



Implementation Period: 14/8/2017 – 31/1/2021

## MOBILE FUNCTIONAL COGNITION PROGRAM

*“A Randomized Control Trial to study the effectiveness of the Mobile  
Functional Cognition Program for persons who abuse substance”*

**BDF160032**

**United Christian Hospital**



### *Mobile Functional Cognition Program*

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

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

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## Introduction


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


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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







## 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



## Introduction

### Mobile Functional Cognition Program

- 8-session program (1-1.5hr/session)
- Content:
  - Psychoeducation (~30mins/session)
    - Impact of SA on cognition
    - Cognitively active lifestyle
    - Strategies to enhance everyday memory
  - Computerized cognitive training (~30mins/session)
    - CogniPlus
  - Mind-body exercise (~10mins/session)






## Introduction

### Mobile Functional Cognition Program

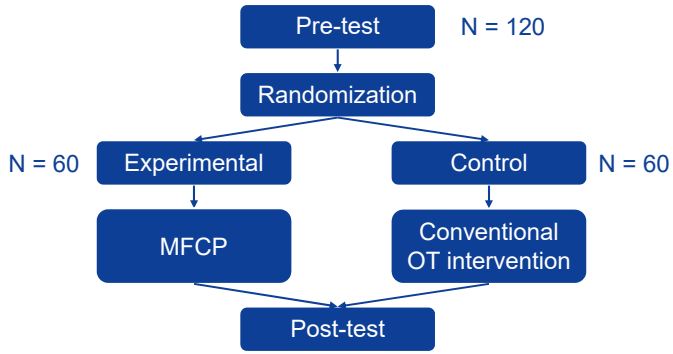
Pioneer program in 2015-2017:

- Marked improvement in cognitive & community functioning
- Inspired this randomized control trial project




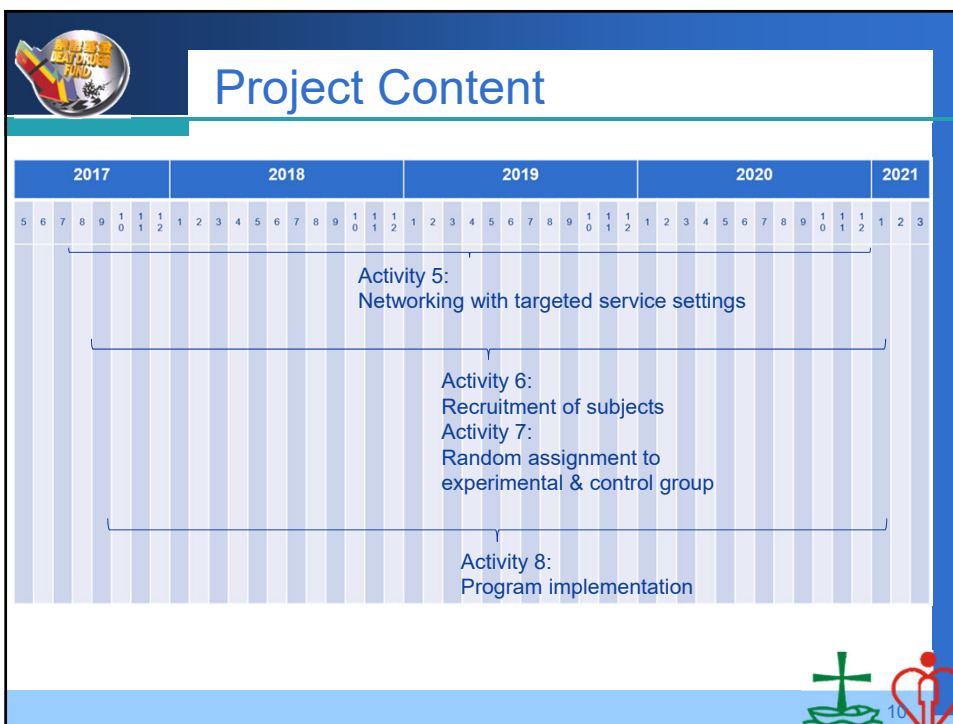
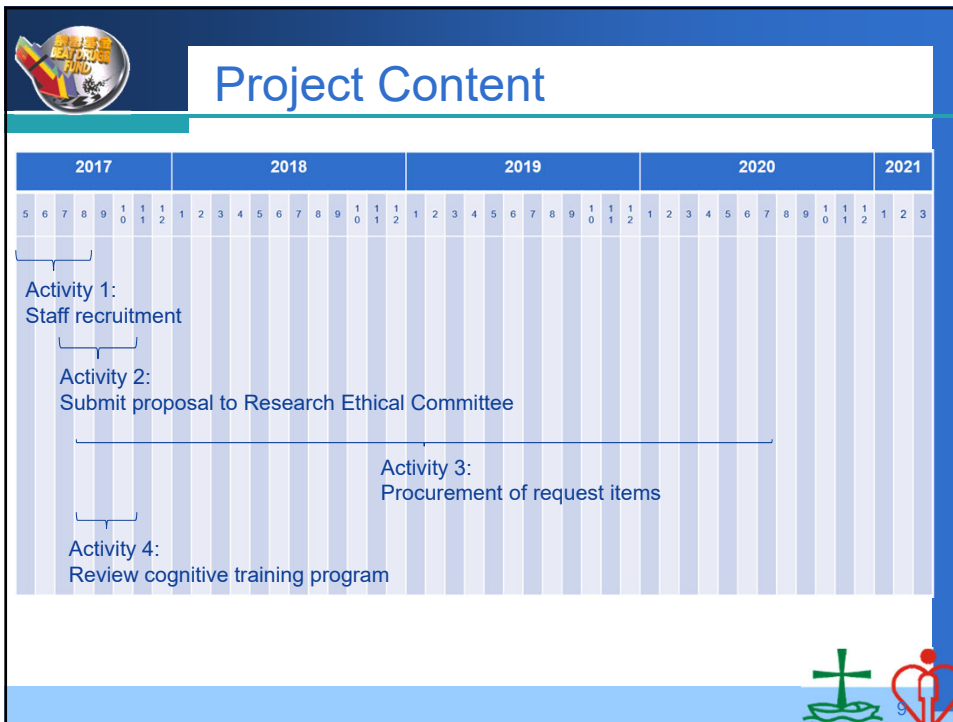
## Project Content

