

# The Community-based Prevention of Diabetes (ComPoD) trial and service evaluation of the Living Well, Taking Control programme

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# Background

- Type 2 diabetes is a serious, expensive & growing public health challenge (~10% of NHS budget)
- NICE guidance recommends diabetes prevention in people at high risk (e.g. with “pre-diabetes”) via intensive lifestyle interventions for weight loss
- One-to-one US & Finnish diabetes prevention programmes reduced risk by ~60%
- BUT, limited evidence on ‘real-world’ diabetes prevention programmes in the UK

# Living Well, Taking Control

- Big Lottery-funded voluntary sector-led, with structure, content, delivery **as per NICE guidance**
- Initial **4-6 2-hour weekly group sessions**
  - covering diabetes risk, diet, PA, well-being
  - led by trained lifestyle coaches in local venues
  - adapted to local participants' needs...



**Westbank group, Devon**



**Health Exchange group, Birmingham**

# Living Well, Taking Control (cont)

- Followed by 3-monthly individual support contacts, attendance at 5+ additional chosen classes or activities up to 12 months...

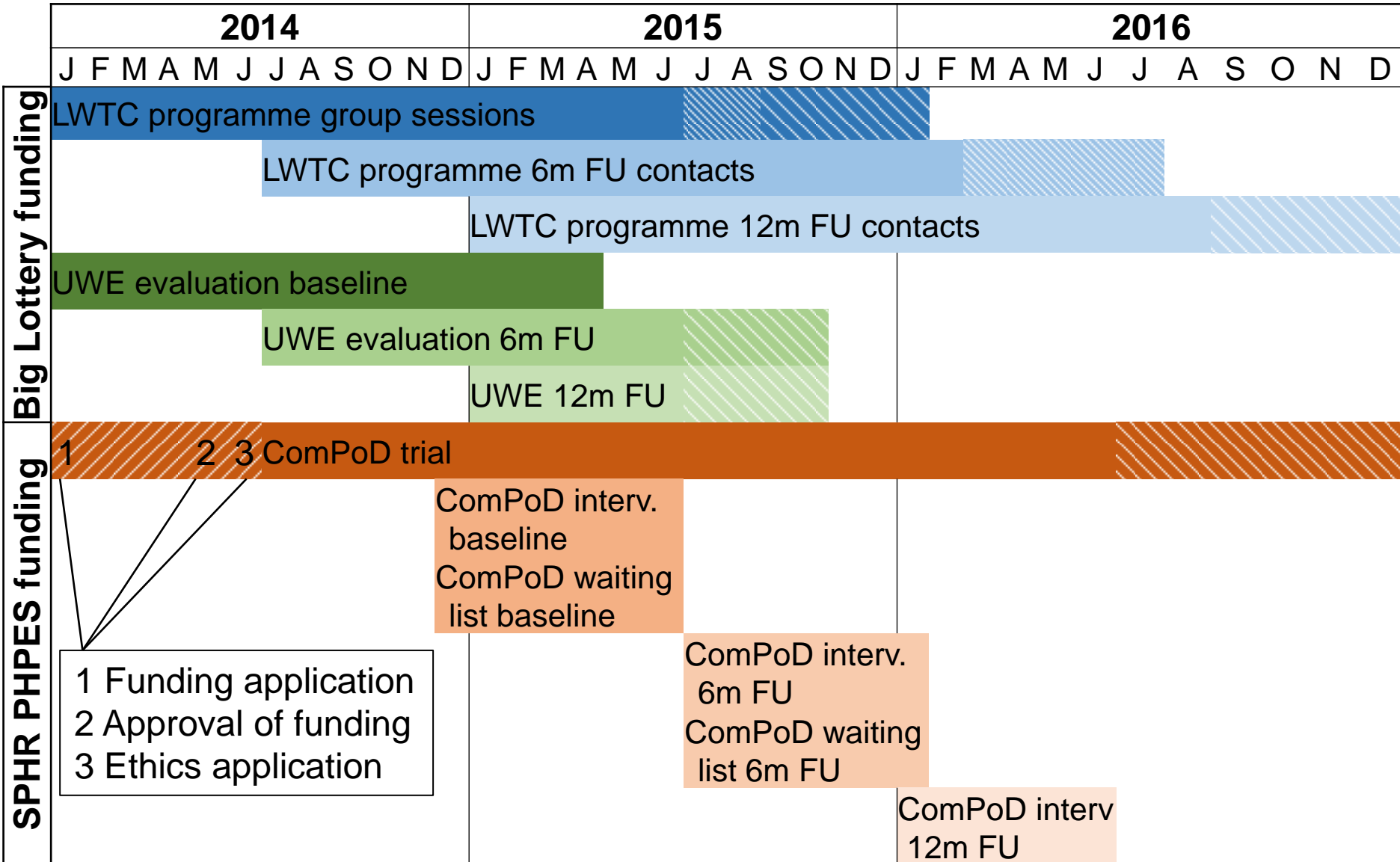


# “Pre-diabetes” participants

- Aged 18-74 years
- Considered on basis of test in last year at high risk for type 2 diabetes according to NICE criteria:
  - Fasting Plasma Glucose 6.1-6.9mmol/l, or
  - HbA1c 42-47 mmol/mol
