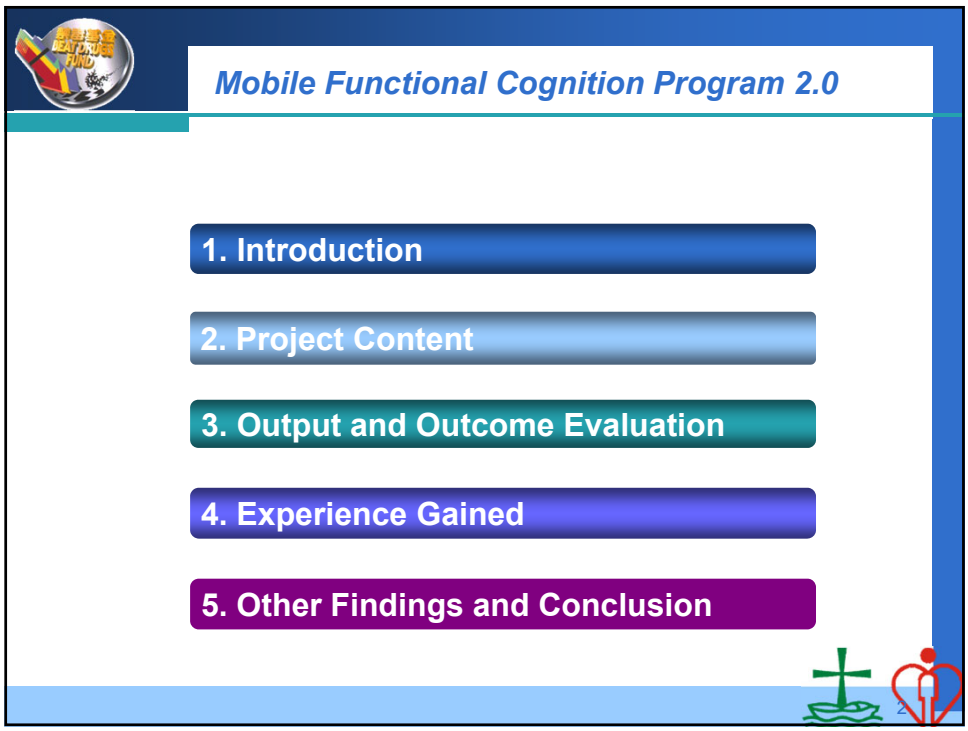

Implementation Period: 14/8/2020-13/8/2023
MOBILE FUNCTIONAL COGNITION PROGRAM 2.0
BDF190048
United Christian Hospital


Mobile Functional Cognition Program 2.0
1. Introduction
2. Project Content
3. Output and Outcome Evaluation
4. Experience Gained
5. Other Findings and Conclusion

Introduction

↑ Prevalence of Substance Use Disorder (SUD)
- WHO predicted double prevalence in 2020 than in 2007 (WHO, 2007)

Extensive evidence of cognitive alteration in people with SUD
- Heroin: ↓ intelligence, memory, attention, perceptual-motor coordination
- Ketamine: ↓ verbal information processing, processing speed
- Cocaine: ↓ executive functions, short-term visual memory, working memory
- Amphetamine: ↓ executive functions, visual-spatial memory & processing

Need of **COGNITIVE REHABILITATION** for people with substance abuse (SA)

Introduction

- The literature has shown that people with chronic drug use, including cocaine, methamphetamine, cannabis, and cigarette smoking, are associated with cognitive deficits (Durazzo et al., 2010; Fernandez-Serrano et al., 2012; Jovanovski et al., 2005; Nordahl et al., 2003; Price et al., 2011; Simon et al., 2002; Stavro et al., 2012; resource book for the Beat Drug Seminar 2008).
- These cognitive problems would lead to functional deficits in daily living activities like work, study, socialization, and management of own illness (Martini, L 2011).
- Patients with cognitive impairment require specific therapeutic interventions particularly computer-delivered cognitive remediation (Brickel et al., 2011; Medalia et al., 2002)

Introduction

Pioneer program:

- 7/2015-6/2017: Pilot run of the Mobile Functional Cognition Program (MFCP)
- 8/2017–1/2021: A randomized control trial to study the effectiveness of the MFCP for persons with substance abuse

→ Marked improvement in cognitive & community functioning
→ Paramount importance to carry forward the evidence-based MFCP service to more participants with substance abuse.

