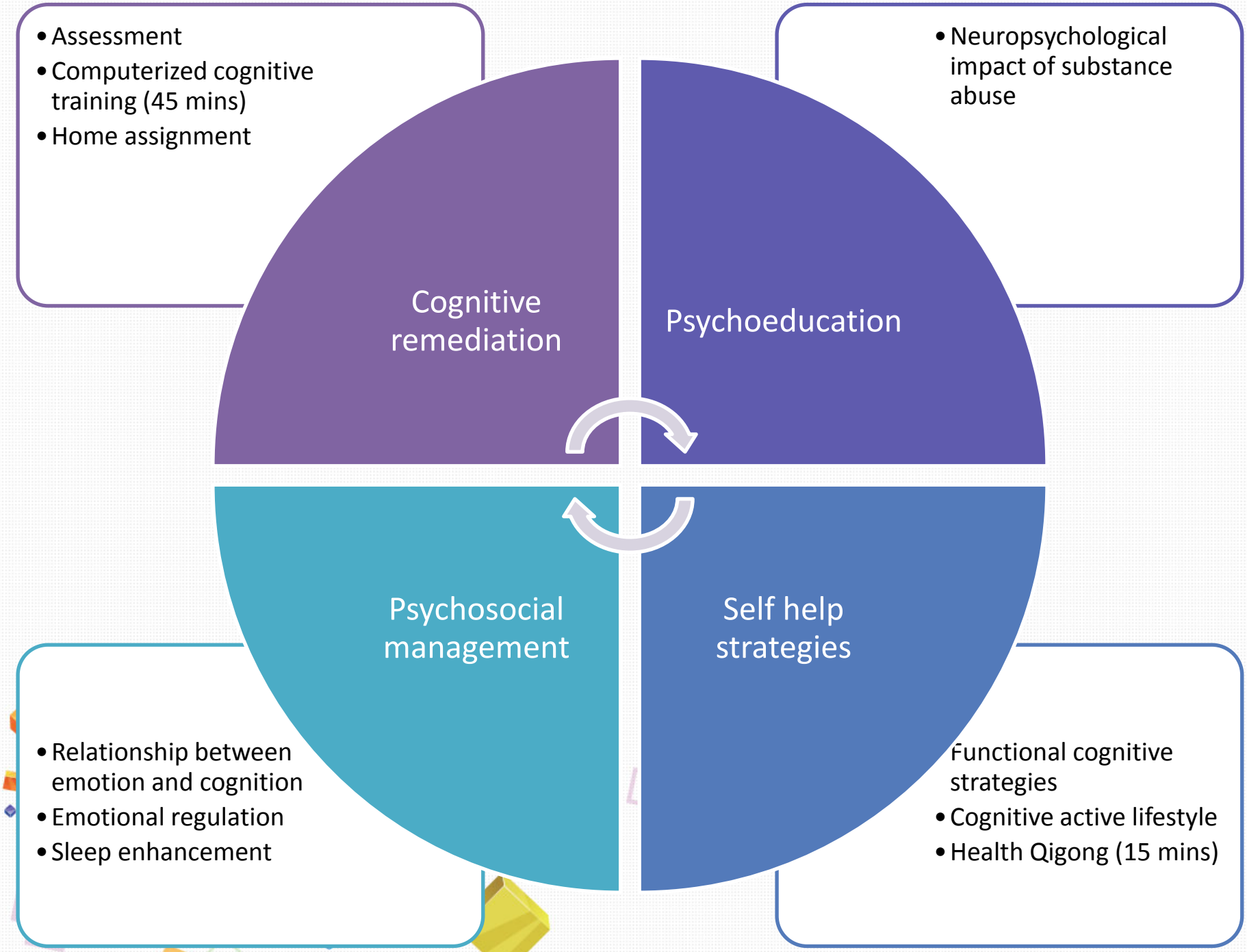
- Canadian Occupational Performance Measure (COPM)

