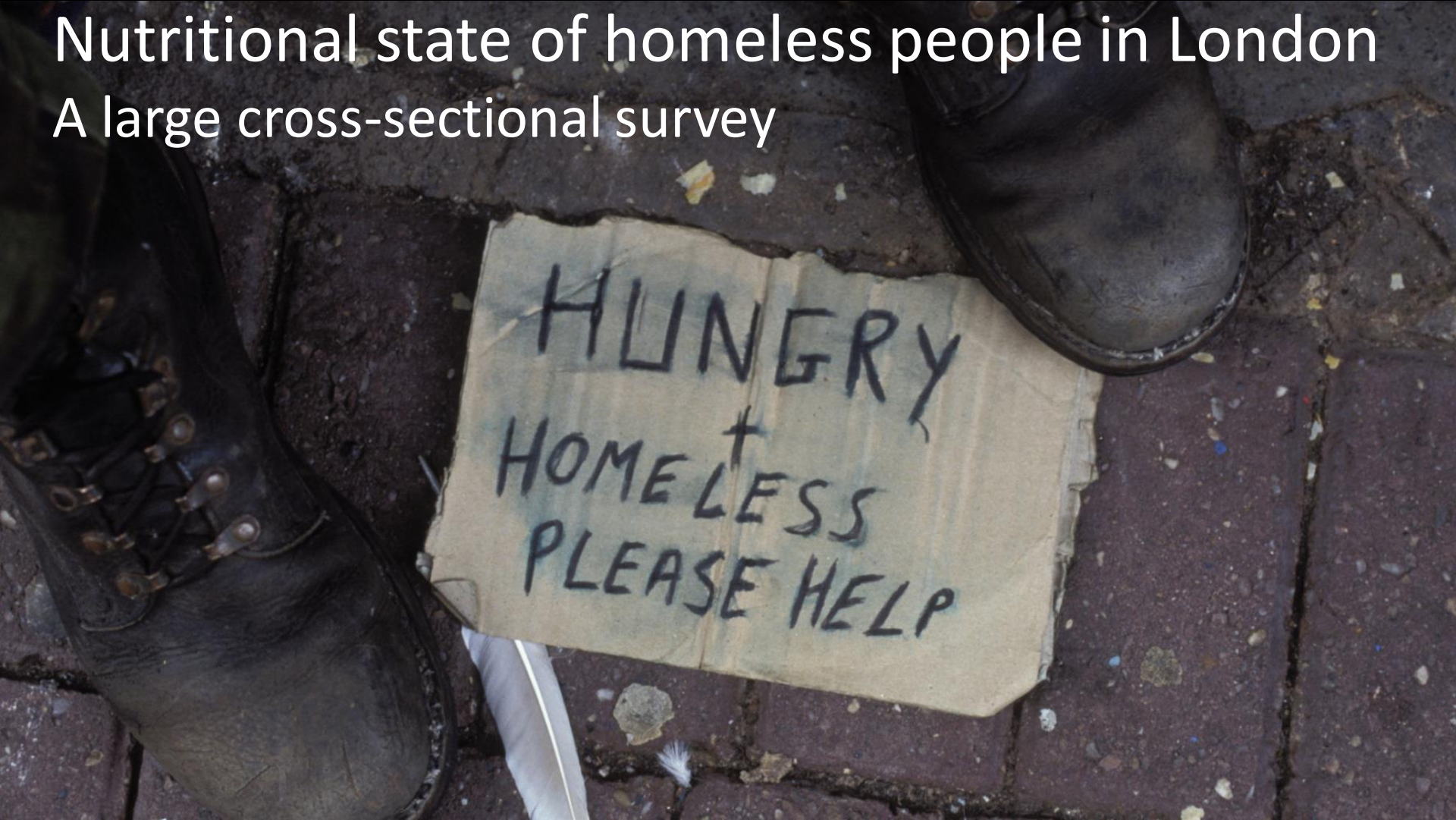


# Did you eat anything yesterday?

## Nutritional state of homeless people in London

### A large cross-sectional survey



Bora Qirici, Dan Lewer, Andrew Hayward, Al Story.

# Introduction

- No assessment of the nutritional status of homeless people in London has been undertaken since 1999
  - No anthropomorphic measurement
  - None met minimum dietary requirements

Evans N.S & Dowler E.A. (1999) Food, health and eating among single homeless and marginalized people in London. *Journal of Human Nutrition and Dietetics* Volume 12, Issue 3, pages 179–199.

