



Future Health of the Region's Population & its Natural Environment

Biodiversity and human well-being – Food GRP

Food GRP



- Our focus is the ‘food system’
- *‘We believe people deserve to eat regularly, sustainably, fairly and well. They should be served by a food system that can continually meet the challenges we face’*
- Currently our themes are:
 - Food Security
 - Healthy Food
 - Food Cultures

Biodiversity and human well-being



Our wellbeing is greatly influenced by our diet and our surroundings and both are ultimately dependent on the natural world and the diversity within it.

In this session we will explore how:

1. The University of Warwick is working with partners and funders to protect the natural environment on our campuses and more widely within the region (Katherine Mayfield)
2. Our research is focusing on biodiversity to produce and cultivate the components of a healthy diet in a sustainable way (Eric Holub)
3. We are using behavioural and social science approaches to encourage people to consume a healthy and sustainable diet and how diets changed during the lockdown (Thijs van Rens)

Biodiversity on our campuses

Katherine Mayfield

Sustainability Champion, University of Warwick

Campus

- Two campuses:
 - Coventry (290 hectares)
 - Wellesbourne (215 hectares)
- Habitats include:
 - Woodlands, mature trees and hedgerows
 - Lakes, ponds and brooks
 - Meadows and wildflower areas
 - Open farmland



Photo credit: Paul Thompson, member of the Grounds Team

Benefits of greenspace Campus

- Multiple benefits of the environment

- Biodiversity
- Health and wellbeing
- Carbon sequestration

- MSc Wellbeing project

- Developed a methodology to annual assess individual green spaces on campus for their potential to provide wellbeing benefits
- Bodies of water, diverse vegetation and good amenities have greatest chance of positively influencing wellbeing
- Opportunities for improvement – provide seating, enhance diversity and offer engagement



Strategy

- Campus Masterplan (2030 and beyond)
 - Delivery will result in *biodiversity being better than before*
 - Landscape and Biodiversity Strategy
- Sustainability Strategy
 - Achieve biodiversity net gain
- Ecology and Biodiversity Plan
 - Framework and methodology for protecting, creating and enhancing habitats and species
 - 10% net gain on all future development projects on campus



Habitat creation and enhancement



Fruiting and flowering trees



Swales and rain gardens



Living walls



Green roofs



Arable field margins



Biodiverse planting



Hedgerow and woodland planting



Wildflower meadow including some with solar panel arrays



Ponds



2030 plan

KEY

EXISTING FEATURES TO PROTECT, MAINTAIN AND MONITOR

- Broadleaf woodland/trees
- Semi-improved grassland
- Lakes and ponds with existing wildlife value
- Watercourse / stream
- Ponds with Great Crested Newt records
- Existing hedgerow

ENHANCE BIODIVERSITY VALUE OF EXISTING FEATURES

- Semi-improved grassland / wildflower meadows
- Natural waterside improvements and management
- Buildings - Retrofit where appropriate, green / blue roofs / green walls / bat & bird boxes
- Enhance amenity grass with native wildflower plug plants and / or spring bulbs
- Manage / diversify grass verges and field margins
- Existing street trees - potential for adding nest boxes
- Existing mature / parkland trees - potential for adding nest boxes

CREATE ADDITIONAL BIODIVERSITY VALUE

- Proposed broadleaf woodland plantation
- Buildings - Priority buildings to design in green / blue roofs / green walls / bat & bird boxes
- Proposed wildlife ponds
- Proposed biodiverse swales and raingardens
- Proposed biodiverse / nectar-rich ornamental planting, including native species
- Proposed areas to including bio-diverse edibles ie grow boxes / herb beds / physic gardens
- Proposed native hedgerow
- Proposed parkland trees
- Proposed street trees to strengthen wildlife corridors
- Proposed fruiting / floral trees

OTHER LANDSCAPE AREAS

- Arable / Improved grassland
- Improved Grassland / Grass sports pitches
- Artificial / hard sports surface
- Amenity grassland
- PV panels within wildflower meadow
- Future Development Area