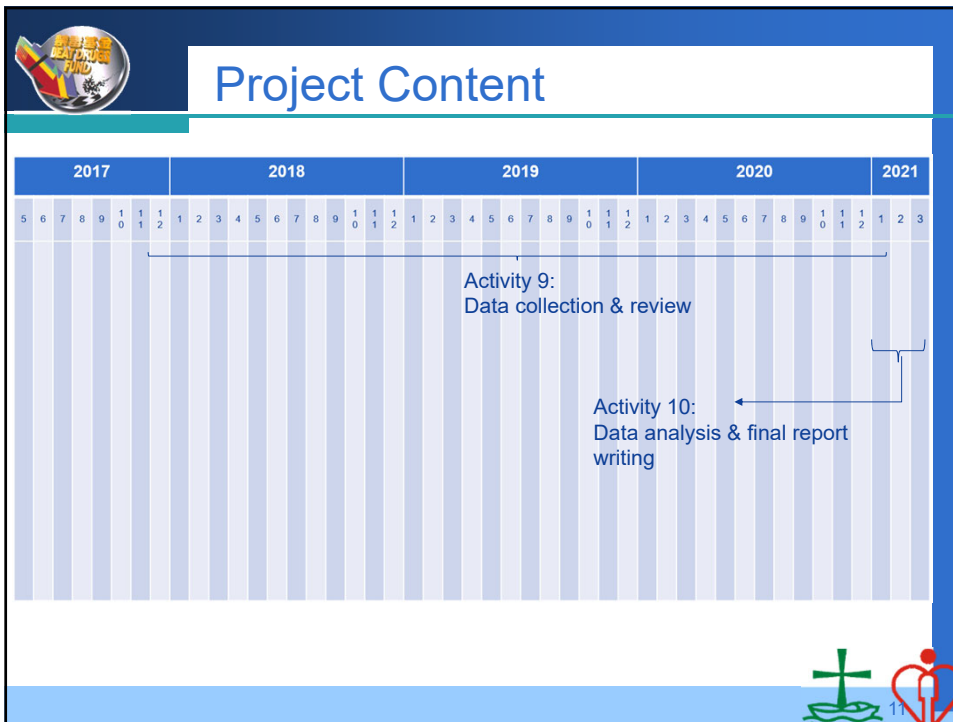
- Research design



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graph TD; A[Pre-test N = 120] --> B[Randomization]; B --> C[Experimental N = 60]; B --> D[Control N = 60]; C --> E[MFCP]; D --> F[Conventional OT intervention]; E --> G[Post-test]; F --> G;
```








**Output Evaluation**

	Expected Result	Achieved Result
Output Indicator 1	60 rehabilitees received at least 4 sessions of MFCP	61 rehabilitees (Met 101.7%)
Output Indicator 2	60 rehabilitees received at least 4 sessions of conventional psychoeducation	60 rehabilitees (Met 100%)
Output Indicator 3	Provided training for 800 man-times of rehabilitees	856 man-times of rehabilitees (Met 107%)



## Outcome Evaluation

**Evaluation Methods**

- Neurobehavioral Cognitive Status Examination (NCSE)**  
- Cognitive functioning



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- Canadian Occupational Performance Measure (COPM)**  
- Occupational functioning

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

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## Outcome Evaluation

	Expected Result	Achieved Result
<b>Outcome Indicator 1</b>	<u>Cognitive functioning:</u> Significant improvement, OR 60% of target client showed improvement	52 valid cases 69.8% showed improvement