# Nutrition is fundamental

## **Malnutrition**

- impairs immunity, cardio / resp / GI function and healing
- leads to depression, anxiety, increased hospital admission, delayed recovery and premature death
- well documented risk of homelessness

# Objective

Undertake a comprehensive nutritional assessment of homeless people in London using hostels, day centres and street kitchens

Inform policy and targeting of evidenced based nutrition interventions

# Methods

- Research was peer led
- Purposive sampling
- Guided anon questionnaire / BMI
- 24 recall food diary
- 19 (so far) semi-structured interviews
  - Rough sleepers, Hostel residents, Women, Staff

# MUST - DAST - FAST

Amalgamated three validated tools to assess malnutrition risk - **MUST**<sup>[1]</sup> - control for drug use - **DAST**<sup>[2]</sup> - and alcohol - **FAST**<sup>[3]</sup> - and assess dietary intake in the last 24 hours

1. [Rebecca J. Stratton, Claire L. King, Mike A. Stroud, et al. 'Malnutrition Universal Screening Tool' predicts mortality and length of hospital stay in acutely ill elderly, 08 March 2007.
2. Harvey A. Skinner. The drug abuse screening test. Addictive Behaviours Volume 7, Issue 4, 1982, Pages 363-371.
3. Ray Hodgson, Tina Alwyn, Bev John, et al. Alcohol and Alcoholism, Volume 37, Issue 1, 1 January 2002, Pages 61–66.

# The 'MUST' Malnutrition Universal Screening Tool

(BAPEN:MAG ,2003)

- 'Tool developed by BAPEN .
- The 'MUST' tool can be used for initial assessment or as a monitoring tool
- It is designed for use with adults only
- 5 steps to follow:
  - Aim is to **add 3 scores** to get a total risk score and then **follow management guidelines**

# Drug Abuse Screening Test (DAST-10)

<b>These questions refer to the past 12 months.</b>	<b>No</b>	<b>Yes</b>
1. Have you used drugs other than those required for medical reasons?	0	1
2. Do you abuse more than one drug at a time?	0	1
3. Are you always able to stop using drugs when you want to? (If never use drugs, answer "Yes.")	1	0
4. Have you had "blackouts" or "flashbacks" as a result of drug use?	0	1
5. Do you ever feel bad or guilty about your drug use? If never use drugs, choose "No."	0	1
6. Does your spouse (or parents) ever complain about your involvement with drugs?	0	1
7. Have you neglected your family because of your use of drugs?	0	1
8. Have you engaged in illegal activities in order to obtain drugs?	0	1
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	0	1
10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?	0	1



# FAST - 3 or more is FAST positive

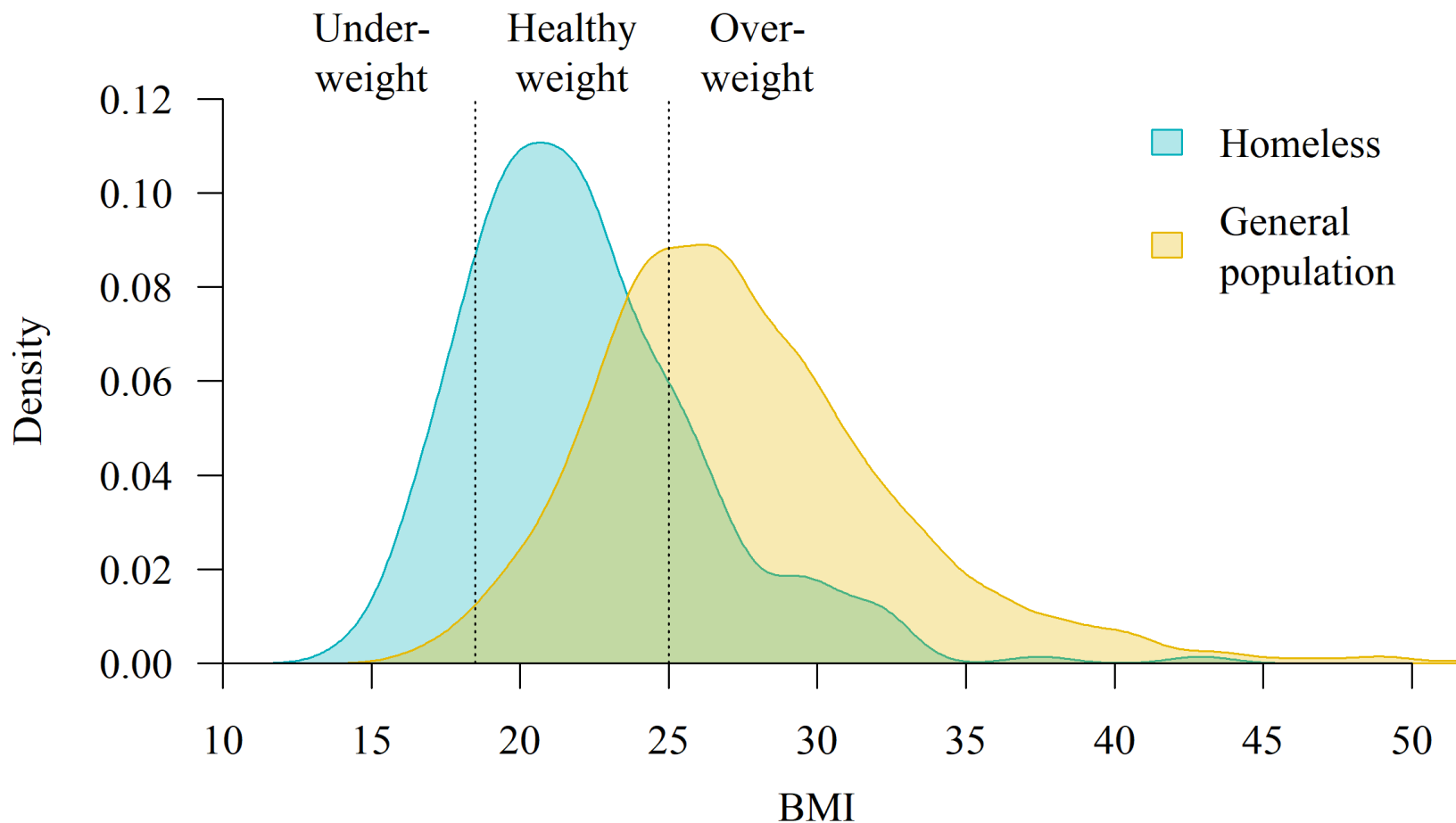
FAST	Scoring system					Your score
	0	1	2	3	4	
How often have you had 6 or more units if female, or 8 or more if male, on a single occasion in the last year?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
<b>Only answer the following questions if the answer above is <u>Never</u> (0), <u>Less than monthly</u> (1) or <u>Monthly</u> (2). Stop here if the answer is <u>Weekly</u> (3) or <u>Daily</u> (4).</b>						
How often during the last year have you failed to do what was normally expected from you because of your drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
How often during the last year have you been unable to remember what happened the night before because you had been drinking?	Never	Less than monthly	Monthly	Weekly	Daily or almost daily	
Has a relative or friend, doctor or other health worker been concerned about your drinking or suggested that you cut down?	No		Yes, but not in the last year		Yes, during the last year	