Eco Park

- Three zones
 - Ecology
 - Discovery
 - Energy
- Opportunities for study
- Community involvement (schools and groups)



Recent biodiversity projects

- Hedge-laying – Cryfield residences
- Coppicing – cricket mound
- Bug hotels – Westwood and Physics
- Swallow boxes – Pavilion
- Reduced mowing – residences
- Fruit trees – Gibbet Hill
- Gabions on lakes



Future biodiversity projects

- Tree planting
- Hedgerow planting
- Wildflower meadows
- Hedgehog houses



Engagement in green space

- Nature walks
- Species surveys
- Hedgehog Friendly Campus
- Events
- Allotment Society



Working with partners (WWT)

- EcoPark
- Wilder Communities project
 - Potential funding for wildflower meadow creation on main and Wellesbourne campus
- Promote opportunities for engagement to staff and students
 - Wilder Future for Warwickshire launch event on campus
 - Local volunteering opportunities



Warwickshire

Working with partners (AFWN)

- Network of farmers and landowners (37 farms)
- Share best practice on improving land for wildlife
- Tree sparrow project at Wellesbourne
 - Feed birds
 - Nest boxes
 - Winter seed mix
- Owl nesting boxes
- 360m of hedgerow planted



Healthy Food

Professor Eric Holub, Life Sciences
Professor Thijs van Rens, Economics

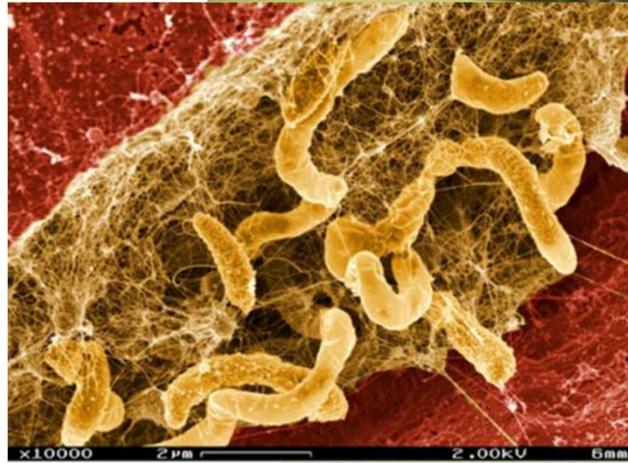
Biodiversity & Food

Eric Holub



Biodiversity & Food

Eric Holub



Warwick Crop Centre

Warwick Innovation Campus nr Wellesbourne

- 1949 Farm and facilities established as the National Vegetable Research Station (NVRS)
- 1980 UK Vegetable Gene Bank established with donations from an OXFAM special appeal
- 1990 Horticulture Research International (HRI) merger of AFRC & ADAS horticulture R&D sites
- 2004 Warwick-HRI (HRI joined the university)
- 2010 School of Life Sciences - merger of Warwick HRI and Dept of Biology



Biodiversity within species (using genetic diversity)

- UK Vegetable Genebank
(brassicas, lettuce, carrot, onion)
- Vegetable Genetic Improvement Network
(VeGIN)
- Other research material
(*e.g.*, common bean heirloom collection)



