Healthy Families, Healthy Communities: Empowering Health through Medical Social Integration Symposium

HKU Health & Primary Care Initiative:
Health Empowerment for Low-income Families

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Acknowledgment

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Background

- **Hong Kong has extreme wealth inequality (high Gini index of 0.539)**

- **1.3 million people (~ 20% of the total population) live in relative poverty**

- **Low-income families are exposed to a range of stressors, material hardships and social constraints**

- **Low-income is associated with higher risk of physical & mental health problems**

- **Low-income is a barrier to access to healthcare, especially preventive services**

- **Poor health & fewer opportunities may hinder children from achieving to their full potentials in adulthood**

- **Low-income and poor health can form a vicious cycle, perpetuating for generations**

HKU Health & Primary Care Initiative

The aim is to empower families to maintain health & to have access to primary care to break the low-income & poor health vicious cycle

➤ Health empowerment is a process by which people can gain greater control over decisions affecting their lives and health

Education & Knowledge

Enablement & Self-efficacy

Action & Resources

HKU Health Empowerment Programme

To promote physical, psychological & social well being of TFES families

1. **Health Assessment (HAP) to**
   - ➢ Identify health needs
   - ➢ promote appropriate self-care & service use, esp PC

2. **Health Enablement (HEP) to**
   - ➢ give health a higher priority
   - ➢ enhance health literacy
   - ➢ enable healthy behavior, self-care & preventive care

3. **Action Research**
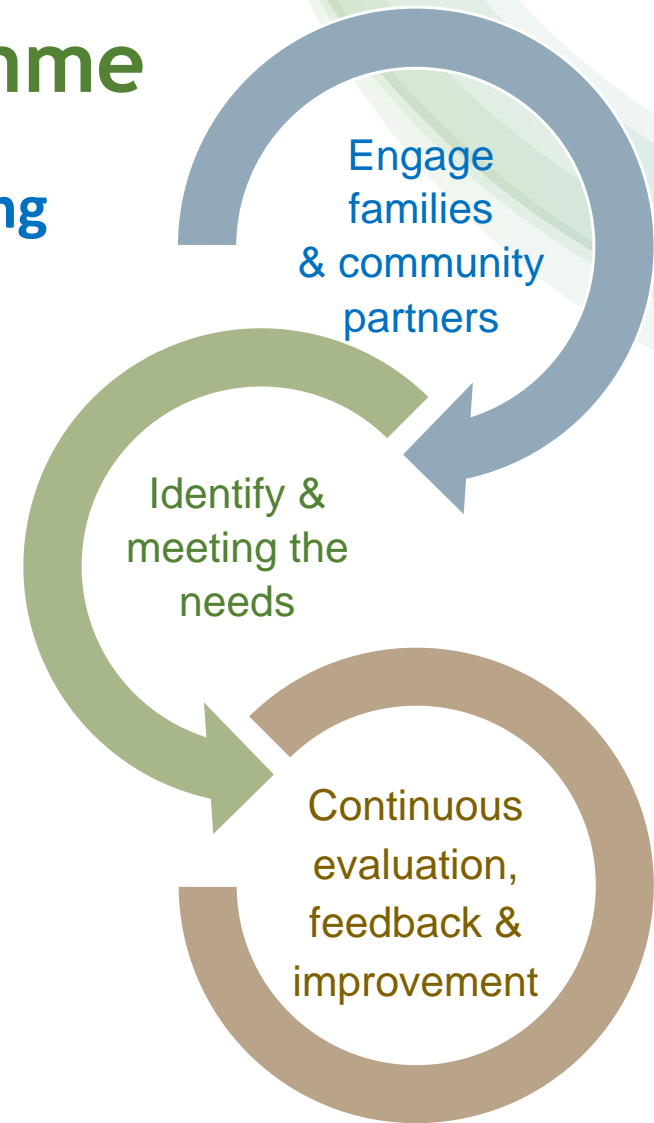
Engage families & community partners