# Variables

- age; sex; country of birth
- duration of homelessness
- measured height and weight (BMI)
- MUST DAST FAST + tobacco
- skipping meals and not eating for a whole day
- 24-hour recalled food intake (not FFQ)
- food sources

# Results - Sample characteristics

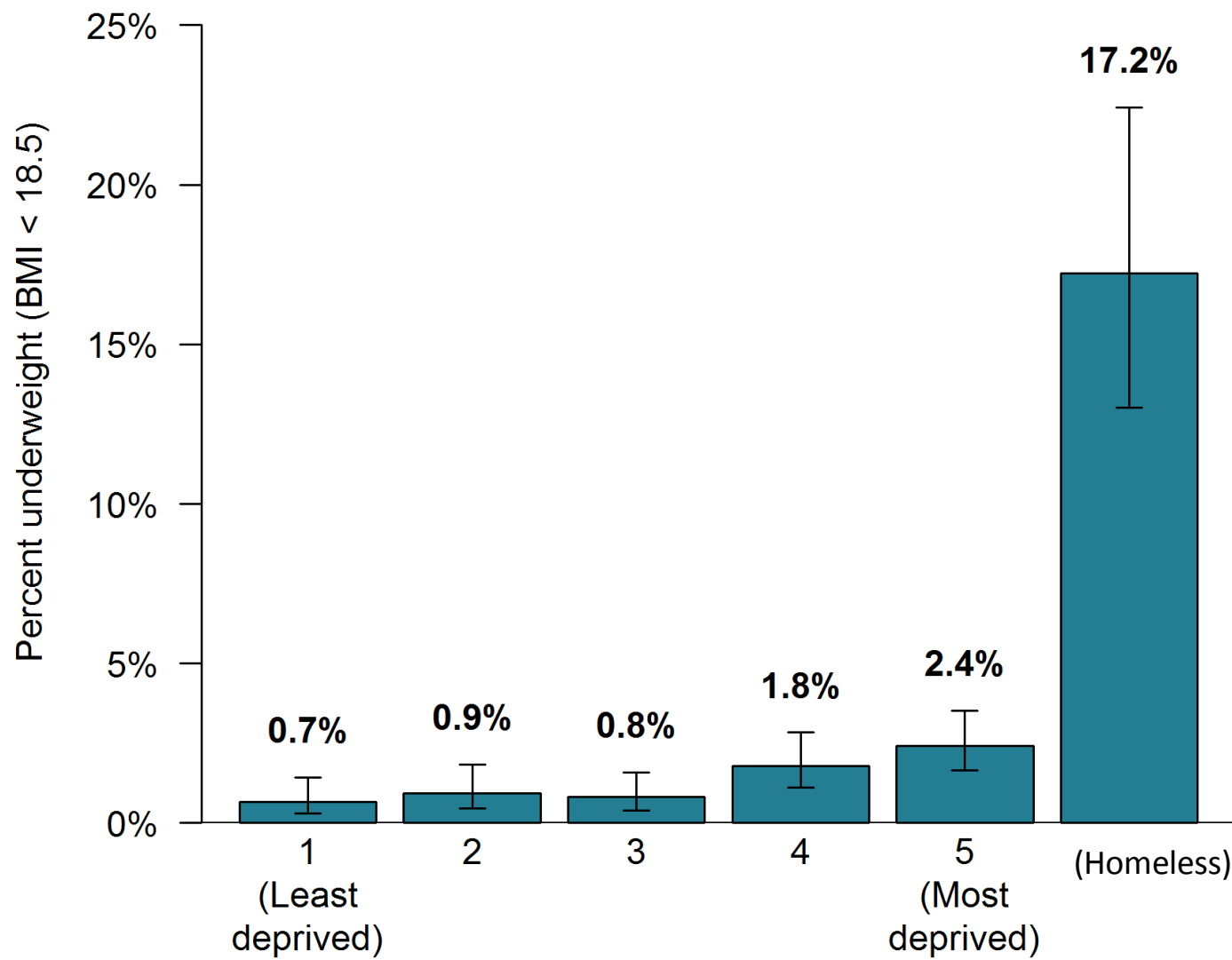
- 267 participants (59 female); mean age 44
- 53% UK born
- 39% reported using illicit drugs
- 75% currently or recently (last 12 months) rough sleeping
- 48% had been homeless for more than 5 years
- 83% wanted assistance to improve their diets



