



National Healthcare Group
POLYCLINICS

Lighter Life - Weight Management For Patients With Chronic Diseases

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Clinical Services



National Healthcare Group
Adding years of healthy life

Mission Statement

In collaboration with community partner SportSG, Lighter Life project aims to achieve $\geq 5\%$ weight loss in 100% recruited patients with chronic diseases from AMK Polyclinic in 6 months (Oct 2018 – Mar 2019).

*Recruitment started 3 months before.

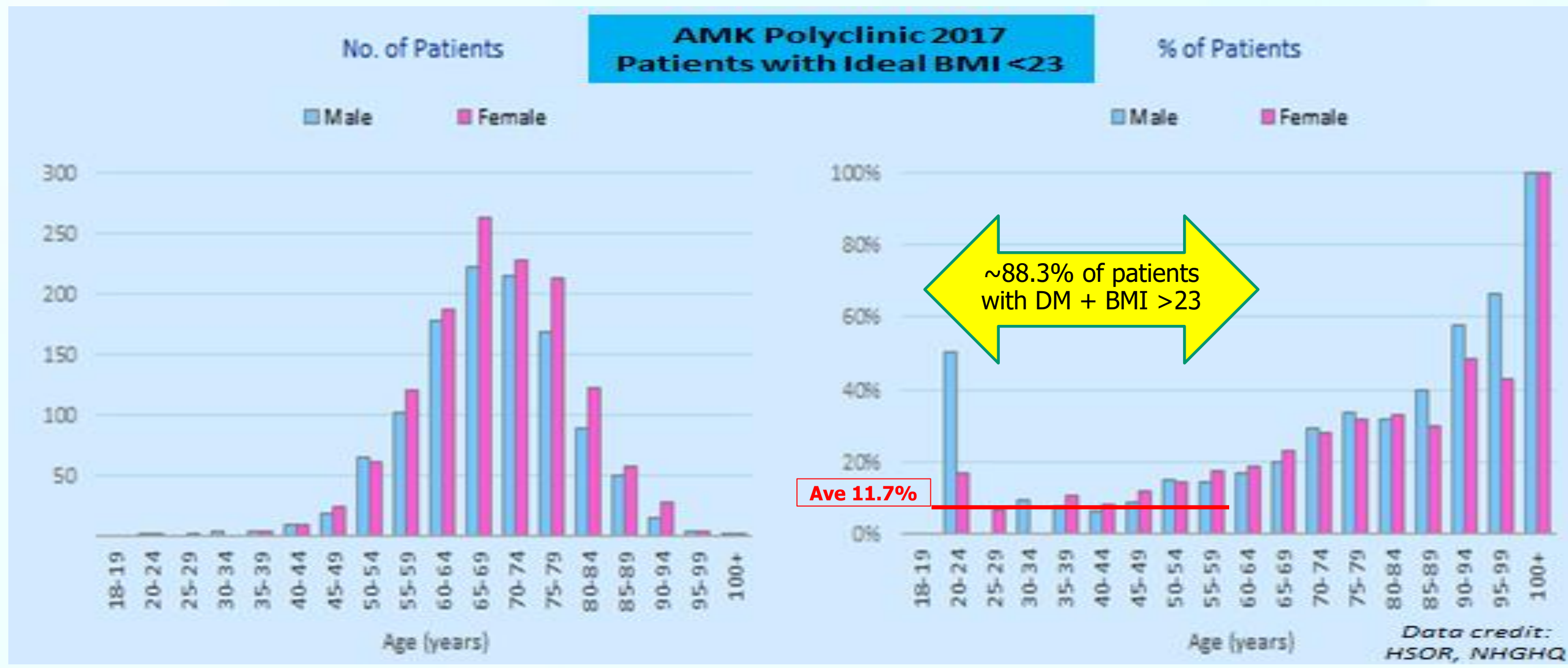
This improves disease control and patient engagement through sustained dietary, physical activity and behavioural lifestyle changes in patients' daily environment.