Identify & meeting the needs

Continuous evaluation, feedback & improvement

Medical Social Multi-disciplinary Integrative Network
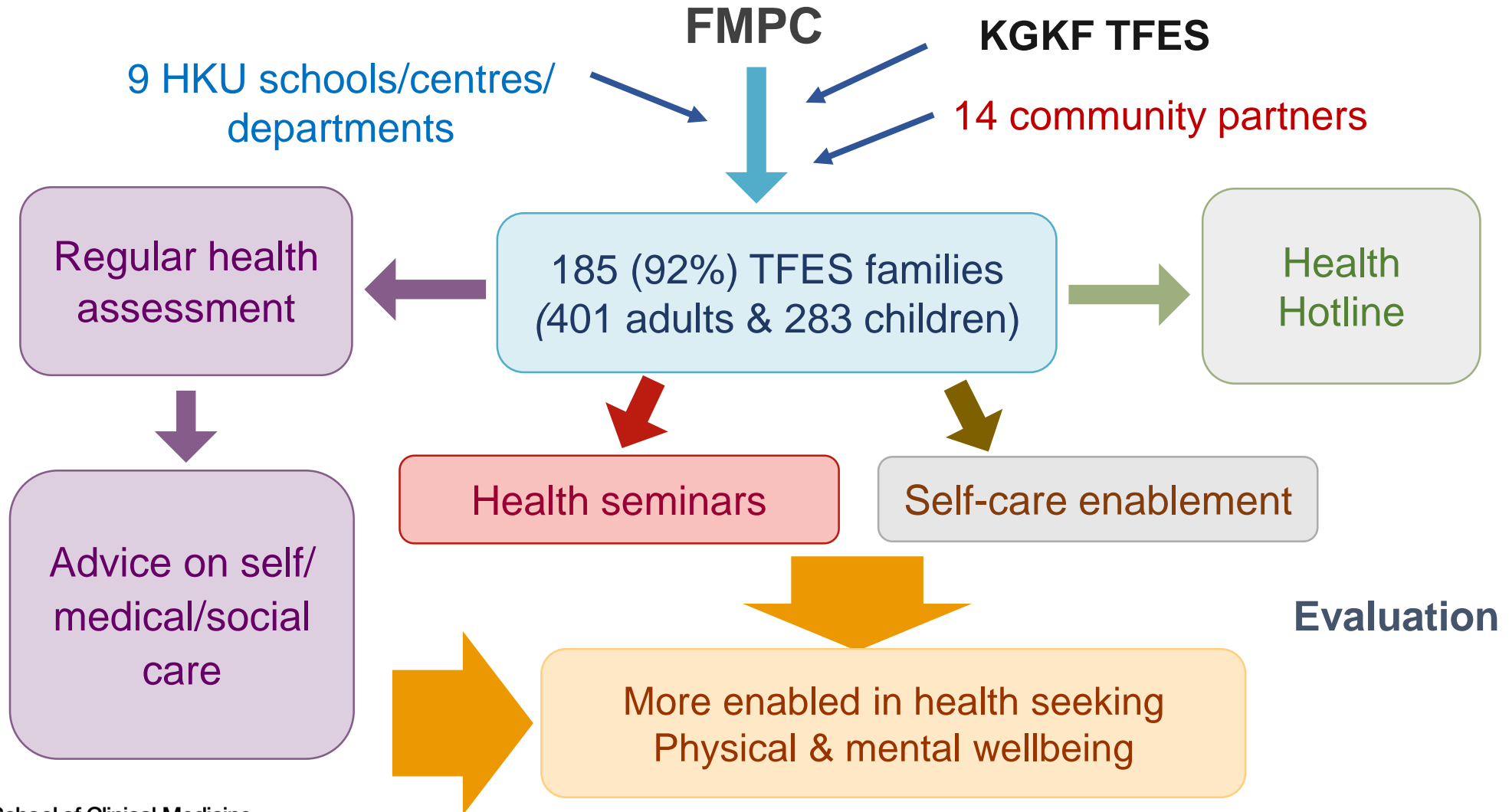
FMPC

KGKF TFES

9 HKU schools/centres/departments

14 community partners

185 (92%) TFES families
(401 adults & 283 children)

Regular health assessment

Health Hotline

Advice on self/medical/social care

Health seminars

Self-care enablement

More enabled in health seeking
Physical & mental wellbeing

Evaluation

HKU Health Empowerment Programme Milestones

Health seminars

Health Assessment & Hotline

New health screening:
- Liver ultrasound
- Stool FIT
- Thalassemia
- Dental check & scaling
- UBT

Engagement of North Lantau Hospital

Teenager HAP
- Physical fitness
- Mental health
- Gaming & smartphone addiction

Personalized health promotion SMS

Targeted Health Screening
- UBT
- PHQ-2
- Pre-DM & DM

Timeline: 2012 · 2013 · 2014 · 2015 · 2016 · 2017 · 2018 · 2019 · 2020 · 2021 · 2022