5

Introduction

Need of **COGNITIVE REHABILITATION** for people with SA

+

Theoretical background of cognitive rehabilitation
- Brain neuroplasticity enables recovery in cognitive performance after abstinence from SA
- Lack of evidence in cognitive training

Mobile Functional Cognition Program

6

Introduction

Mobile Functional Cognition Program

Occupational therapists provide on-site training to targeted settings (CCPSA, detox centers, etc.)

The program also aims at improving daily functioning & lifestyle

The program includes standardized cognitive assessment & training

7

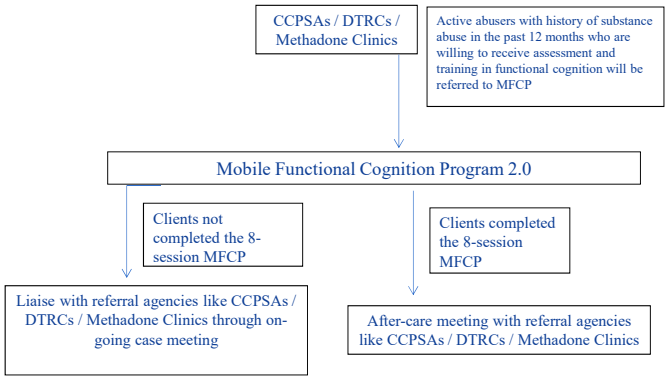
Introduction

- Project objective
  - To solicit change in attitude of clients towards drug abuse
  - To sustain abstinence in drug abuse
  - To improve cognitive functioning of drug abusers
  - To enhance occupational and social functioning of drug abusers

8

Introduction

Mobile Functional Cognition Program 2.0



9

Introduction

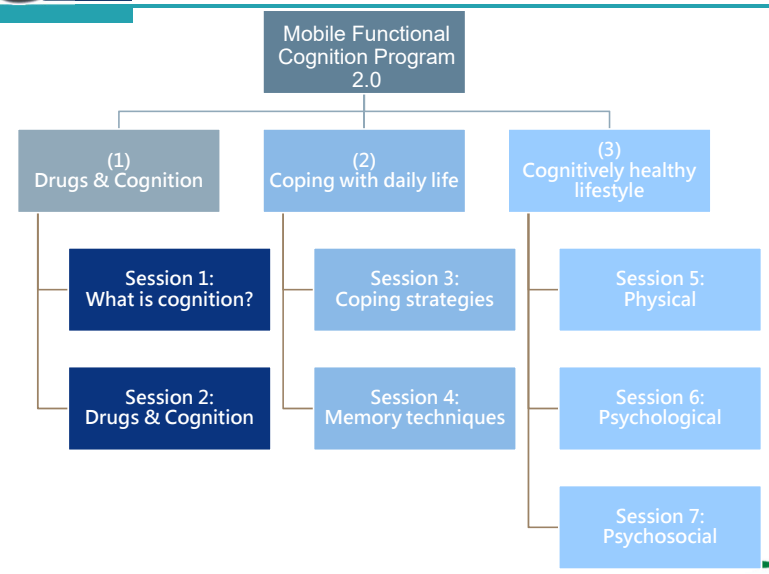
Mobile Functional Cognition Program 2.0

Total 8 session of the program

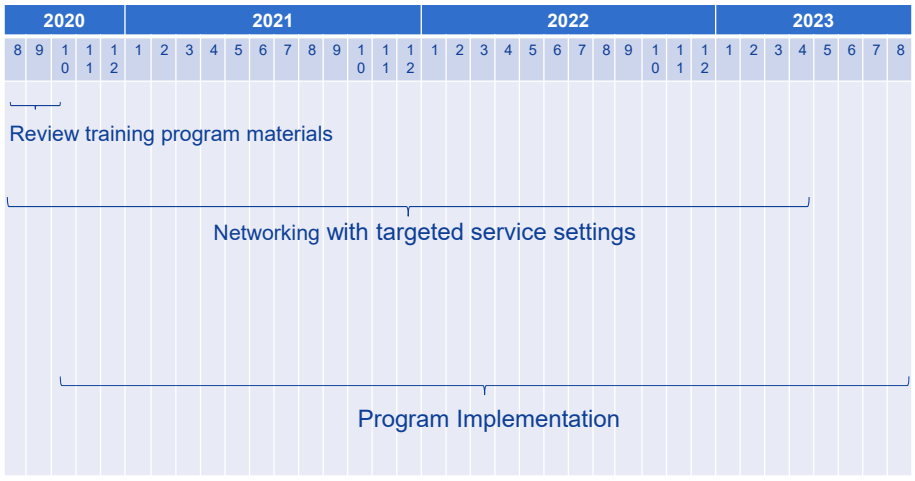
Part 1	One session of pre-assessment and recovery planning Assessment on cognition and occupational functioning - Individual recovery goal setting - Psychoeducation on neuropsychological impact of substance abuse
Part 2	Six sessions of Mobile Functional Cognition Training - Computerized cognitive training - Functional cognitive strategies - Vocational counselling / coaching - Lifestyle redesign
Part 3	One session of post-assessment and round up - Assessment on cognition and occupational functioning - Feedback on the progress in the functional cognitive training - Review and evaluate recovery goals - Round up and prepare for discharge