Team Members

	Name	Designation	Department
Team Leaders	Dr Donna ML Tan	Assistant Director	Clinical Services
	Pauline XY Xie	Principal Dietitian	
	Karen SS Tan	Manager	
Team Members	Cindy SC Soh	Principal Physiotherapist	
	Dr Wong Mei Yin	Principal Psychologist	
	Sheena LT Ng	Senior Executive	

Evidence for a Problem Worth Solving

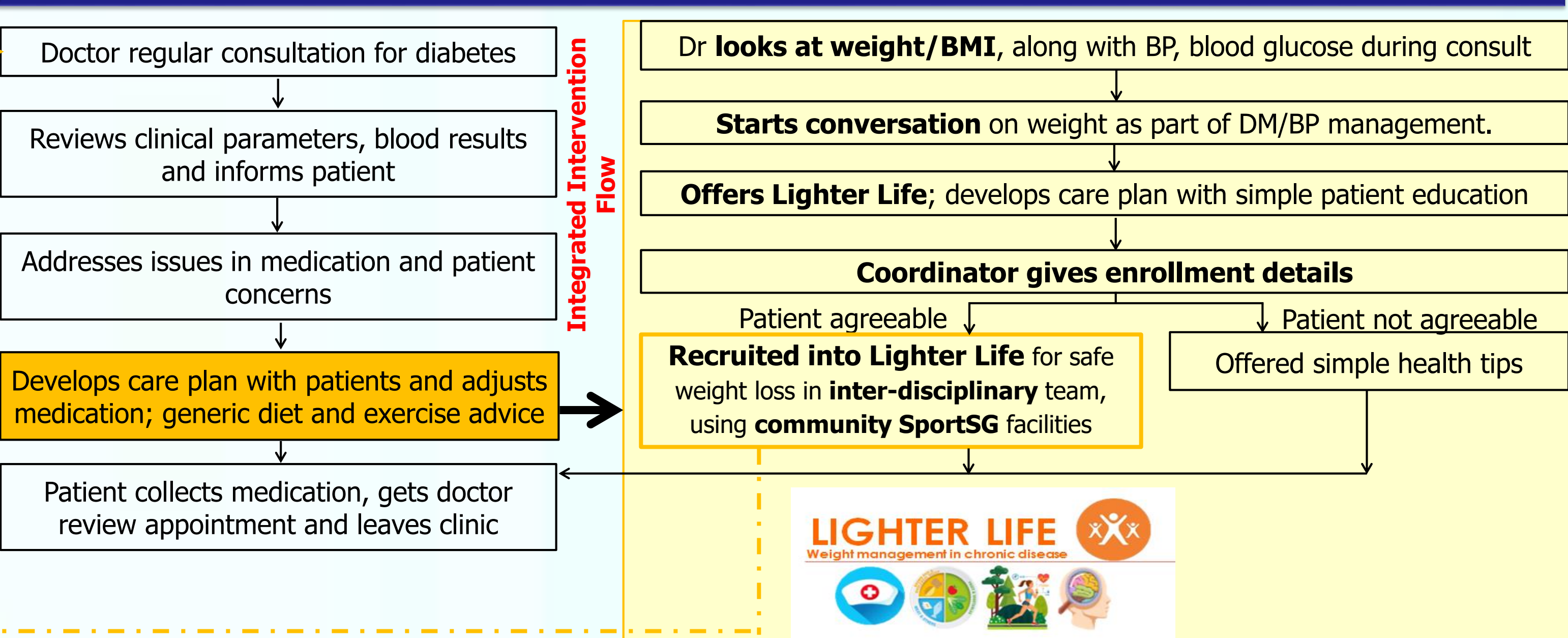
- Obesity is a global health problem. Singapore National Health Survey 2010 showed 11% of adults 18-69 yrs are obese, up from 7% (2004). Rising obesity will further raise high diabetes prevalence. Many large studies (US, Finnish, Da Qing) show that 5-7% weight loss through a structured lifestyle change programme prevents diabetes and its complications.
- In AMK Polyclinic, only 11.7% of patients with DM (18-64 yrs) have ideal BMI < 23 in 2017 (NHGP 9.9%). With 88.3% of patients with DM and weight issues, notwithstanding patients with other conditions e.g. hypertension, osteoarthritis, weight management in chronic disease is CRUCIAL in primary care.