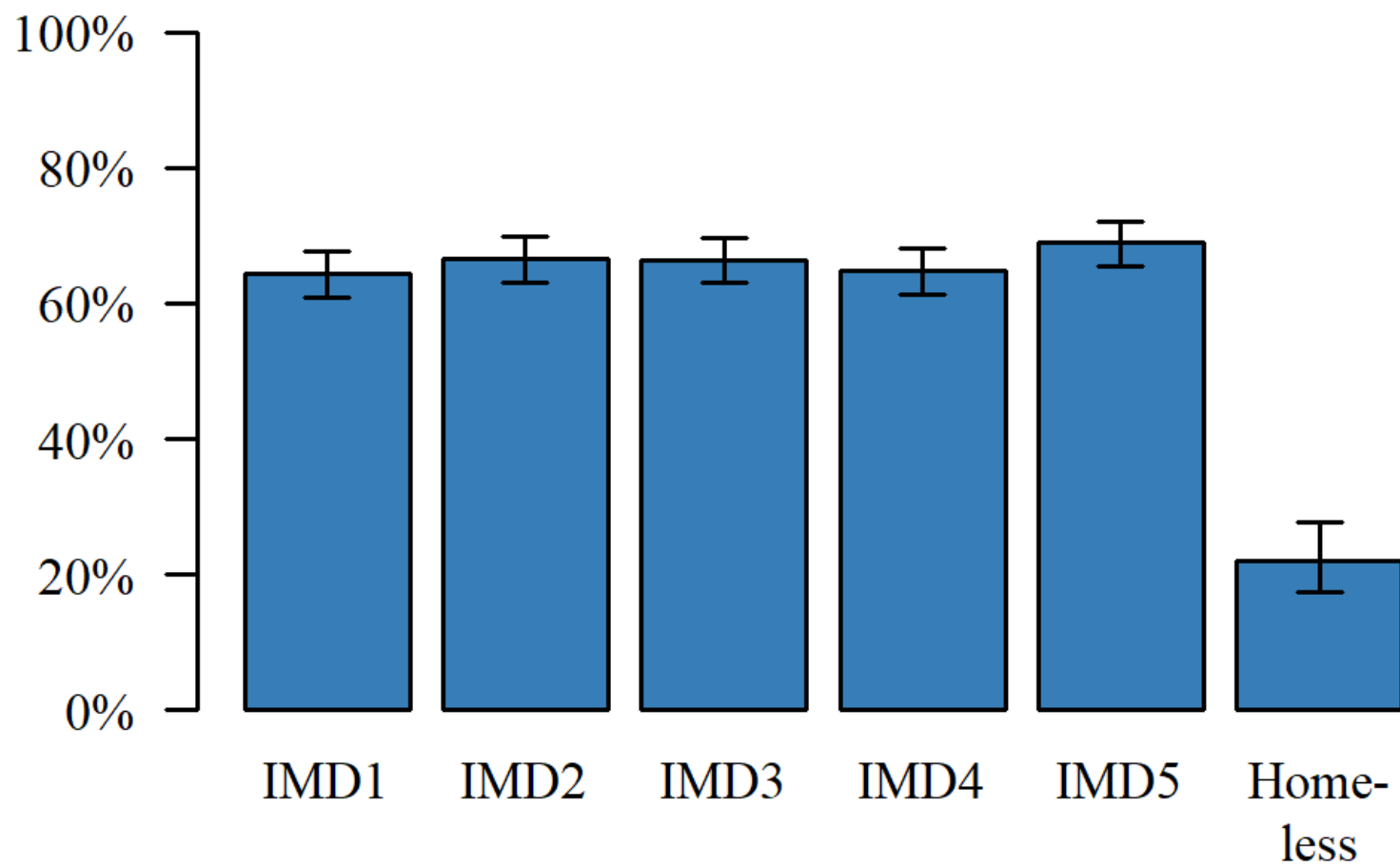
Mean BMI in the homeless group was 22.2 (SD 4.1), compared to 27.5 (SD 5.6) in the housed comparison group ( $p < 0.001$ )