10

Introduction



Introduction



Output Evaluation

	Expected Result	Achieved Result
Output Indicator 1	Recruit 180 clients to join the Mobile Functional Cognition Program (MFCP), among which 150 clients complete at least 4 sessions of the MFCP	- 198 clients recruited (110%) - 156 clients completed ≥ 4 sessions (104%)
Output Indicator 2	Provide training services and follow-up services for 950 man-times of clients	- 1160 man-times achieved (122.11%)

13

Outcome Evaluation

Evaluation Methods

Beat Fund Evaluation Question Set No. 5
- SA history in past 30 days

Beat Fund Evaluation Question Set No. 16
- Perceived risks associated with drug abuse

Neurobehavioral Cognitive Status Examination (NCSE)
- Cognitive functioning

Canadian Occupational Performance Measure (COPM)
- Occupational functioning

14

Outcome Evaluation

	Expected Result	Achieved Result
Outcome Indicator 1	60% of drug abusers or rehabilitees reduce their drug use frequency after treatment	Among 111 cases reported not using drug at pre-test: -110 cases avoided relapse (99.1%)
Outcome Indicator 2	60% of drug abusers or rehabilitees show improvement in anti-drug attitude or statistically significant improvement in participant's anti-drug attitude as indicated by paired t-test	BDF Question Set No. 16 cases evaluated: -76 cases improved (58.9%) -16 cases no change (12.4%) -37 cases deteriorated (28.7%) (Significant improvement found using paired t-test)

15

Outcome Evaluation

	Expected Result	Achieved Result
Outcome Indicator 3	60% of drug abusers or rehabilitees show improvement in cognitive functioning or statistically significant improvement in participant's cognitive functioning as indicated by paired t-test	NCSE Total 130 cases evaluated: -106 cases improved (81.5%) -12 case no change (9.2%) -12 cases deteriorated (9.2%)
Outcome Indicator 4	60% of drug abusers or rehabilitees show improvement in occupational functioning or statistically significant improvement in participant's occupational functioning as indicated by paired t-test	COPM Total 130 cases evaluated: Performance - 83 cases improved (63.8%) - 7 cases no change (5.4%) - 40 cases deteriorated (30.8%) Satisfaction - 86 cases improved (66.2%) - 9 cases no change (6.9%) - 35 cases deteriorated (26.9%)

16

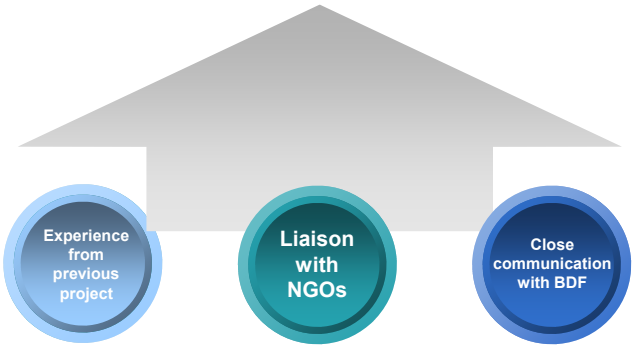
Experience Gained

- Reason behind success
- Lesson learnt

17

Experience Gained

Reason behind success



18

Experience Gained

Enhance engagement

Use of more layman terms and daily life examples in psychoeducation sessions

Enhance compliance

Review level of difficulties in homework assignments, reinforce handing in assignment with incentives

Conclusion

- Conclusion
  - The program is crucial in addressing the current service gap
- Suggestions
  - More sensitive and validated cognitive research software can be selected as the cognitive assessment
  - Adopted and replace previous cognitive training to a more evidence-based practice and cultural relevance one
- Way forward
  - Revise the cognitive assessment and computerized cognitive training program