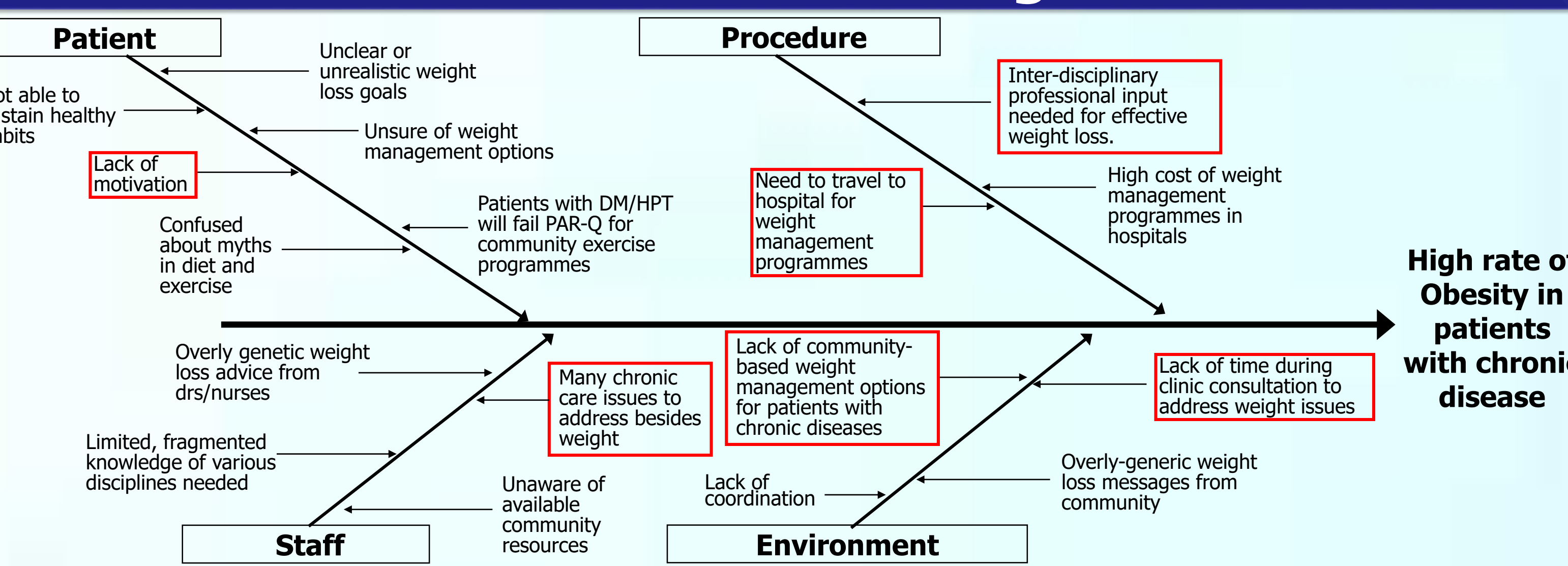
Current Performance of a Process

There is no structured programme currently. Clinicians give generic diet and exercise advice, offer patients dietitian referrals or costly hospital weight management programmes.

