

# Mixed methods investigation of individuals with type 2 diabetes who follow a LCHF diet

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# Disclosures

- PhD funding from The Noakes Foundation



# Context

In South Africa:

- LCHF has been in the public consciousness since ~ 2012
- Very polarising topic (elitist, cardiac risk, Noakes)
- Issues conflated

- Many people are following a LCHF diet
- Many people with type 2 diabetes are following a LCHF diet



# The Study:

## Eligibility:

- Had been previously diagnosed with type 2 diabetes
- Had been following a LCHF diet for at least 6 months

## Questions:

- What is the diabetes status of these individuals?
- What does the LCHF diet look like in the wild?
- What have been the experiences of these individuals?

# Methods

## **Diabetes Status**

- Current blood sample  
HbA1c, FPG, insulin
- Prior laboratory records
- Medication history

## **LCHF Diet**

- 1-day diet recall
- 3-day diet logbook

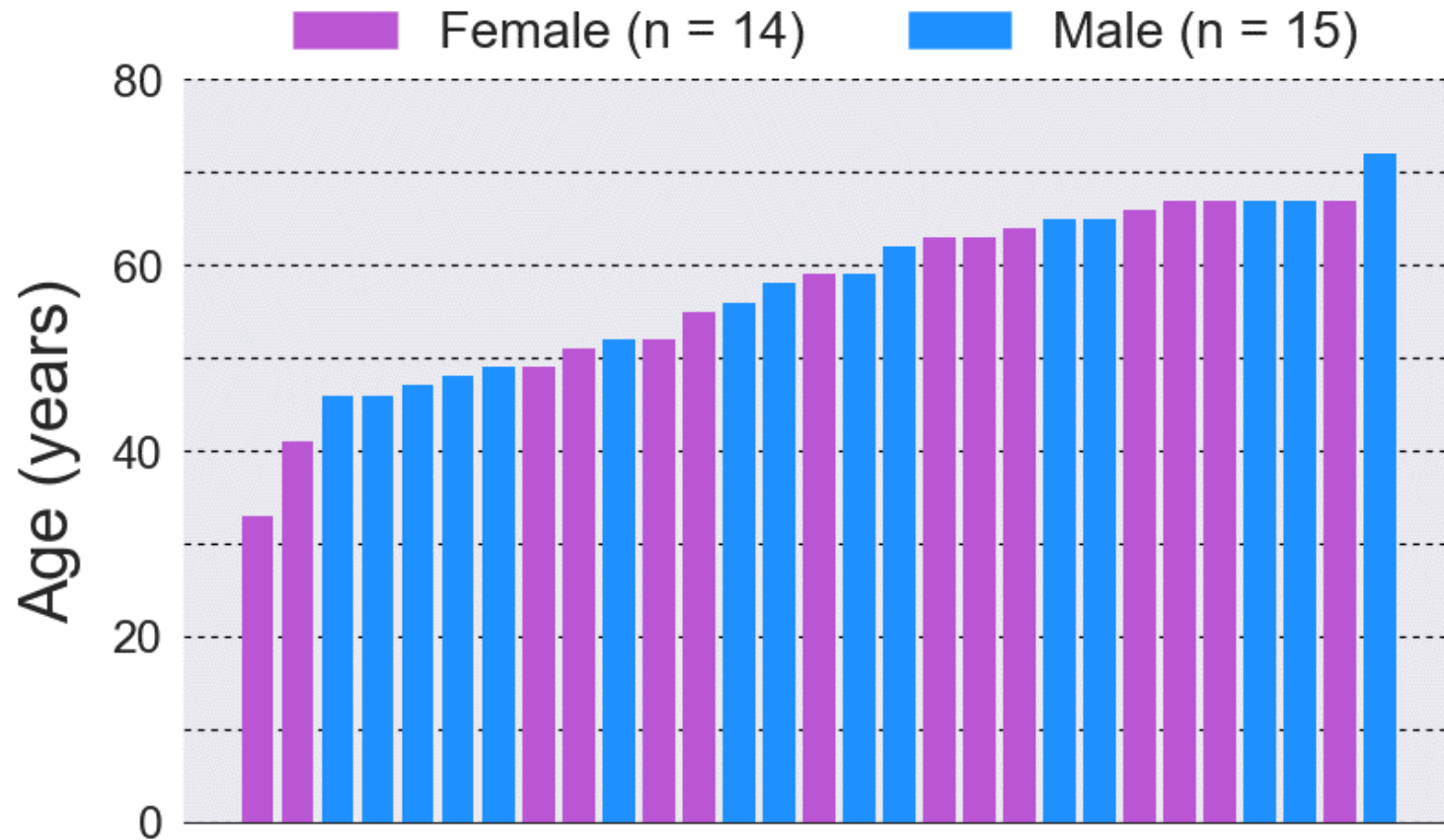
## **Experiences**

- Semi-structured interview
- Coded for themes
- Analyzed qualitatively

# Limitations

- Selection bias
- Self report of medications and prior weight
- No controls

# The Participants:

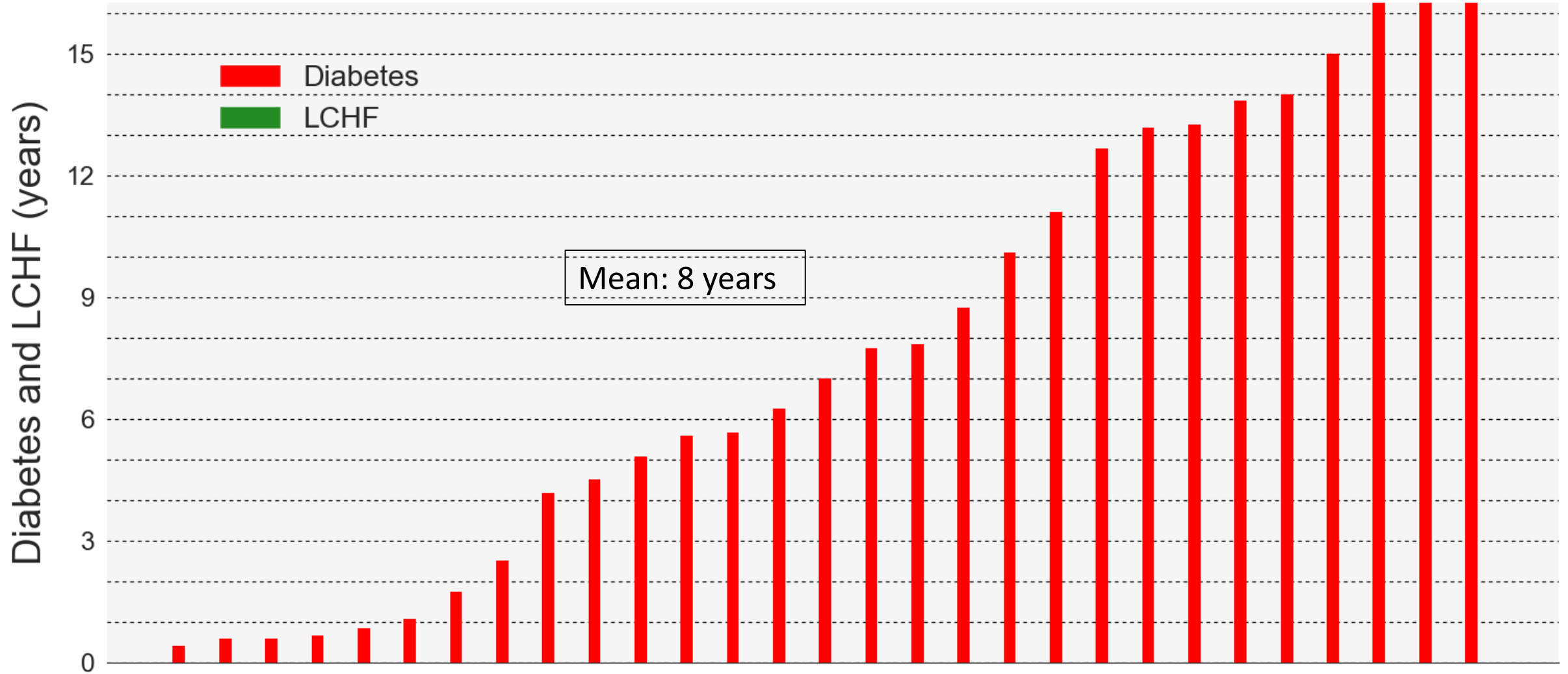


## High SES:

- Majority in highest income bracket on our questionnaire
- 21 of 29 had tertiary education