Workflow of MFCP





Program Structure

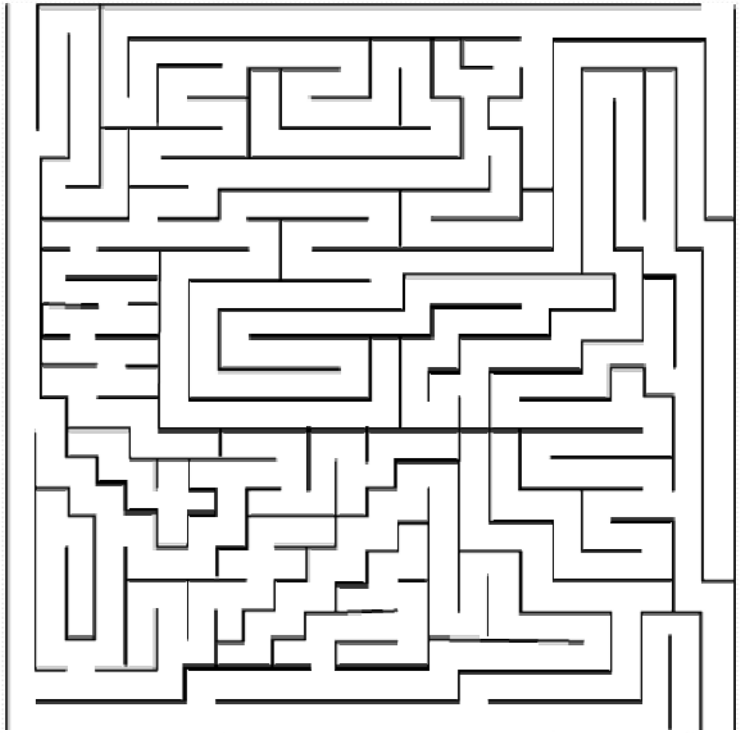

• Assessment
• Computerized cognitive training (45 mins)
• Home assignment
• Neuropsychological impact of substance abuse
Cognitive remediation
Psychoeducation
Psychosocial management
Self help strategies
• Relationship between emotion and cognition
• Emotional regulation
• Sleep enhancement
• Functional cognitive strategies
• Cognitive active lifestyle
• Health Qigong (15 mins)

第一節 Session one	認知躍動耀生活 Introduction of cognitive domains
第二節 Session two	毒品傷腦禍深遠 Substance abuse on cognitive functioning
第三節 Session three	積極參與勤動腦 Cognitively active lifestyle
第四節 Session four	記憶有法生活易 Application of mnemonic techniques
第五節 Session five	自助攻略不可少 Education on self- help strategy
第六節 Session six	正向心理樂隨緣 Emotional regulation and cognition
第七節 Session seven	鬆弛減壓好睡眠 Sleep and cognition
第八節 Session eight	精彩未來我開展 Round-up and celebration

課後練習(一)

第一天

A) 請比較兩張相片並圈出五個不同之處。



B) 數獨遊戲

Daily homework assignment

		1		6		9	3	
4								
5	7	3	4	9		8		
6							1	
	8		5		6		2	
	4							3
		6		5	4	7	9	8
								6
	9	4		7		3		

Marine Life Word Search

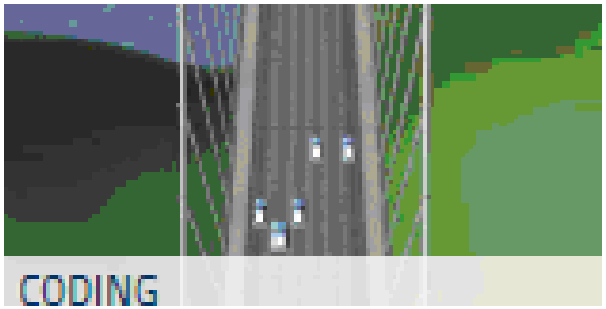
Tracy O'Shea

rch puzzle for SWIM(Safer Waters in Massachusetts) based on
living in the Massachusetts Bay area.

S	P	S	L	H	O	L	A	W	L	D	R	C	L	R
A	U	S	E	A	S	T	A	R	E	T	S	B	O	L
H	S	S	H	B	G	T	E	L	C	R	L	R	S	R
E	L	A	H	W	K	C	A	B	P	M	U	H	L	T
R	T	R	R	E	D	N	U	O	L	F	A	A	K	K
R	C	G	R	M	R	E	Y	F	S	R	N	N	R	E
I	A	L	U	O	S	M	M	W	B	F	E	D	A	L
N	U	E	A	O	I	U	I	O	R	I	M	I	H	E
G	R	E	E	N	T	U	R	T	L	E	O	U	S	D
G	C	T	B	S	I	S	L	F	C	O	N	Q	R	E
U	H	A	N	N	E	R	P	G	C	R	E	S	R	A
L	I	K	S	A	N	D	D	O	L	L	A	R	I	O
L	N	S	L	I	E	L	C	A	N	R	A	B	I	E
S	J	E	L	L	Y	F	I	S	H	G	F	M	A	T
S	O	C	I	R	R	N	A	R	S	T	E	S	L	N