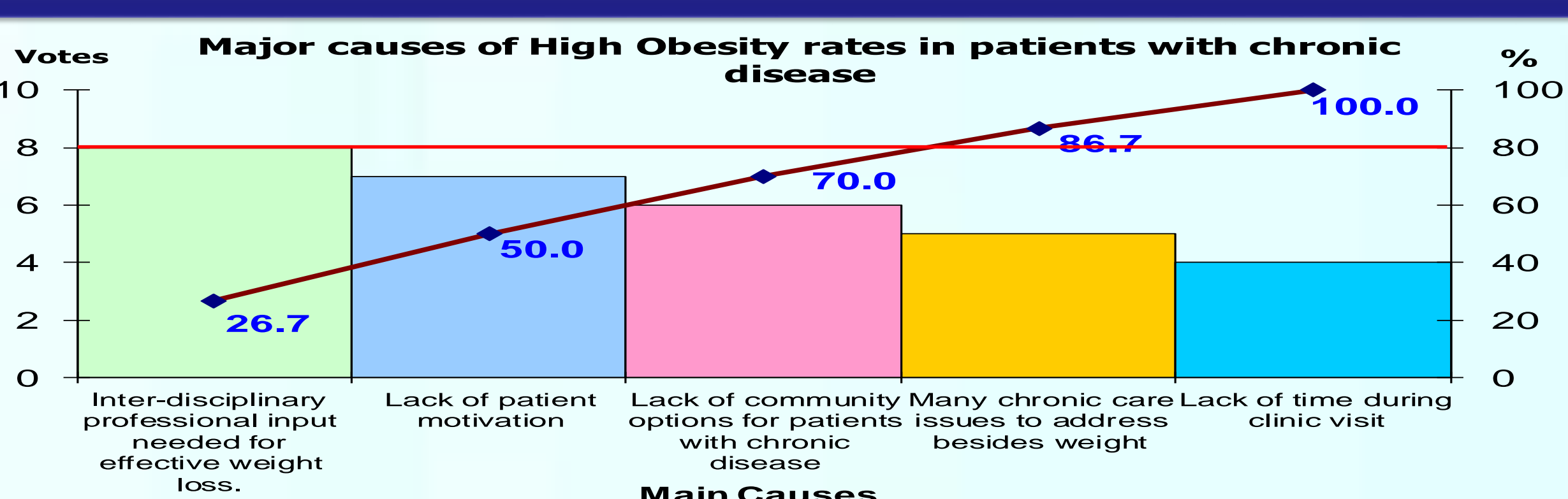
Flow Chart of Process



Cause and Effect Diagram



Pareto Chart



Implementation

PROBLEM	INTERVENTION	DATE OF IMPLEMENTATION
Inter-professional input needed for effective weight loss	Interactive grp sessions involving dietitian, nurse and physiotherapist planned; patient recruitment started.	Jul 2018
Lack of patient motivation	Psychologist input added; focus on behaviour change	Aug 2018
Lack of community options for patients with chronic disease	Engage SportSG (Active Health Lab) to hold Lighter Life in the neighbourhood sports halls	Aug 2018
Patient recruitment was low (after preceding interventions)	PDSA done to improve recruitment (See table)	Sept 2018

LIGHTER LIFE

- 6-month structured group programme with ongoing chronic care
- Patients with chronic conditions and special physical needs

CORE: Nurse, Dietitian, PT, Psychologist

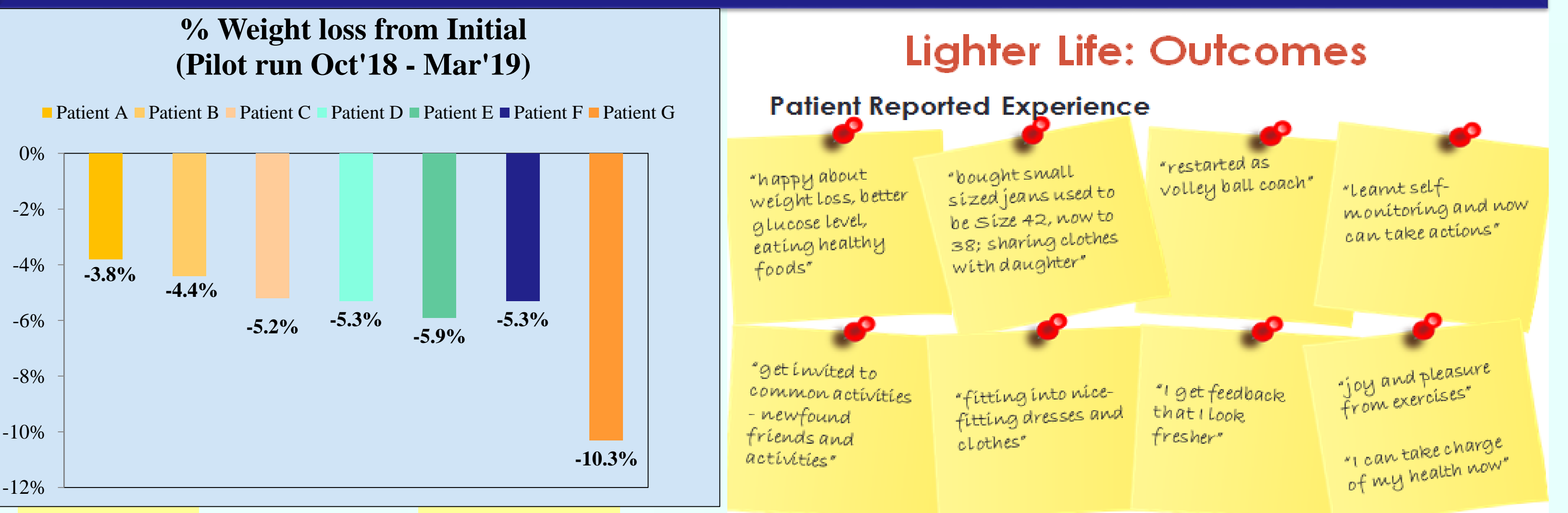
EXPERIENTIAL: Dietitian, PT, Psychologist, Group Celebration

Plan-Do-Study-Act in Aug-Sept 18 to improve patient recruitment in Oct 18 and subsequent runs.