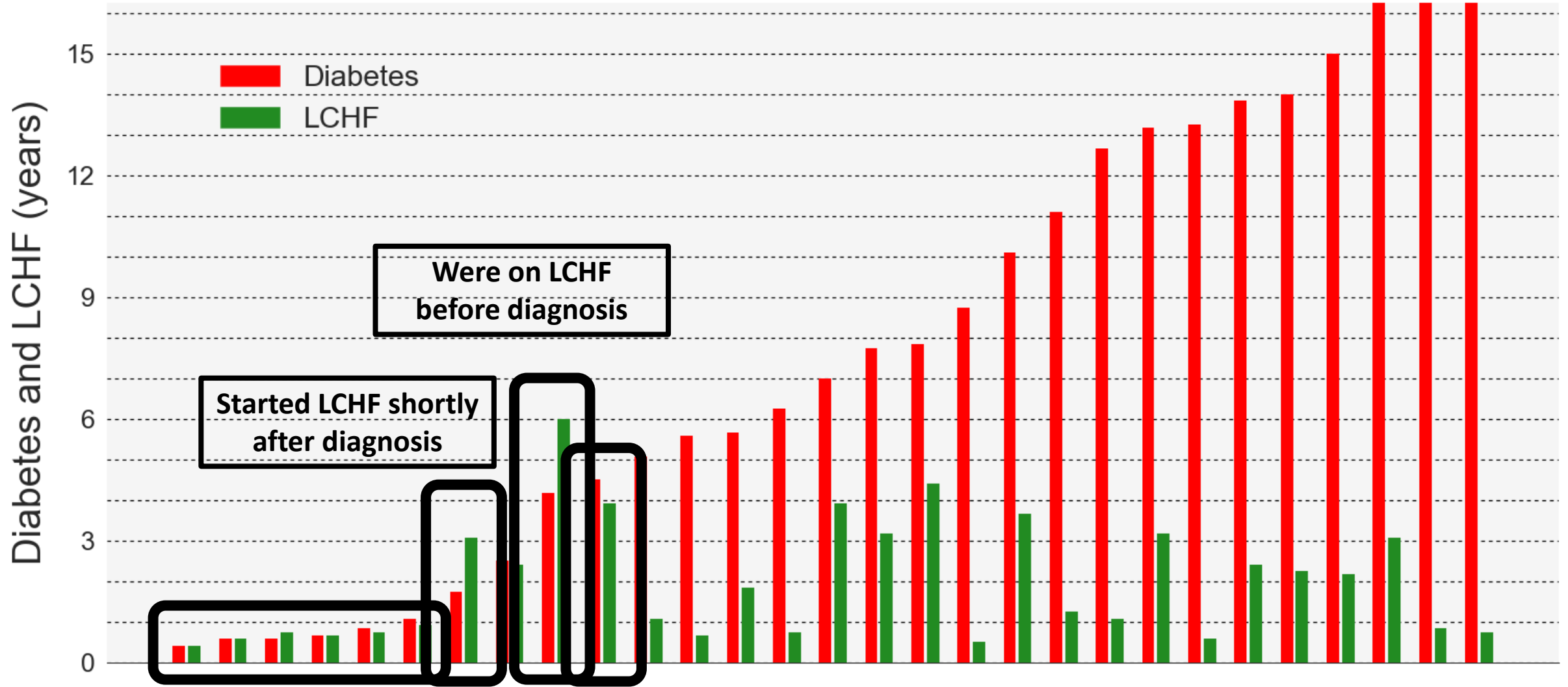
*"I guess I was lucky to find and have access to knowledge, and have the right mentality to discover what I did on my own."*