Natural Light Growing Centre

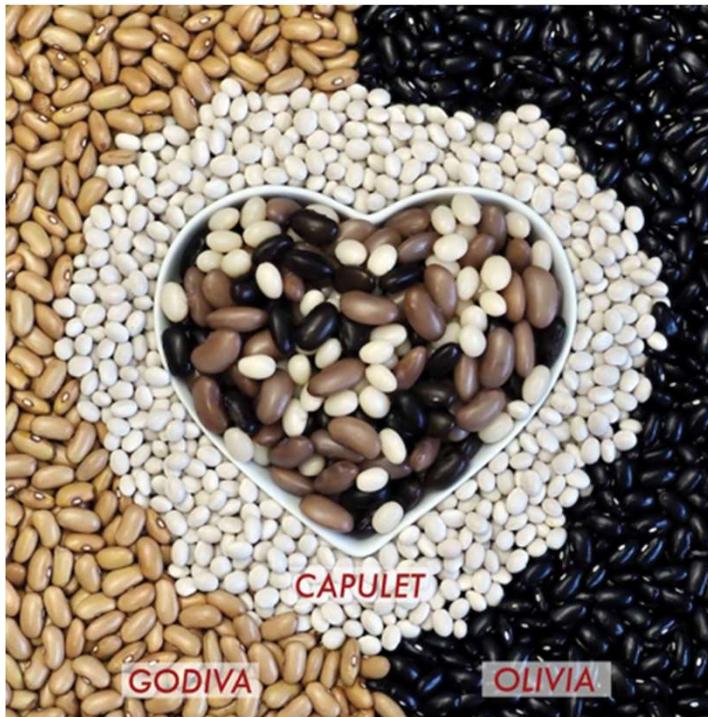
- RIPE Ltd
- CHAP Agri-Tech Centre
- University of Warwick



RIPEHouse (Defra- FIP project)



Biodiversity & Food



The story is unfolding at
www.2BHealthyGB.com

UKRI Biotechnology and Biological Sciences Research Council

defra

Agrii

FEEDING COVENTRY
for a food resilient CVU

Tablet from Coventry Tablets

MASHIONISTAS

Mudwalls

Elsoms
RIPE
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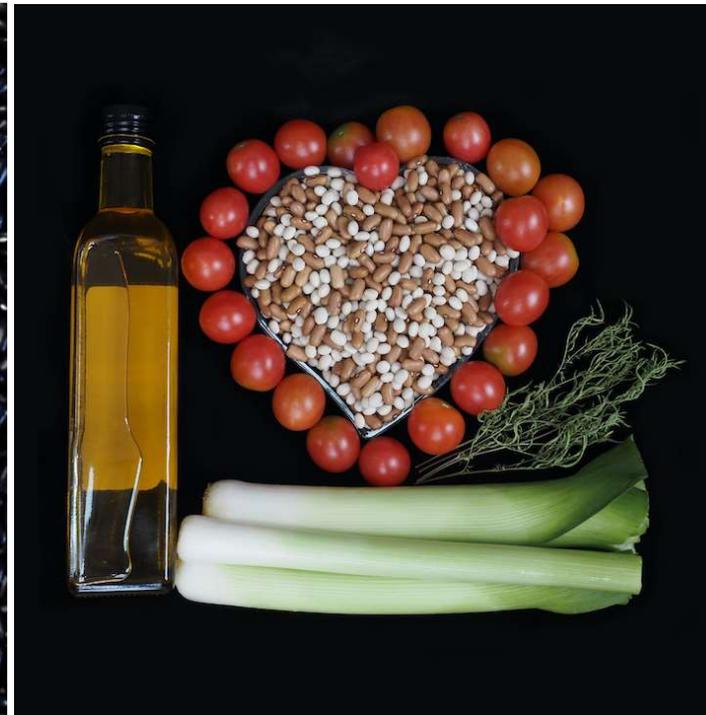
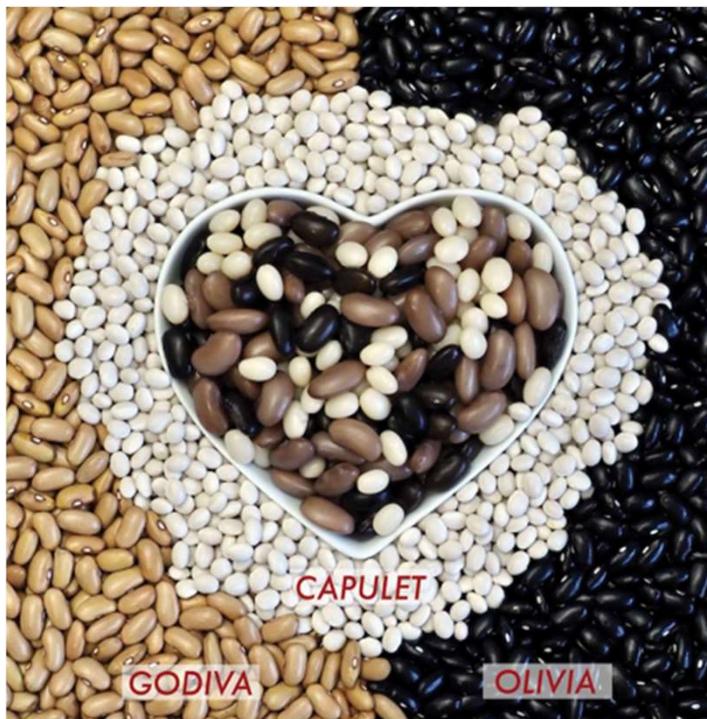
CHAP