Health Enablement Programmes

- Workshops on self-care & well-being
- Family well-being counseling
- Qigong classes
- Family gym
- Nutrition short talks
- Cooking workshop
- Nutrition workshops
- Boxing
- Hip-hop dance
- Family kitchen
- Skipping
- Dancing gym
- Cooking workshops
- Dancing gym
- Walking group

FamilyMove app

Mental Wellness Health Ambassador Programmes
- First Aid Training
- Youth & Women Ambassador Training
- Community MW activities

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Evidence

Effectiveness of the TFES & HKU Health Empowerment Programme

Comparative Cohort Study 2012-2021

TFES Families from Tung Chung

- **HKU Health Programme**
  - Annual Health Assessments & Surveys (HAP), health counselling & hotline, SMS on health tips, Referrals
  - Health Empowerment Programme (HEP): health talks, nutrition workshops, physical activity classes
  - FamilyMove mobile app for on-demand health information
- **Social & Education Empowerment Activities from KGKF & NGO partners**

Comparison Families from Tung Chung & Kwai Tsing

- HKU Annual Health Survey
- HKU Health Assessments on recruitment and 5th year
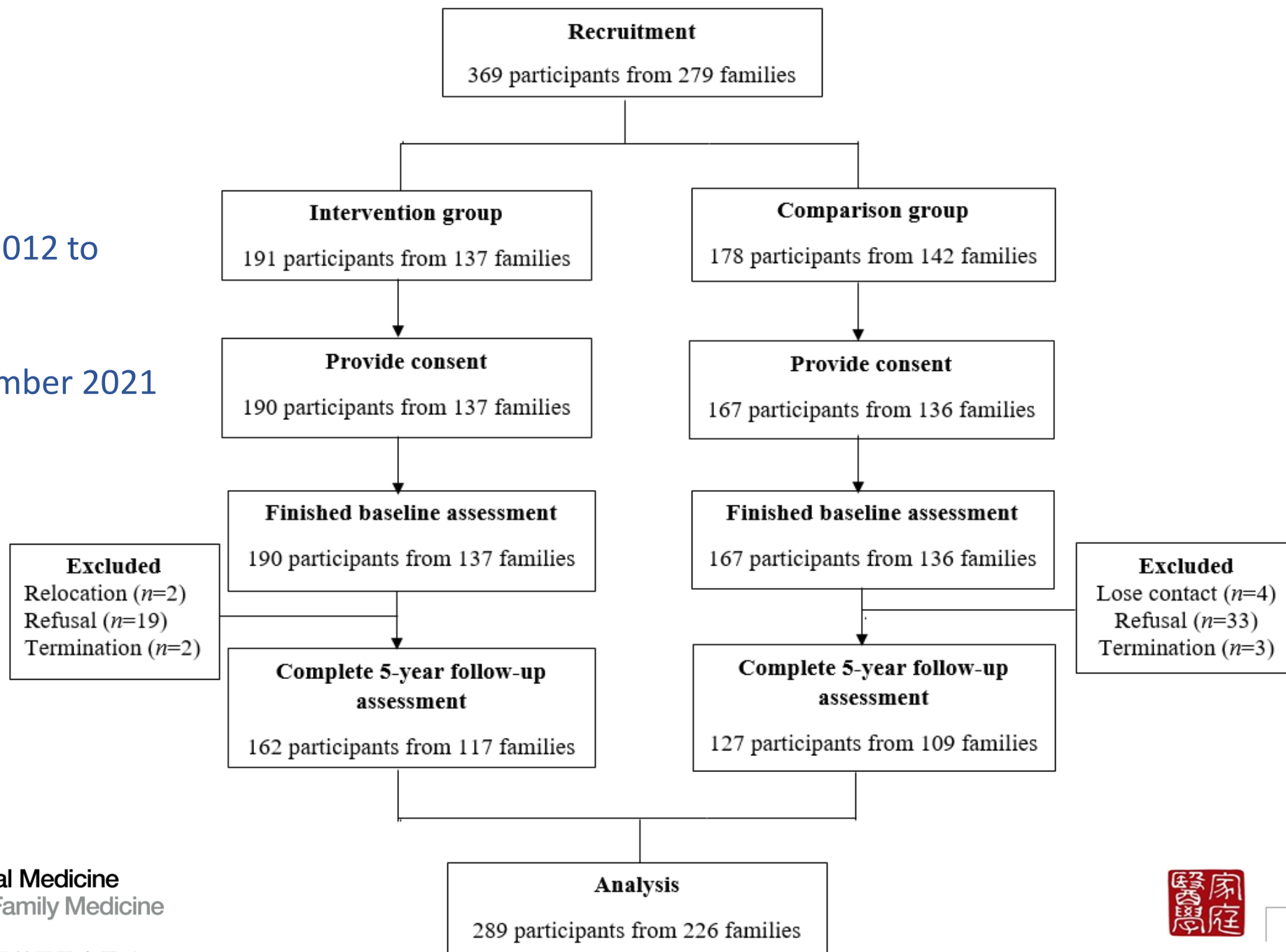- Health Counselling & Hotline