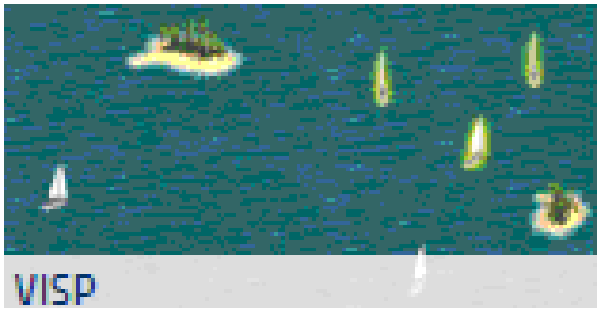
Humpback whale
Sponge
Harbor seal
Squid
Hermit crab
Urchin
Sea star
Lobster
Surf clam
Herring gull
Flounder
Moon snail
Barnacle
Green turtle
Sand dollar
Eel grass
Jellyfish
Anemone
Shark
Skate

Examples of Computerized training (CogniPlus) modules



Working memory
Spatial coding

read more on page 16

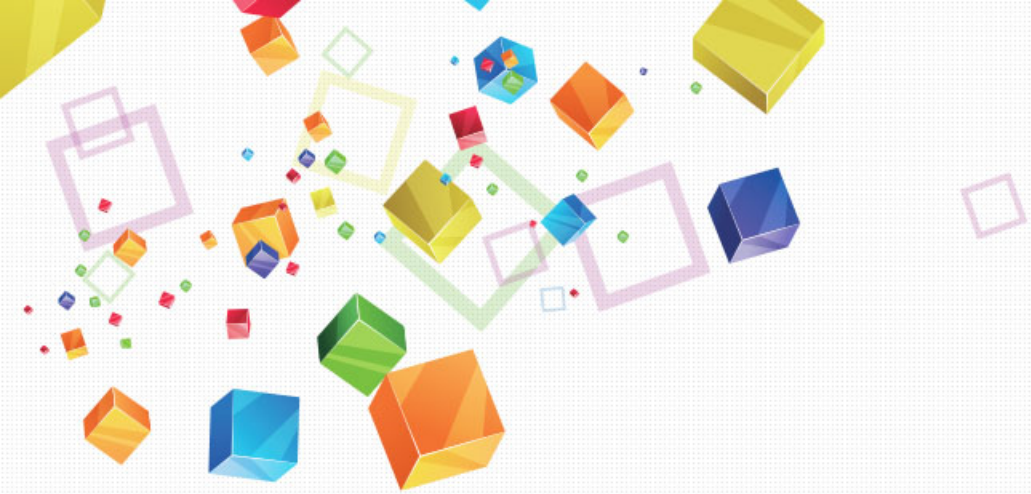


Working memory
Rehearsal – visuospatial

read more on page 15

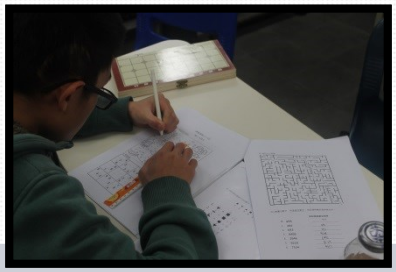
Executive functions
Planning and action skills