Common reasons for low recruitment	Programme revision
1) Too many face-to-face group sessions (11 Sat mornings - patients unable to commit)	• Reduced to total 7 group sessions - 4 Core sessions with compact and crystallised core content - 3 Experiential sessions to layer on practical knowledge/skills • Group celebration at end of 6 months • Retained original intent of initial weekly contact, decreasing to fortnightly, then monthly and then hand-off to patients' self-organised activities. • Regular social media group chats and scheduled tele-consult during 6-mth period to maintain contact throughout programme.
2) No exercise component	• Weaved in physical activity segments and an opt-in exercise component at the end of each group session.
3) Programme only in English, while need is also in Mandarin (and Malay)	• Added in Mandarin alternative as clinicians and group facilitators are effectively bilingual
4) Relative high cost of \$60 (\$30 refundable) of other options e.g. SHI	• Added small healthy incentives to get patients started e.g. NHG Pharmacy vouchers, Mewah, Oki healthy cooking oils.
5) High drop-out rate for multi-session programmes, based on experience from earlier projects	• Increased appeal and adjusted sequence and compact activity of each session • Skilled group facilitators are critical with training done • Focus on 1 behaviour change per week (Health)

- Eligible patients with chronic disease e.g. DM, are recruited by doctors/nurses at routine care visits. (18-64 years old, BMI 23.1-32.4)
- Each interactive 6-mth programme is planned collaboratively with external partner (SportSG) in neighbourhood sports halls, with health-related aids from NHG Pharmacy/industry partners.
- Patients undergo SportSG onboarding for integration with neighbourhood programmes. 8 Group sessions conducted by trans-disciplinary team provide practical skills in nutrition, exercise and behaviour change.
- Goal-setting is done through group facilitation, peer support and tele-counselling.
- After 6 months, highly-engaged participants self-initiate meet-ups.
- Scaling of programme runs: 2 in FY18, 4 in FY19 and 6 in FY20

Results



Picture A: Morning Guys, I am on the Treetop Walk now I still progressing along the trail.

Picture B: This is my dinner healthy plate I just had. Rice is 70% brown and 30% basmati, grilled fish with sambal, green vegetable called cekur manis which I grow in my garden is boiled and pineapple and onion salad. Nice meal for hubby and me.

Picture C: HEALTH PROMOTION BOARD PRESENTS COMMUNITY PHYSICAL ACTIVITY

Pictures A-C: Samples of Group Chat Peer support & motivation

Results: Improvements in weight, BMI, waist circumference, fasting blood glucose, blood pressure

- Run #1 Oct'18 - Mar'19**
- 0% drop-out
 - 100% of patients
 - onboarded with SportSG community programmes.
 - lost 2.5-7.4kg (4-10% body weight); 71% with $\geq 5\%$ loss
 - reduced BMI (1.1-2.8)
 - reduced waist-circumference (2-14cm)
 - improved dietary fibre score; 57% improved fat score
 - High patient engagement and motivation through Peer Support and Goal Setting.
 - 85% of patients achieved > 150 min/week moderate-intensity physical activity from 0% baseline
 - 100% of pre-DM/DM patients decreased fasting glu/HbA1c (6.4 \rightarrow 5.9%; 6.2 \rightarrow 5.3%)
 - 80% of HPT patients decreased SBP (9-2mmHg)
 - 60% decreased DBP (4-11mmHg)
- Run #2 Feb - Aug'19 - ongoing**
- 0% drop-out
 - 100% participants onboarded to SportSG community programmes
 - Weight: -8 to 0kg (average -1.95kg)
 - Waist circumference: -9 to +5cm (average -1.5cm)
 - BMI: -2.7 to 0 (average -0.7)
 - SBP average -8.5mmHg
 - DBP average -4.8mmHg
- Recruitment numbers**
- Run #1 (Pilot): 7 patients (Oct'18 - Mar'19)
 - Run #2: 17 patients (Feb - Aug'19)
 - Run #3: 18 patients (Apr - Oct'19)
 - Run #4: 37 patients (Jun - Nov'19)

Cost Savings

- Freely-available community resources – SportSG gyms, pools, activities across Singapore
- Lighter Life programme cost is \$150/patient (based on 20 patients/grp). Patient pays \$60 with \$30 refund if $\geq 5\%$ weight loss achieved, with remaining amount supported by MOH, compared with hospital-based weight management programmes at $\geq \$600$ /patient
- Facility savings at Sports Hall $\geq \$1048$ /run i.e. \$2096 (FY18), \$4192 (FY19), \$6288 (FY20)
- Saved transport time and costs, and convenience of group sessions in community venues.
- Other industry partners e.g. NHG Pharmacy, Mewah Group with aligned health goals provide health-related aids/products for daily use.

Sustaining Strategies despite Problems Encountered

- With limited consultation time, small steps integrated into doctor daily consult and patient's daily lives broke the barrier in weight management.
- Plan-Do-Study-Act cycles continually enhanced recruitment and care interventions in phases
- Monitoring of indicators of preventative interventions must be well planned to demonstrate benefits over time.