# Malnutrition - Slopes & Cliffs

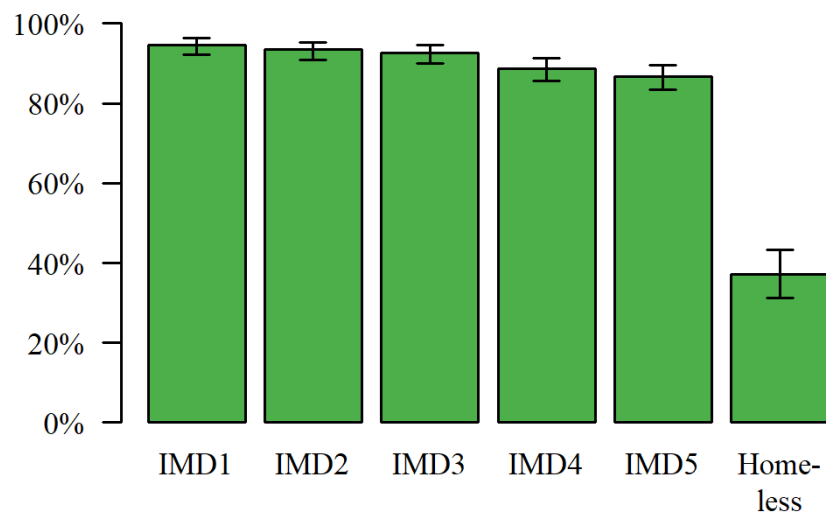
- 17.2% BMI <18.5 - 1.3% in the general population
  - risk ratio 13.7 (95% CI 9.6-19.6)
  - Did not account for acites etc.
- 1:4 at risk of malnutrition
  - Need intervention according to MUST