<b>Outcome Indicator 2</b>	<u>Occupational functioning:</u> Significant improvement, OR 60% of target client showed improvement	53 valid cases 62.3% showed improvement in Performance score 67.9% showed improvement in Satisfaction score
<b>Outcome Indicator 3</b>	<u>Drug use frequency:</u> 70% of target client reduce or stop drug use	36 valid cases 25 out of 26 (96.2%) avoided relapse 9 out of 10 (90%) reduced drug use frequency





## Experience Gained

- Reason behind success
- Lesson learnt

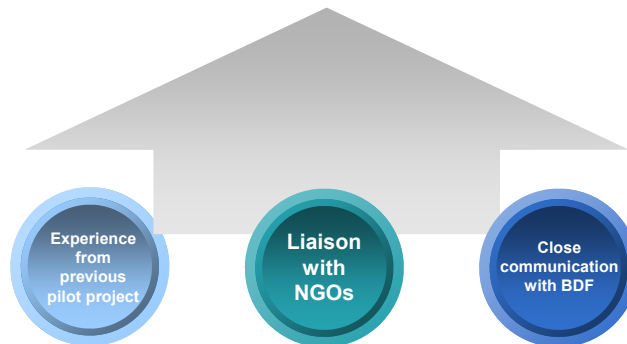


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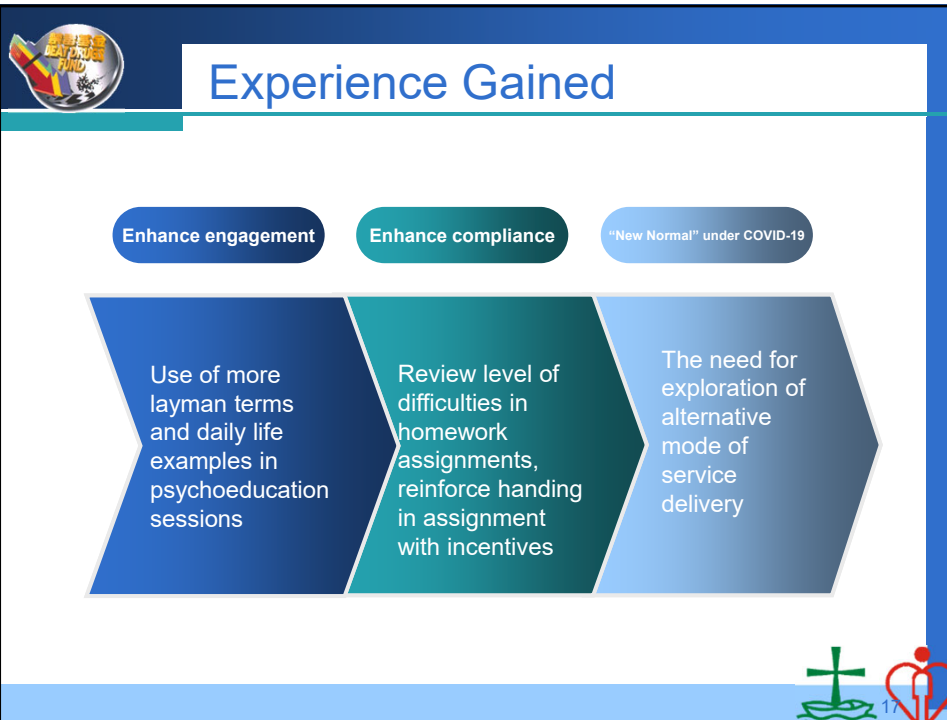
## Experience Gained

Reason behind success



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- Conclusion**
- Conclusion
    - The program is crucial in addressing the current service gap
  - Suggestions
    - In order to enhance engagement and compliance, change should be made to our educational materials and incentive system
  - Way forward
    - Enhancing engagement and compliance according to clients' characteristics
    - New normal under COVID-19
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