WARWICK

warwick.ac.uk/foodGRP

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Biodiversity & Food Culture



Consumer demand for healthy sustainable diets

Thijs van Rens

Food GRP – Healthy Food theme: Warwick Obesity Network

- Past: Who we are (What we did in the past)
- Present: What we have done as a network
- Future: What we are trying to achieve

Warwick Obesity Network – Who we are

Social sciences:

- Economics
- Behavioural science
- Psychology



Life sciences:

- public health
nutrition
- clinical medicine
- crop science

Warwick Obesity Network – Who we are

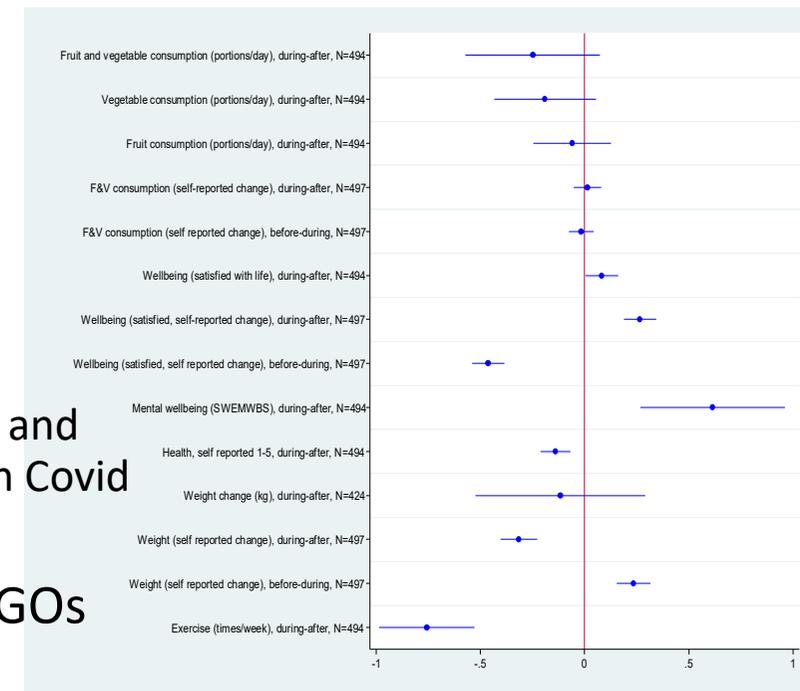
How important are food prices as determinants of a healthy diet? Ethnicity-specific BMI cutoffs
Did Healthy Start vouchers increase F&V intakes?
How (un)healthy are diets in sub-Saharan Africa?
Does fruit and vegetable consumption affect mental health?
Do workplace interventions promote health and wellbeing?
Can we nudge people into more physical activity with an app?
Should fruits and vegetables be subsidised?
Do choice architecture interventions improve diets?
Early predictors of diabetes in IVF pregnancies The weight loss potential of oral antidiabetic drugs