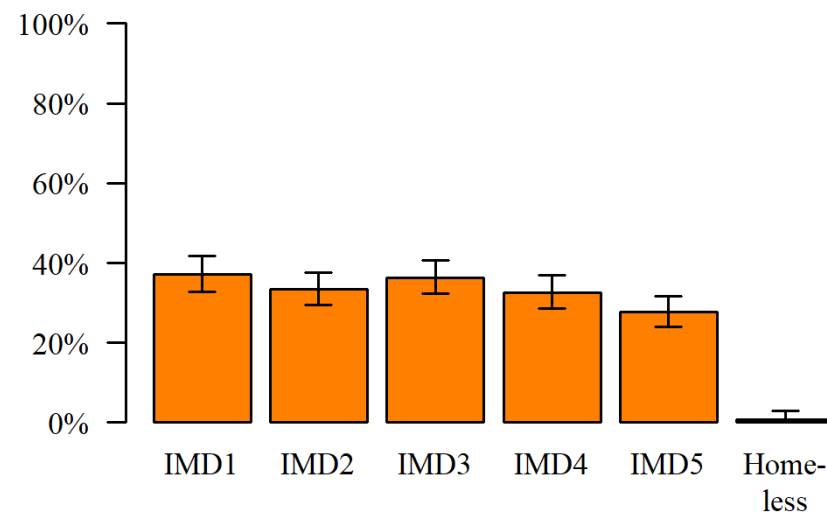
## Overweight



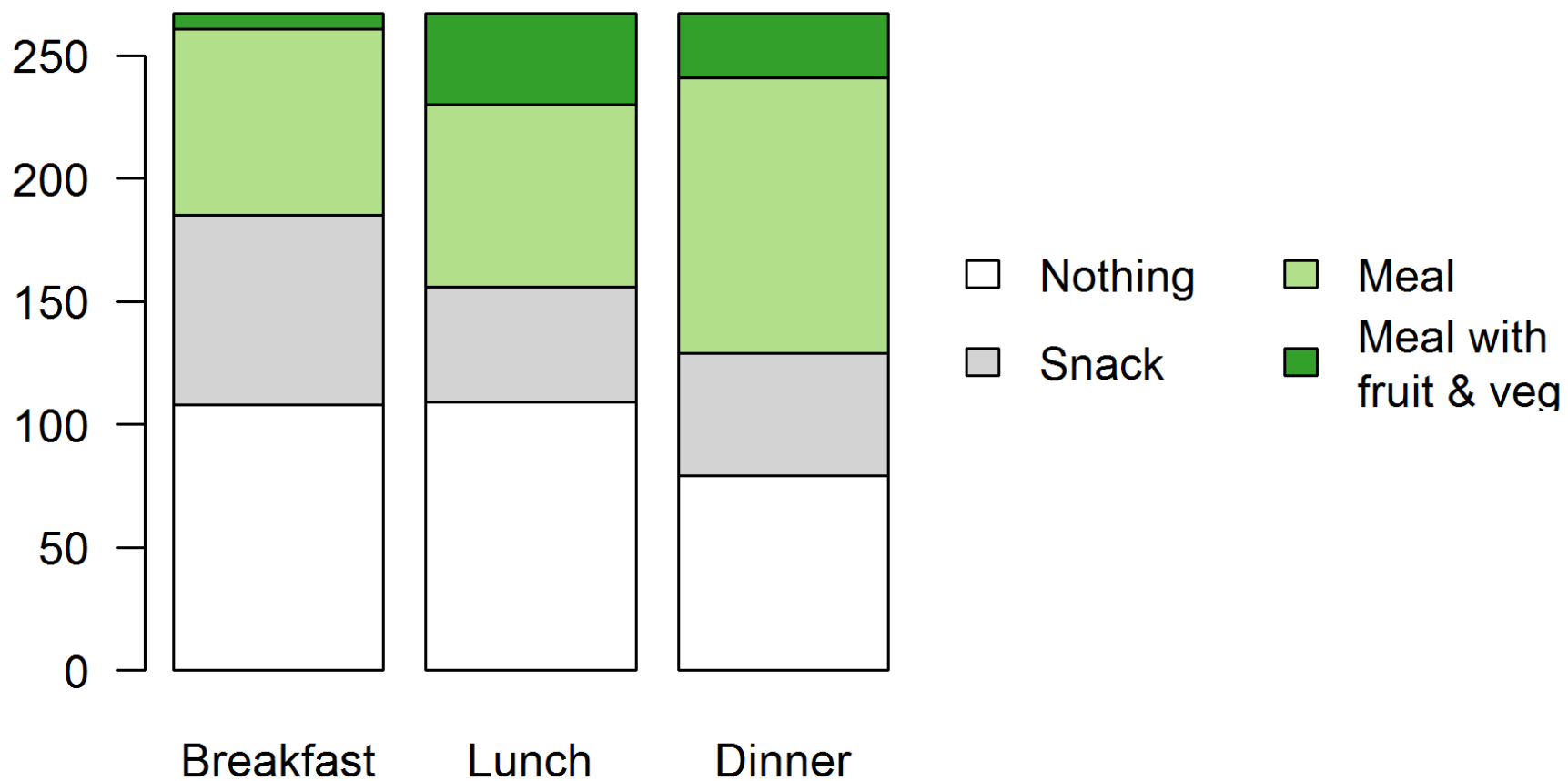
**1+ portions of  
fruit & veg**



**5+ portions of  
fruit & veg**







# Did you eat yesterday?

- Among participants who did not use drugs, 53% skipped a meal every day and 30% had no food for a whole day at least once per week
- The corresponding proportions for participants using drugs were 77% and 58%. The proportions were significantly higher for participants using drugs ( $p < 0.001$ )

# Conclusion

- Malnutrition very common and severe
- Malnutrition unmeasured = unrecognised
- Malnutrition likely to be a significant contributor to increased risk of morbidity and mortality

Diet is modifiable...  
...so risk is modifiable

- Access / Choice / Education
- Wrong foods provided
- Starvation – especially among drug users
  - Addiction
  - Harm min.
  - Refeeding syndrome / OD

# Interventions Access

*Stress of homelessness means you skip meals  
and food is the last thing on your mind.*

*You end up foraging in bins.*

Male Rough Sleeper (50s)

# Interventions - Choice

*Homeless people don't have an option.  
You go to a Day Centre and **eat what you're  
given to survive.***

Male Rough Sleeper (20s)

# Interventions Education

*We need advice on healthier ways of eating.  
Knowledge is power! Key workers should help us;  
point us in the right direction.*

*I have not a clue what I need to eat to have a  
healthy diet.*

Male Hostel resident (50s)

83% wanted help to improve their diet

# Interventions

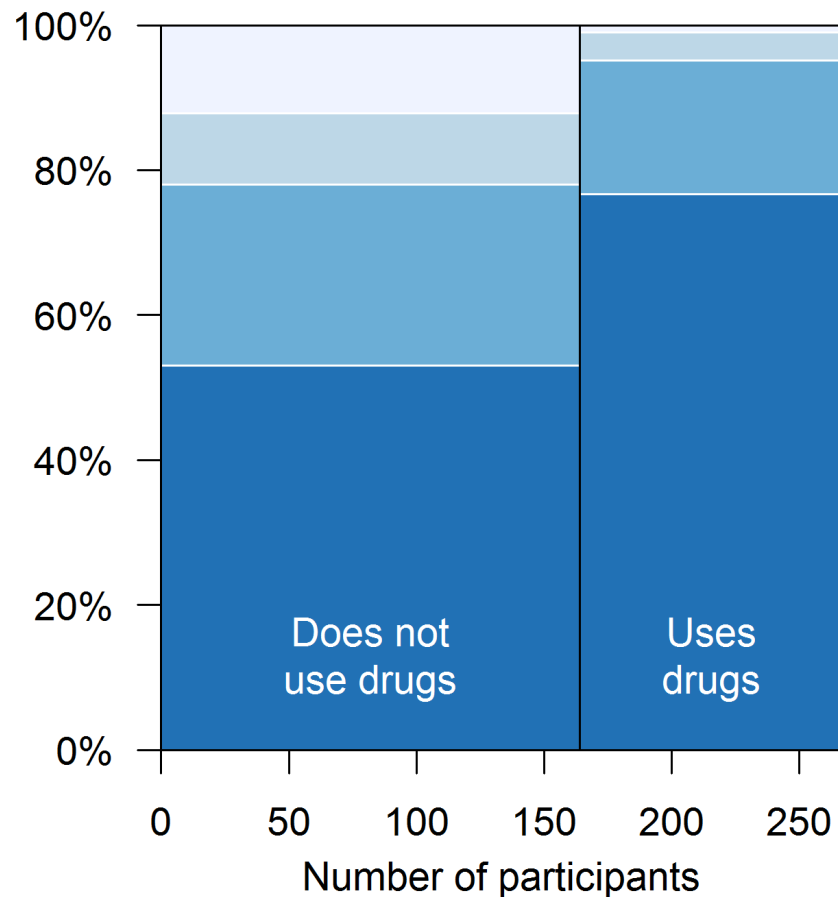
## Harm min.