# Time with Diabetes / on LCHF:

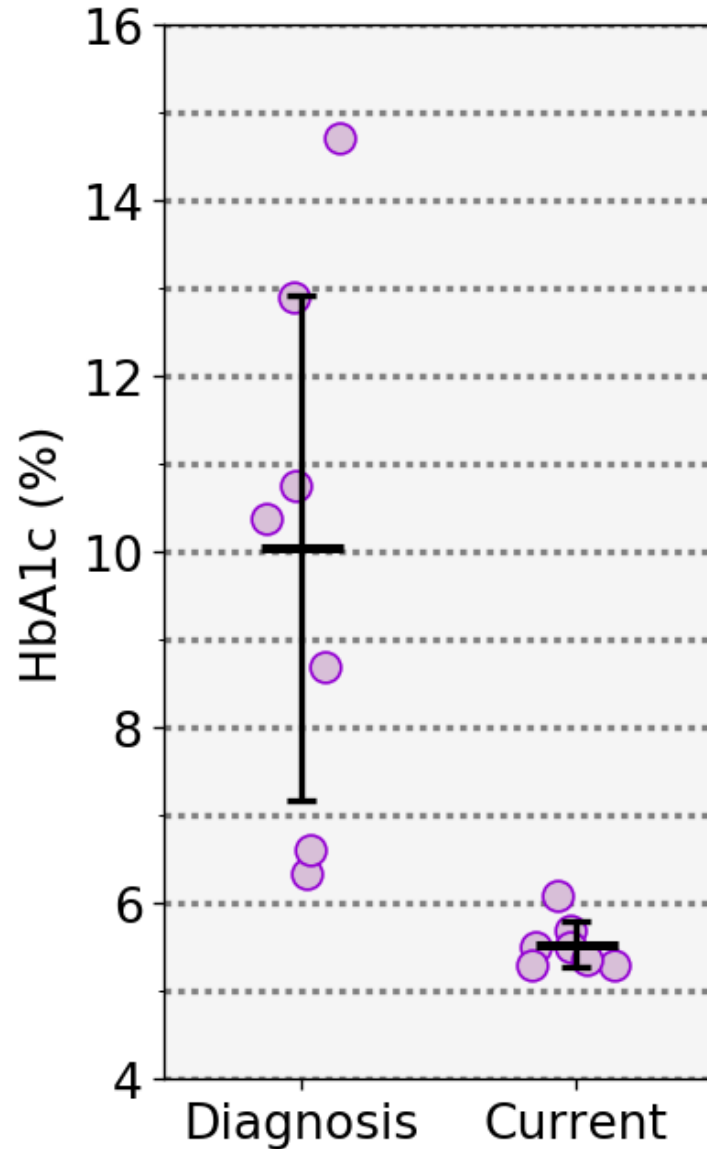




# Current Diabetes Status



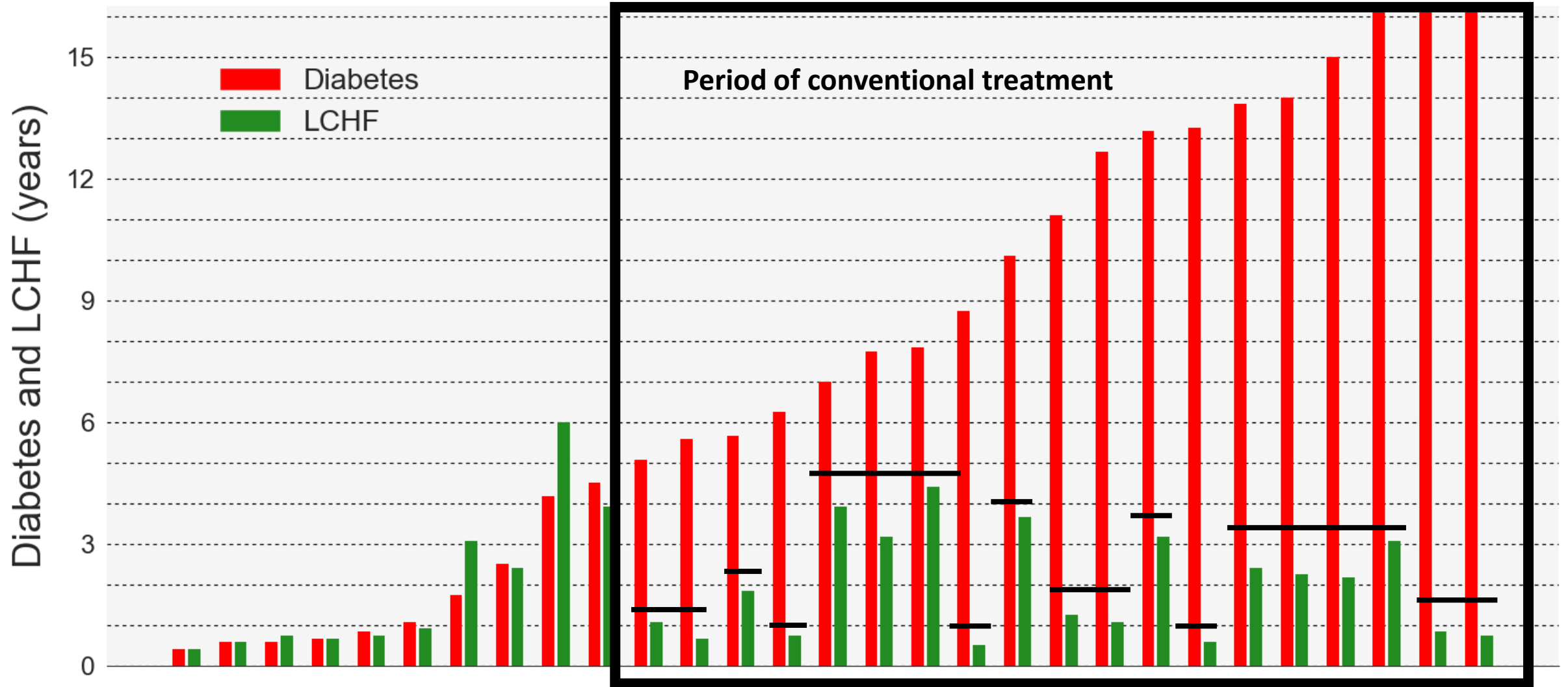
# Current Diabetes Status



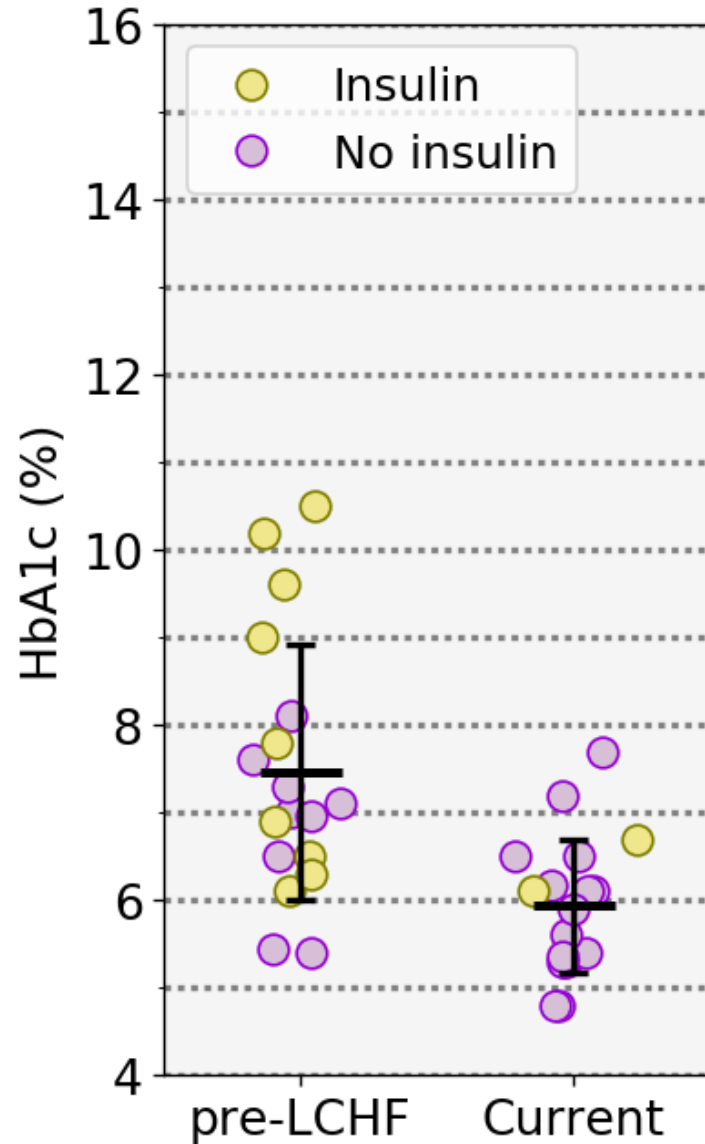
HbA1c dropped from a mean of ~10 % at diagnosis to a mean of ~ 5.5 % over a period averaging 15 months.

P = 0.002

# Current Diabetes Status



# Current Diabetes Status



HbA1c dropped from a mean of ~7.5 % to a mean of ~ 5.9 % over a period averaging 3.3 years.