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Adults

Recruitment: July 2012 to
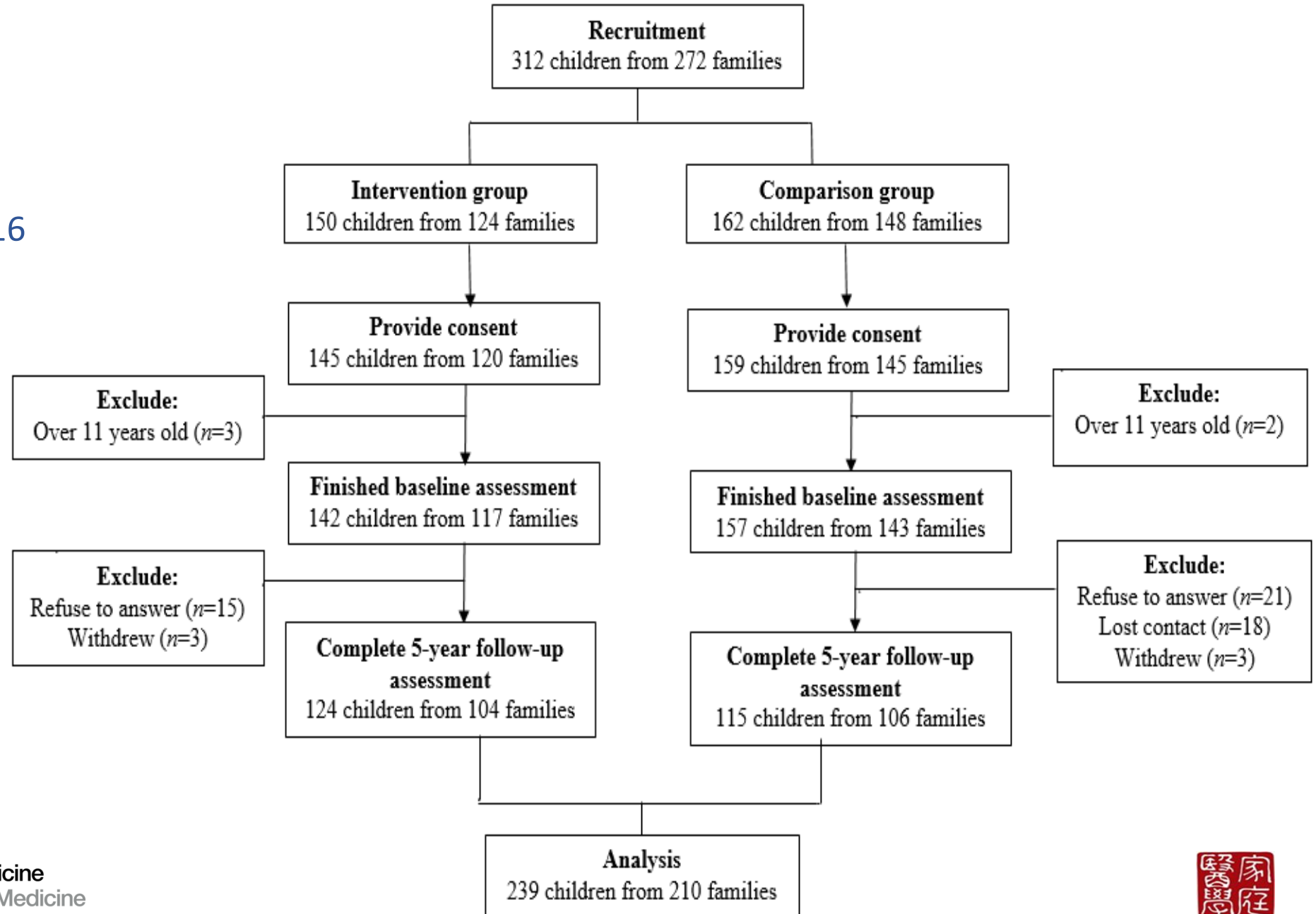September 2015

Follow up till November 2021

Recruitment
369 participants from 279 families

Intervention group
191 participants from 137 families

Comparison group
178 participants from 142 families

Provide consent
190 participants from 137 families

Provide consent
167 participants from 136 families

Finished baseline assessment
190 participants from 137 families

Finished baseline assessment
167 participants from 136 families

Excluded
Relocation ($n=2$)
Refusal ($n=19$)
Termination ($n=2$)

Excluded
Lose contact ($n=4$)
Refusal ($n=33$)
Termination ($n=3$)

Complete 5-year follow-up
assessment
162 participants from 117 families

Complete 5-year follow-up
assessment
127 participants from 109 families

Analysis
289 participants from 226 families

Children

Recruitments: July 2013 to March 2016

Follow up till November 2021

Primary Outcome in Adults

- Self-care enablement by the Patient Enablement Instrument-version 2 **(PEI-2),** higher score → more enabled

Secondary Outcomes in Adults

- Mental health status measured by the Depression, Anxiety, and Stress Scale 21 (**DASS-21**), higher score → more symptoms

- Health-related quality of life (HRQOL) by the Short-form 12 Health Survey Version 2 Physical & Mental Component Summary Scales (**SF-12v2 PSC & MCS**), higher score → better QoL

- Ideal Cardiovascular Health Index **(ICHI),** higher score → better

Primary Outcome in Children

- **Behavioral problems by the Strengths & Difficulties Questionnaire (SDQ):**