*I'm underweight, I'm on spice. I don't eat for  
two days...just take drugs.*

Male Hostel Resident (50s)

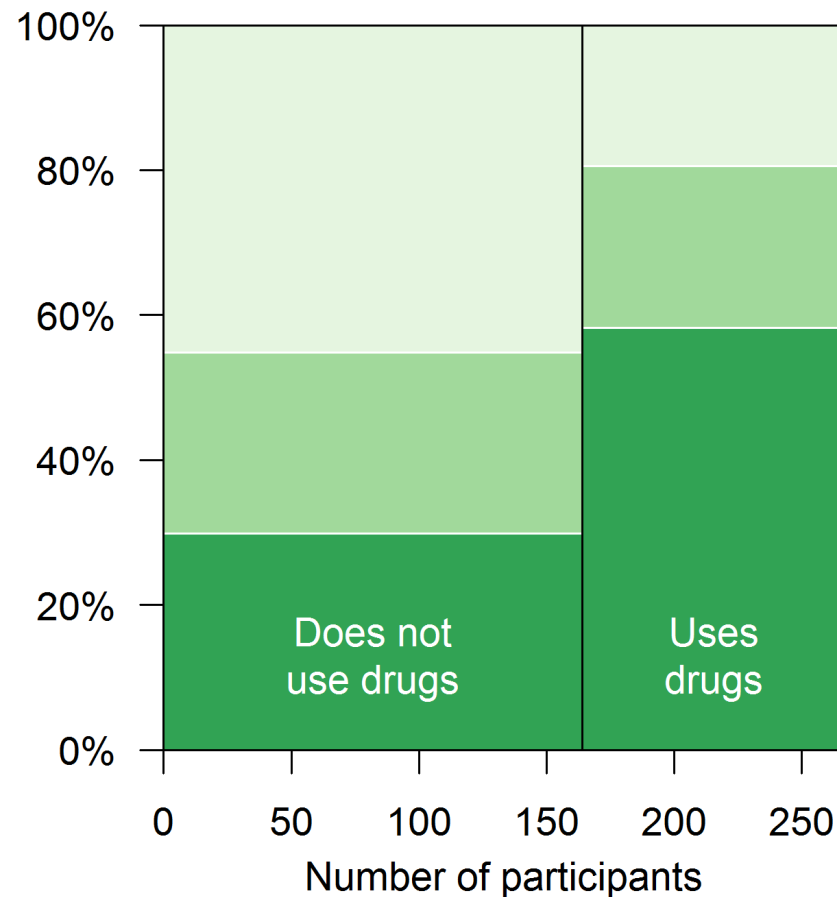


**How often do you skip a meal?**



■ Every day   ■ <Weekly  
■ >Weekly   ■ Never

**How often do you not eat for a whole day?**



■ >Weekly   ■ Never  
■ <Weekly

# Starvation

- 6:10 homeless people using drugs went one or more whole days without eating anything every week
- Proportion almost same in hostel residents and rough sleepers

# Food affects mood...

...and risk of substance use?

- **Carbohydrates** – unstable blood sugar, disrupted neurotransmitters - low serotonin levels
  - anxiety, cravings, sleep problems, irritability, fatigue, poor attention, depression
- **Amino acids** – Low dopamine levels
  - aggression, cravings [1]
- **Fat** - limited dietary fat = proinflammatory cytokines
  - depressive symptoms [2]

[1] Sathyanarayana Rao TS, Asha MR, Ramesh BN, Jagannatha Rao KS. Understanding nutrition, depression, and mental illnesses. *Indian J Psychiatry*. 2008;50(2):77-82.

[2] Harrison NA, Brydon L, Walker C, Gray MA, Steptoe A, Critchley HD. Inflammation causes mood changes through alterations in subgenual cingulate activity and mesolimbic connectivity. *Biol Psychiatry*. 2009;66(5):407-414.

# Multiple days without food + BMI <18.5 = risk refeeding syndrome?

- Serious metabolic disturbances on restarting food
  - Hypophosphataemia, Hypokalaemia, Hypomagnesaemia, hypoglycaemia, sodium and fluid retention and thiamine deficiency
- Clinical signs include acute cardiac failure, delirium, arrhythmias, seizures and sudden death

Multiple days without food + BMI <18.5  
= increased risk of overdose?