This occurred in conjunction with large reductions in exogenous insulin and overall reductions in other anti-diabetic medications.

P < 0.001

# Selected Medications

- Want to come off / reduce medications

Number of Participants (whole group)		
	LCHF start	Current
Insulin	9	2
Metformin	21	16
BP Meds	16	13
Statins	14	7

*“My doctor feels you should just stick with the medication.”*

# Cholesterol and Statins

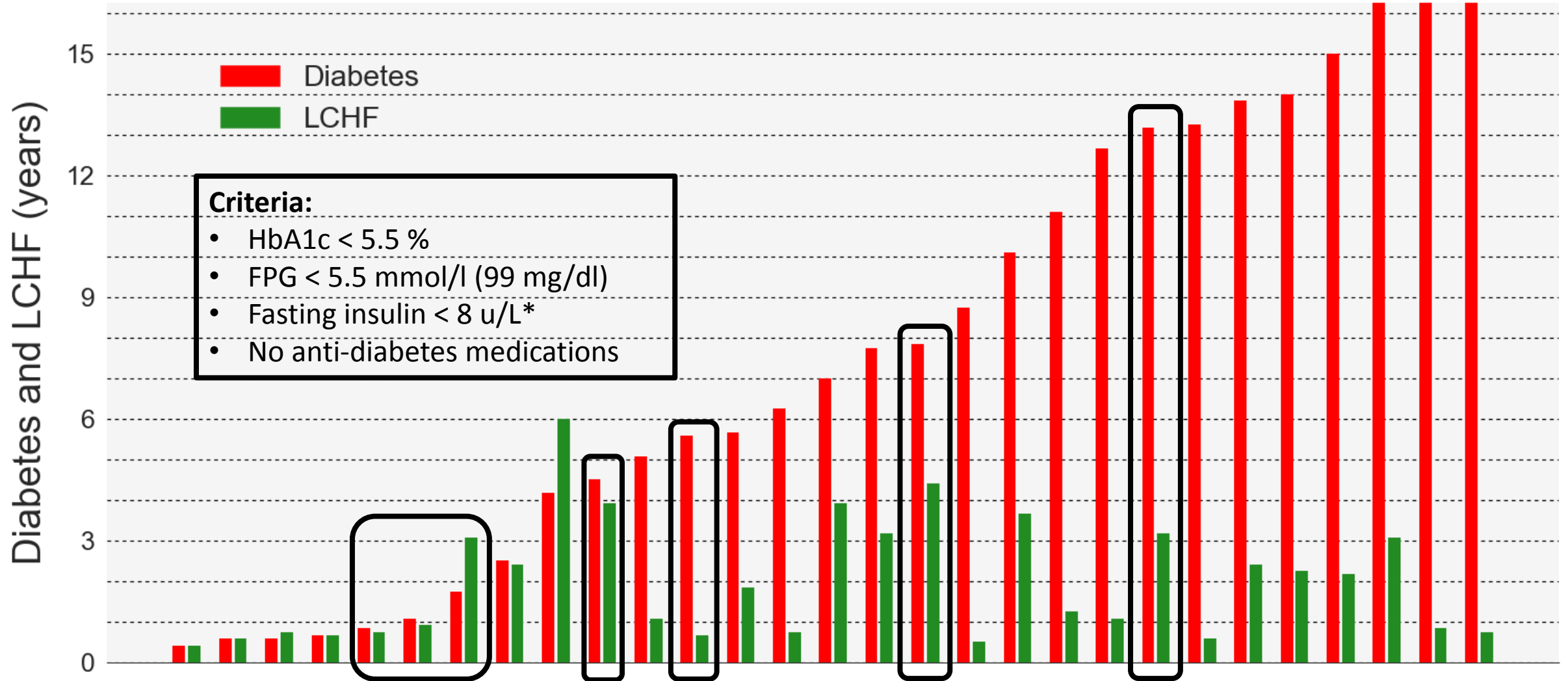
- Some participants had “improvements” in lipid profile
- Others did not...
- Confusion / Hostility / Fear (participants and doctors)...