- Resident in eligible Devon/Birmingham postcodes
- BMI  $\geq 25$  kg/m<sup>2</sup> ( $\geq 23$  for certain ethnic minority groups) and  $< 45$  kg/m<sup>2</sup> (for trial)



# Programme-evaluation-trial interface



# UWE evaluation of LWTC

## Pre-post outcome evaluation

- Changes over time in provider measured and self-reported outcomes

## Process evaluation

- Implementation, interpretation, service integration
- Uptake, attendance, retention, generalisability
- Fidelity of delivery (see Kok et al poster)
- Impact of “dose”, provider, participant characteristics
- Mechanisms of change (motivation, behaviours)

## Social return on investment

# Evaluation measures

- Demographic, socio-economic, clinical characteristics
- **Weight** assessed as part of programme
- Self-reported **physical activity** (NZPAQ)
- **Dietary behaviour** (Fat & Fibre Questionnaire)
- **Health status** (EuroQol EQ5D)
- **Mental health** (CES-D7)
- **Psychological well-being** (Warwick-Edinburgh MWS)
- **Motivation** re: PA & diet (importance, confidence)
- Sub-sample: objective PA (accelerometers), HbA1c



# ComPoD trial [www.isrctn.com/ISRCTN70221670](http://www.isrctn.com/ISRCTN70221670)

## Aim:

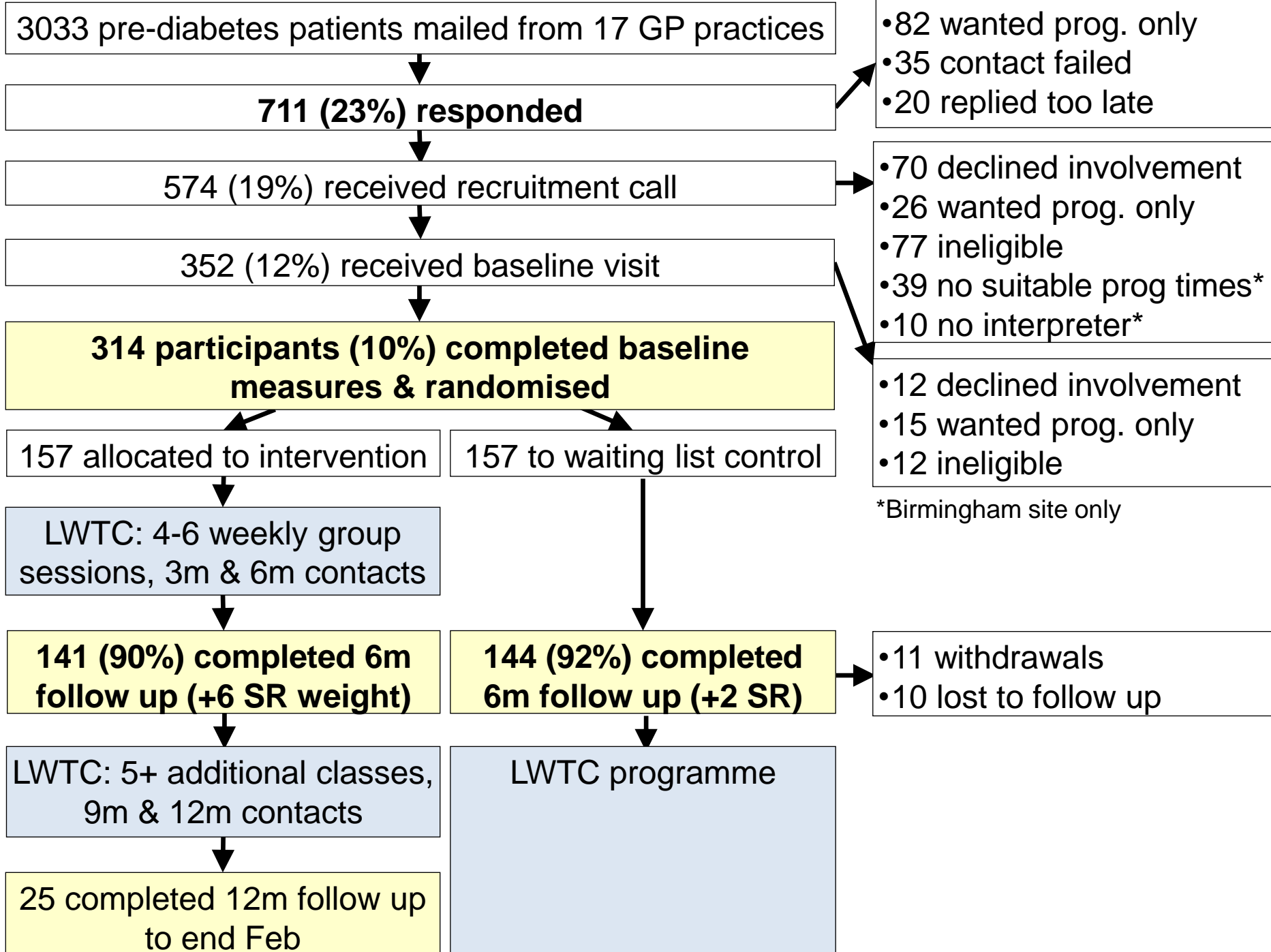
To evaluate the clinical and cost-effectiveness of the existing community-based diabetes prevention programme (Living Well, Taking Control) being delivered by voluntary sector providers