- Contribution of starvation and chronic malnutrition to risk of overdose and premature death in drug users is unknown

# Infection

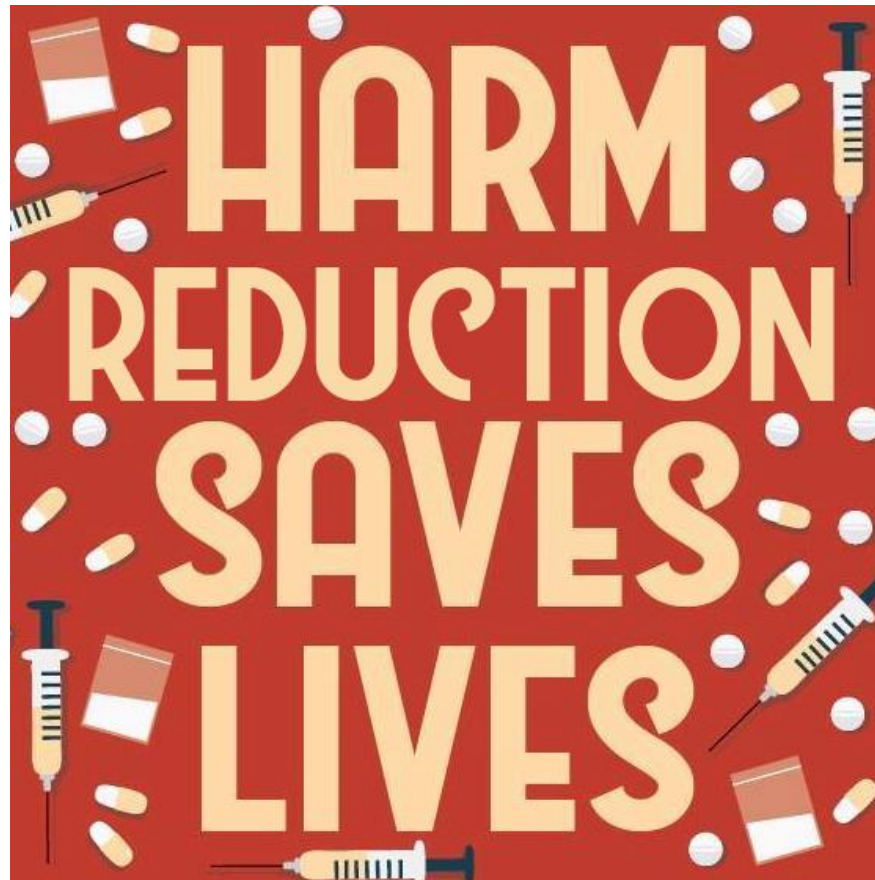
- Malnutrition is the most prevalent cause of immunodeficiency worldwide

Scrimshaw NS, Taylor CE, Gordon JE. Interactions of nutrition and infection. Monogr Ser World Health Organ. 1968;57:3-329.



Malnutrition =  
Delayed wound  
healing

Wild T, Rahbarnia A, Kellner M, Sobotka L, Eberlein T.  
Basics in nutrition and wound healing. Nutrition. 2010  
Sep;26(9):862-6. doi: 10.1016/j.nut.2010.05.008.





# Surgery

**No  
Benzos**

**No  
Ensures**





East Lancashire Health Economy  
Medicines Management Board

[www.elmmb.nhs.uk](http://www.elmmb.nhs.uk) 

## **Nutritional Supplements in Substance Misusers: GP Guidelines**

GPs **should not** prescribe oral nutritional supplements in substance misuse.

Substance misuse is not an ACBS indication for prescribing nutritional supplements.



**Scottish Oral Nutritional Supplements Short  
Life Working Group (ONS SLWG)**

**Guidelines for appropriate prescribing of Oral  
Nutritional Supplements in adults (oral use)**

**April 2018**

## Key Recommendations

1. The first line treatment approach should be Food 1<sup>ST</sup> - maximising nutritional intake through food and drinks. Where possible people should be encouraged to self-manage their nutritional care.
2. People should be referred to a dietitian before they are prescribed ONS.
3. ONS should only be prescribed in the presence of specific indications as defined by ACBS (Advisory Committee on Borderline Substances).<sup>8</sup>
4. Where disease related malnutrition is suspected, it is essential to use a validated screening tool such as the Malnutrition Universal Screening Tool<sup>6</sup> (MUST) to confirm this: ONS should not be used as a first line treatment for people with a MUST score of less than 2.



# ACBS Indications for Prescribing Oral Nutritional Supplements (ONS)

## Substance Misuse

**Substance misuse (drug and alcohol misuse) is not a specified ACBS indication for ONS prescription.**

**ONS should not be routinely prescribed to substance misusers unless ALL of the following criteria are met:**

- ✓ BMI less than 18.5kg/m<sup>2</sup>
- ✓ There is evidence of significant weight loss (greater than 10%)
- ✓ They meet the ACBS criteria above
- ✓ Dietary advice has been offered and followed for 4 weeks
- ✓ The patient is in a rehabilitation programme, *e.g.* methadone or alcohol programme or is on the waiting list to enter a programme

# Action

- Evidence ➔ Advocacy ➔ Action
- Guidance ➔ Education ➔ Awareness
  - Right food – Right time – Right place
  - Oral nutrition supplements (ONS)
  - Measurement and Monitoring

Please get in touch

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[al.story@nhs.net](mailto:al.story@nhs.net)



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# Thank you