  - Emotional symptoms, conduct problems, hyperactivity inattention, peer problems, total difficulties scores; higher score → more problems

  - pro-social behavior; higher score → better behaviour

Secondary Outcome in Children:

- **Health-related quality of life (HRQOL) by the Child Health Questionnaire-Parent Form 28 (CHQ-PF28)**

  - Physical health summary (PHS) & psychosocial summary (PSS) scores; higher score → better QoL

Greater Increase in Self-care Enablement in TFES Adults (Mean FU 5 years)

Patient Enablement Instrument-2 (Item score 1-5)	TFES			Comparison			Difference between differences
	Baseline (N = 210)	Follow up (N = 207)	Paired change (N = 207)	Baseline (N=208)	Follow up (N = 184)	Paired change (N = 184)	
		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD	
1. Able to cope with life	2.9±1.0	3.7±1.1	0.8±1.5*	3.9±1.0	3.8±1.1	-0.1±1.4	0.9*
2. Able to understand your illness	3.0±0.9	3.5±1.0	0.5±1.5*	3.5±1.0	3.6±1.0	0.1±1.2	0.4*
3. Able to cope with your illness	2.9±1.0	3.5±0.9	0.6±1.5*	3.6±1.0	3.6±0.9	0.0±1.1	0.6*
4. Able to keep yourself healthy	2.9±1.0	3.5±0.9	0.6±1.4*	3.5±0.9	3.6±0.8	0.1±1.1	0.5*
5. Confident about your health	2.9±1.0	3.5±0.9	0.7±1.5*	3.5±0.9	3.6±0.9	0.1±1.1	0.6*
6. Able to help yourself	2.7±1.1	3.8±0.9	1.0±1.5*	4.0±1.0	3.9±0.9	0.0±1.2	1.0*
Total PEI-2 Score (6-30)	**17.4±5.0**	**21.5±4.7**	**4.2±7.5***	**22.0±4.4**	**22.1±4.3**	**0.1±5.3**	**4.1***

* Statistically significant difference at p<0.05

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Greater Improvements in Self-reported Outcomes in TFES Adults (Mean FU 5 years)