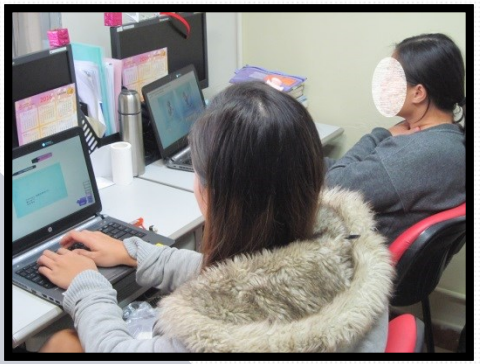
read more on page 21



Program Evaluation

Developmental milestone





New OTI and OTII reported duty in July 2015

Procurement of training equipment in 3Q15

Setting up cognitive training program in 3Q15

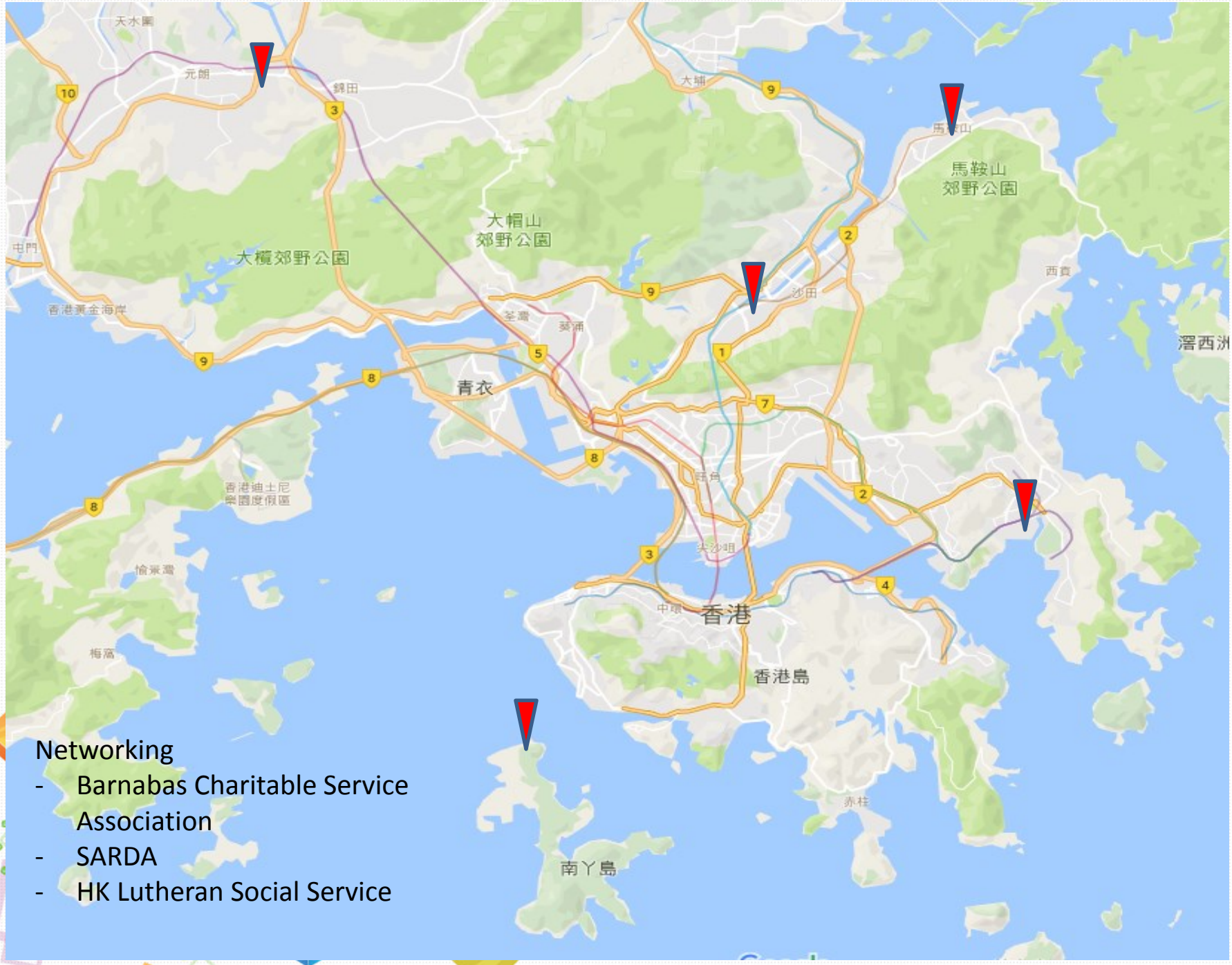
Networking with various NGOs. Succeeded in connecting with 5 NGOs

Program implementation

Bi-monthly case conference

Outcome data review

Data analysis and report writing



Networking

- Barnabas Charitable Service Association
- SARDA
- HK Lutheran Social Service

Statistical results

- Relapse rate
  - 72 valid cases were evaluated, among which 55 respondents indicated drug use in pre-test and 17 indicated no drug-use in pre-test.
  - Among the 55 respondents indicated drug use in pre-test, **100% showed reduction** in drug use frequency after treatment.
  - For those indicated no drug-use in pre-test, **94.1% avoided relapse**

Statistical results

130 participants from 7 DTRCs and 1 CCPSA entered into the program

- **113** (52% male and 48% female, age range from 16 to 74) of them have completed the whole program and pre-post assessment

- Wilcoxon signed-rank test:
  - Results showed statistically significant **increase** in
    - various cognitive domains, which included **attention** *($p < 0.005$)*, **visuospatial** *($p < 0.005$)*, **memory** *($p < 0.001$)* and **language** *($p < 0.001$)*, 2)
    - occupational functioning, which included **performance sub-score** *($p < 0.001$)* and **satisfaction sub-score** *($p < 0.001$)*

Lesson learnt

- Networking difficulties in SA field
- Collaboration with community settings
- Extrinsic vs intrinsic volition
- Psychosocial management vs cognitive remedial?
- Further study on the effectiveness of cognitive training in substance abuse field

Conclusion

- The project showed promising results in improving the cognitive and occupational functioning of participants and reduced their drug usage based on the evaluation finding.
- It enhanced the accessibility of OT service in substance abuse field.
- A new RCT research project has been launched from 2017 to 2020 to evaluate its effectiveness
- Coverage extends to Methadone Centre and Substance Abuse Clinic to enhance its generalizability

Reference

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Thanks

Q&A

Acknowledgement...

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Beat Drugs Fund Association

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