*“I immediately wrote to both my doctors saying, ‘I have stopped statins on my own accord and I acknowledge that you have told me to take it.’ They are so shit scared of the Medical Health Council.”*

# Medications

*“I’m very positive in that I feel more under control; that I can do this by diet. I really do not want to go onto medications...”*

# Current Status: Remissions?



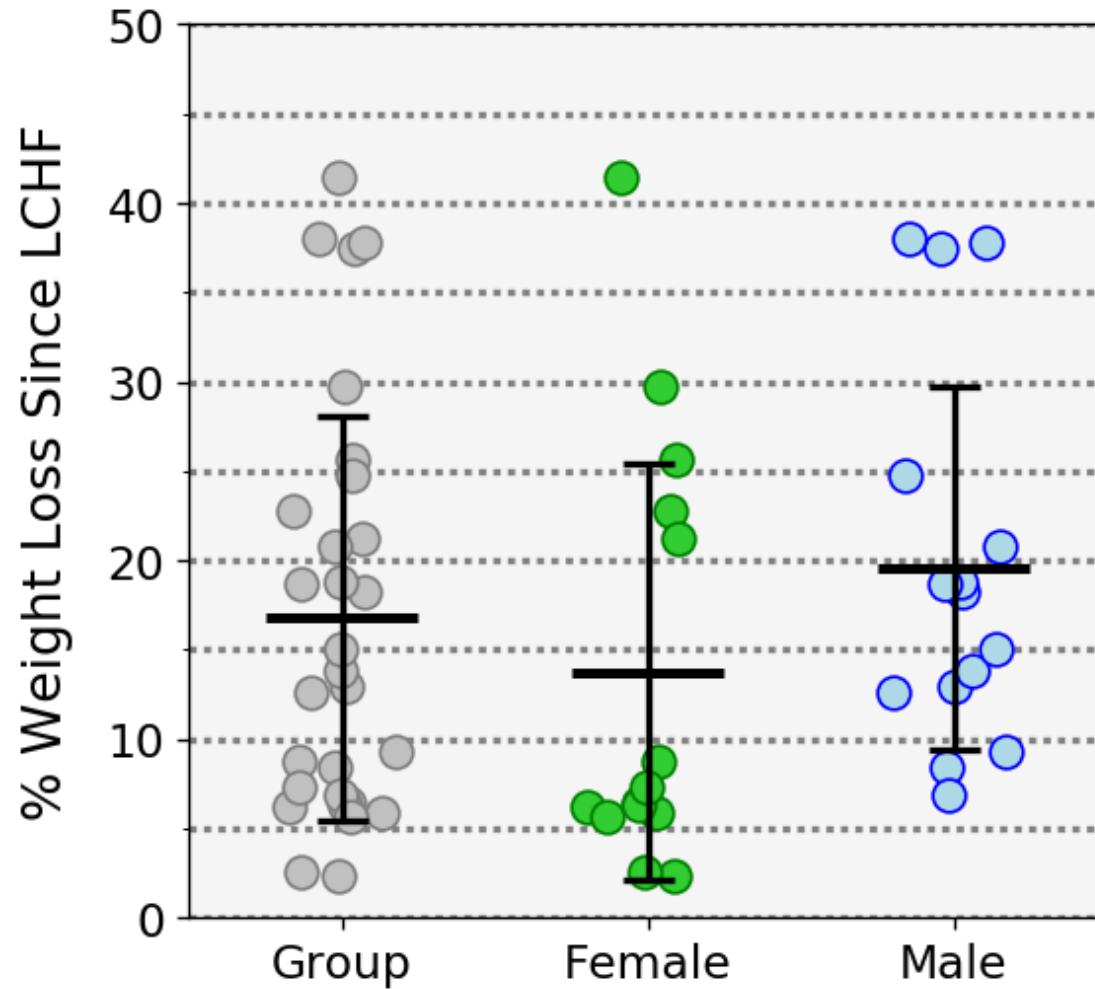
\* Not available in every participant



# Quality of Life

- Increased mobility
- Increased energy and enthusiasm
- Reductions in joint pain
- Reduced symptoms: neuropathy pain, eyesight
- Improvements: GIT, sleep, concentration, skin, allergies, sexual health ...
  