Outcome (Mean ± SD)	TFES adults (N=162)		Comparison adults (N=127)		Difference between differences
	Baseline	**Follow-up**	**Baseline**	**Follow-up**	
Dass-21 Depression score (0-42)	5.2 ± 6.3	3.4 ± 5.4*	4.6 ± 6.7	4.6 ± 6.7	-1.73 *
Dass-21 Anxiety score (0-42)	5.1 ± 6.3	4.2 ± 5.5*	5.2 ± 6.2	5.0 ± 6.0	-0.67
Dass-21 Stress score (0-42)	8.7 ± 8.1	5.6 ± 6.5*	8.2 ± 8.3	8.0 ± 8.7	-2.91*
SF-12v2 PCS (QoL) (population mean=50)	49.3 ± 8.8	48.2 ± 8.9	50.0 ± 7.8	47.9 ± 9.0*	0.86
SF-12v2 MCS (QoL) (population mean=50)	47.7 ± 11.7	53.9 ± 10.2*	50.5 ± 11.7	52.4 ± 10.7*	4.28*

* Statistically significant difference at $p<0.05$

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Greater Improvement in Ideal Cardiovascular Health Index (ICHI) in TFES Adults (Mean FU 6 y)

ICHI Metric	TFES adults (N = 115)		Comparison adults (N = 121)	
	Baseline	Follow up	Baseline	Follow up
Healthy behaviors				
No Smoking	82 (71.30%)	84 (73.04%)	97 (80.17%)	99 (81.82%)
Body mass index <23kg/m^2	40 (34.78%)	43 (37.39%)	50 (41.32%)	40 (33.06%)
Physical activity ≥150min/wk	19 (16.52%)	30 (26.09%)	25 (20.66%)	29 (23.97%)
Diet (5 portions FV/day)	9 (7.83%)	31 (26.96%))	8 (6.61%)	30 (24.79%)
Health Indicators				
Total cholesterol <5mmol/L	115 (100.00%)	115 (100.00%)	121 (100.00%)	121 (100.00%)
Blood pressure <140/90 mmHg*	66 (57.39%)	79 (68.70%)	85 (70.25%)	72 (59.50%)
Fasting Glucose <5.6mmol/L	100 (86.96%)	93 (80.87%)	105 (86.78%)	104 (85.95%)
Total ICHI Score 0-7 (Mean ± SD) *	3.75±1.21	4.13±1.29	4.06±1.07	4.09±1.20

* Statistically significant difference in changes between groups at $p<0.05$

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Greater Improvement in Behaviour & HRQOL in TFES Children

Mean±SD	TFES children (N=124)		Comparison children (N=115)		Difference between differences
	Baseline	Follow-up (mean 54 m)	Baseline	Follow-up (mean 56 m)	
SDQ (Strengths and Difficulties Questionnaire)					
Emotional symptoms (0-10)	3.03 ± 2.17	1.34 ± 1.73*	3.06 ± 2.20	1.57 ± 1.70*	-0.2*
Conduct problems (0-10)	2.54 ±1.98	1.34 ±1.39*	2.23 ±1.52	1.90 ± 1.41*	-0.87*
Hyperactivity inattention (0-10)	4.88 ± 2.39	3.07 ± 2.12*	5.17±2.26	3.85 ± 2.15*	-0.49*
Peer problem (0-10)	2.86 ± 2.03	2.08 ±1.68*	2.63±1.73	2.43 ± 1.63	-0.58
Prosocial behavior (0-10)	6.74 ± 2.08	7.72 ±1.97*	7.23±2.00	7.30 ± 2.03	0.91
Total difficulties (0-40)	13.32 ± 6.10	7.83 ± 5.12*	13.10±5.56	9.77 ± 5.20*	-2.16*
CHQ-PF 28 (Child Health Questionnaire- Parent Form 28)					
PHS (Physical Health Summary) (0-100)	51.63 ± 8.37	53.01±7.27	51.06 ± 8.52	52.05 ± 8.71	0.39
PSS (Psychosocial Summary) (0-100)	46.99 ±12.06	52.19 ± 8.56*	45.22 ±11.07	49.14 ± 9.95	1.28*

* Statistically significant difference in change between groups at $p < 0.05$

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Implications for Policy & Service

Normalization of medical-social & multi-disciplinary integrated health empowerment programmes to break the vicious cycle of low-income & poor health

Subsidized regular health assessments to detect & manage common physical & mental health problems early

Integration of HEP with local regular social & medical services to ensure sustainability & scalability

Training of health ambassadors to engage local families & communities, & reach the hard-to-reach

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Thank You!

The Statute of Four Animals, Riga, Latvia

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