## Design:

- 6m randomised, waiting list controlled trial across 2 sites (Devon, Birmingham)
- 12m observational follow up of intervention group
- Will link to process evaluation data

# Trial outcomes & analyses

- Changes at 6m, intervention maintenance at 12m in:
  - objectively-measured **weight** (primary outcome)
  - **physical activity** (via accelerometers)
  - **blood glucose** (HbA1c via point of care testing)
  - self-reported **diet, health and well-being**
- **Cost-effectiveness**, including modelling long-term costs and consequences (Sheffield SPHR model)
- Use of wider pre-post evaluation data to explore **moderators** (e.g. participant characteristics) and **mediators** of effectiveness, **generalisability** of findings



# Trial baseline characteristics

		TOTAL				
		Control	Intervention	Exeter	Birmingham	Combined
		n=157	n=157	n=170	n=144*	n=314
<b>Male gender</b>	No.	68	68	75	61	136
	%	43%	43%	44%	42%	43%
<b>Age (yrs)</b>	Mean	61.32	61.42	63.32	59.07	61.0
	SD	10.35	8.97	9.03	10.37	9.88
	Range	29 - 75	29 - 75	29 - 75	29 - 75	29 - 75
<b>Weight (kg)</b>	Mean	86.8	87.7	87.9	86.5	87.3
	SD	17.0	13.1	13.0	17.4	15.2
	Range	55.7 - 126.7	56.8 - 154.2	56.8 - 123.8	55.7 - 154.2	55.7 - 154.2
<b>BMI (kg/m<sup>2</sup>)</b>	Mean	31.7	32.0	31.6	32.1	31.8
	SD	5.1	4.0	4.0	5.1	4.6
	Range	24.3 - 44.8	24.2 - 44.6	25.0 - 43.9	24.2 - 44.8	24.2 - 44.8

\*Nearly 50% estimated to be from ethnic minority

# Initial pre-post evaluation findings

- 592 participants with pre-diabetes entered LWTC across 2 sites up to April 2015
- Providers collected 6m follow up data on 237 overweight participants (40%) to Oct 2015
- Significant pre-post changes in diabetes risk factors:
  - 1.84kg weight loss ( $p < 0.001$ )
  - 1.52mmol reduction in HbA1c ( $p < 0.01$ )
  - increase in % doing 150mins/week PA ( $p < 0.05$ )
  - increased fat & fibre intake ( $p < 0.001$ )
- Significant improvements in depression ( $p < 0.001$ )
- Further analyses ongoing

# Conclusion

- Innovative example of robust evaluation of an existing intervention involving collaboration between multiple academic & third-sector partners
- Initial observational data suggest potential positive changes in diabetes risk factors alongside LWTC
- Process data and trial results due shortly will provide timely, more definitive evidence on effectiveness and implementation to feed into National Diabetes Prevention Programme



# Acknowledgements

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The views expressed are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health



# Request for help!

Do you have expertise in the design or delivery of **group-based interventions** for diet, physical activity, weight loss (or potentially other behaviours)?

We are seeking **expert advisors** and examples of **intervention manuals** for NIHR/MRC EME funded study which commenced Jan 2016:

“Mechanisms of Action in Group Interventions”

<http://www.nets.nihr.ac.uk/projects/eme/1420203>

For more information/to express interest contact:

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