- Weight loss
- Participants discuss weight loss / LCHF / glucose control

# Weight Loss



Current BMI

Men:  $26.4 \pm 3.4$

Women:  $32.1 \pm 6.4$

P = 0.04 for the difference between Female and Male

# Quality of Life

*“It’s taken me three years but my body has healed astronomically. It’s been amazing.”*

*“I would never want to go back. I wouldn’t want the battles that I’ve had with excess weight, diabetes, and all the other health problems; which have gone. It is like a miracle.”*

# Quality of Life

*“My health has normalized and what a pleasure.”*

*“I have got my life back and for me that is really important. I have got my life back.”*

*“I’m far more positive about the future.”*

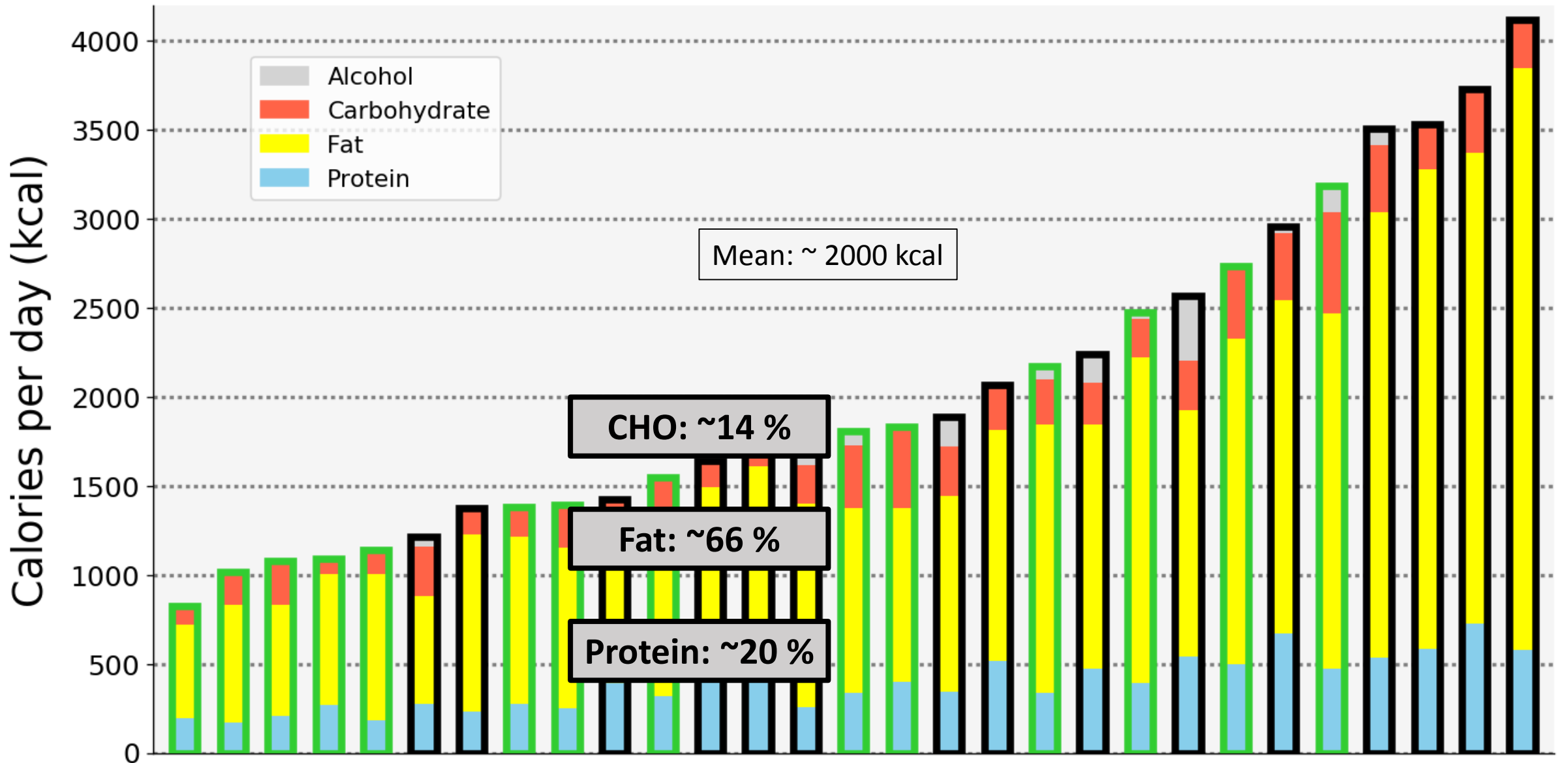
# Quality of Life

*“I just had more energy, immediately I felt more energy and a new sort of enthusiasm”*

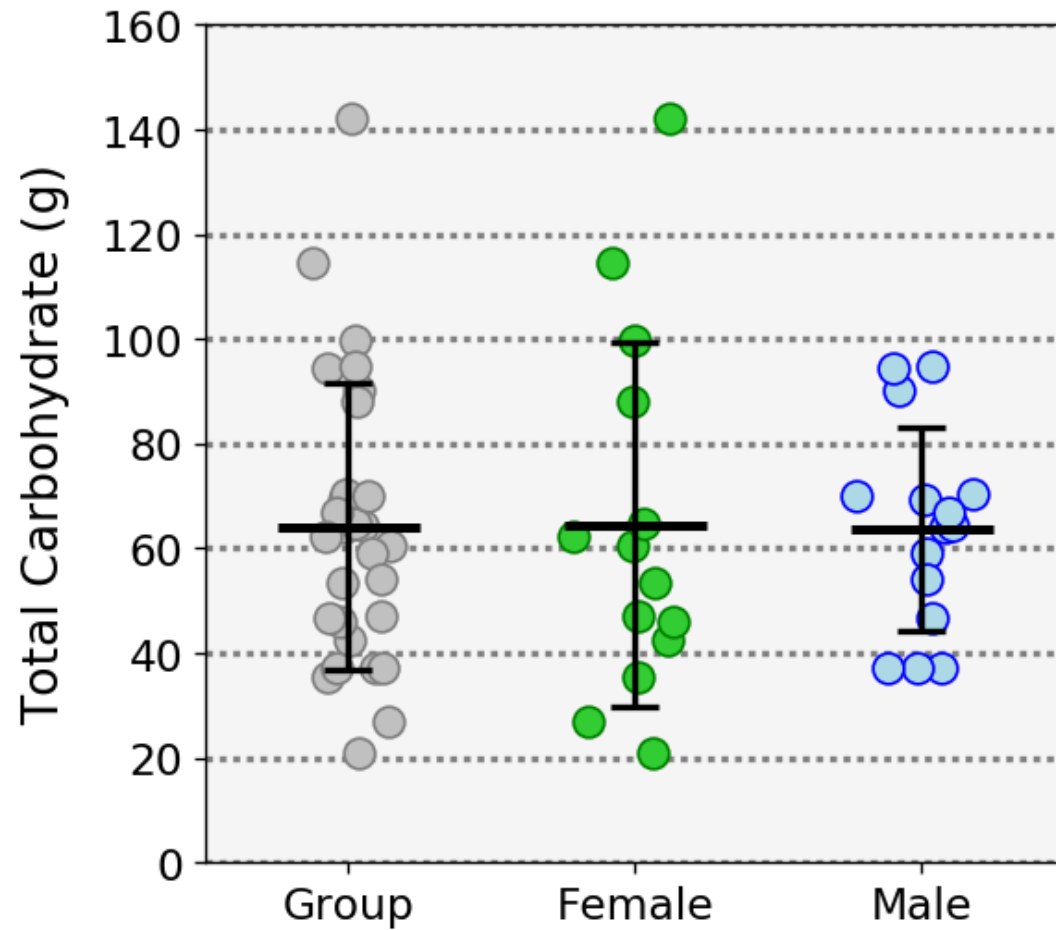
*“I’m just generally more alert, more awake, more alive if you want to call it that.”*

*“All I can say is that it’s an amazing, positive feeling.”*

# The LCHF Diet



# Carbohydrate Content



Mean fibre: 15 g

# Themes Around the Diet

- Some discussion about tweaks in foods etc.

## **Dominant Themes**

- Addiction and addictive eating behaviours
- Hunger
- Control of eating
- Ease (lifestyle)



# Addiction, Hunger, Control

*“I can happily sit through a party where people are eating everything under the sun and I am not tempted by it.”*

- Make food choices to control eating behaviour, not carb content?

# Sustainability

*“I’m pretty much going to eat this way for the rest of my life.”*

*“It’s just amazing and I will never go back.”*

# Negatives

- Can make socialising difficult
- Judgement and sometimes bullying
- Constipation was the only physical symptom mentioned by some participants
- Confusion over cholesterol
- Lack of acknowledgement and reserved support from doctors

# Summary

## Diabetes Status

- Glucose control is very good
- Medications are reduced – in particular insulin
- At least 7 participants appear completely diabetes free

## LCHF Diet

- Diet contains ~ 64 g carbohydrate
- Very low carb content may not be necessary?
- Focus on effect of foods rather than carb content

## Experiences

- Hunger
- Addiction
- Sustainability
  
- Control:  
Diabetes / Weight / Eating
  
- Positivity and enthusiasm about the future

# Acknowledgements

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- The participants

thank you!