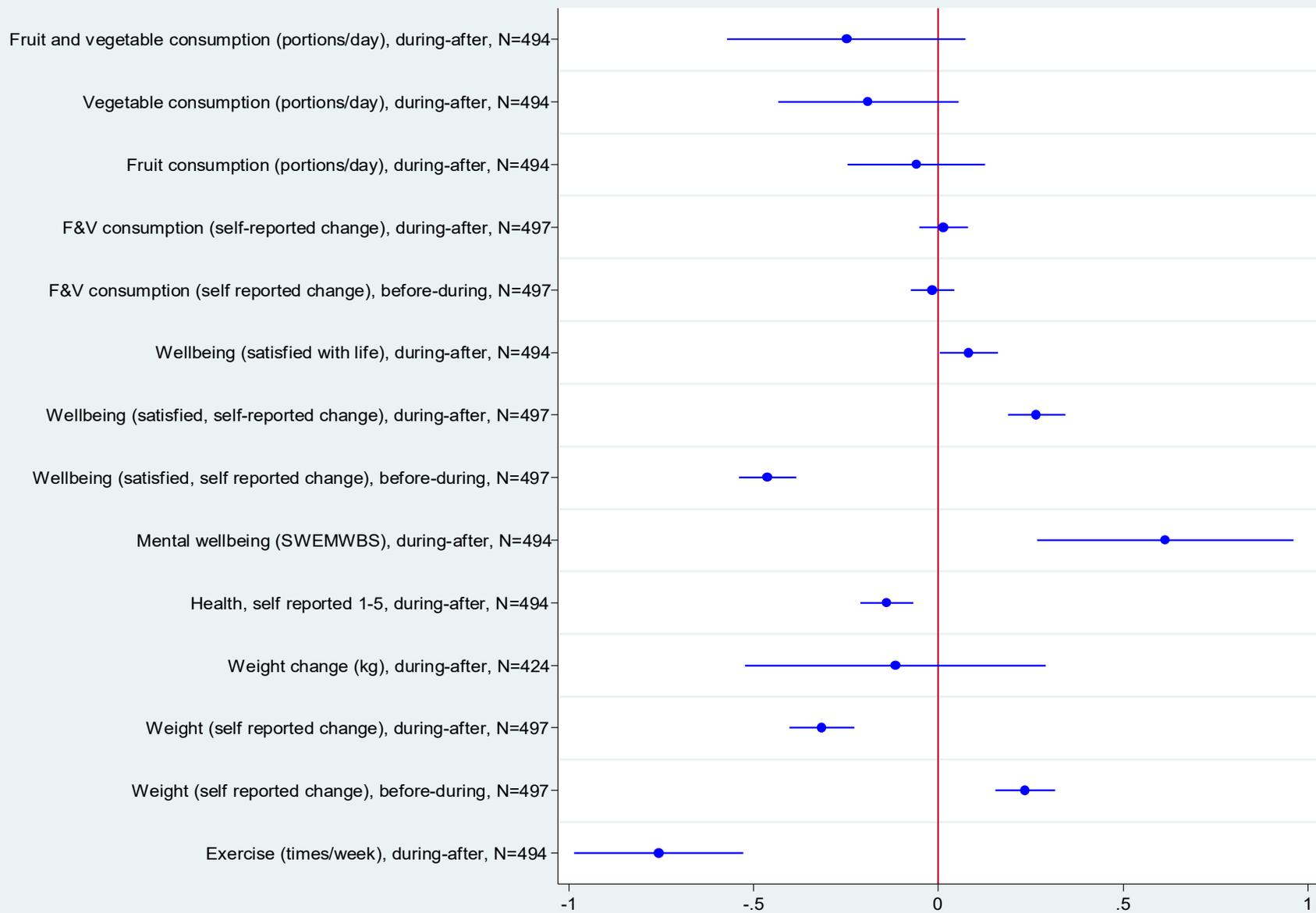


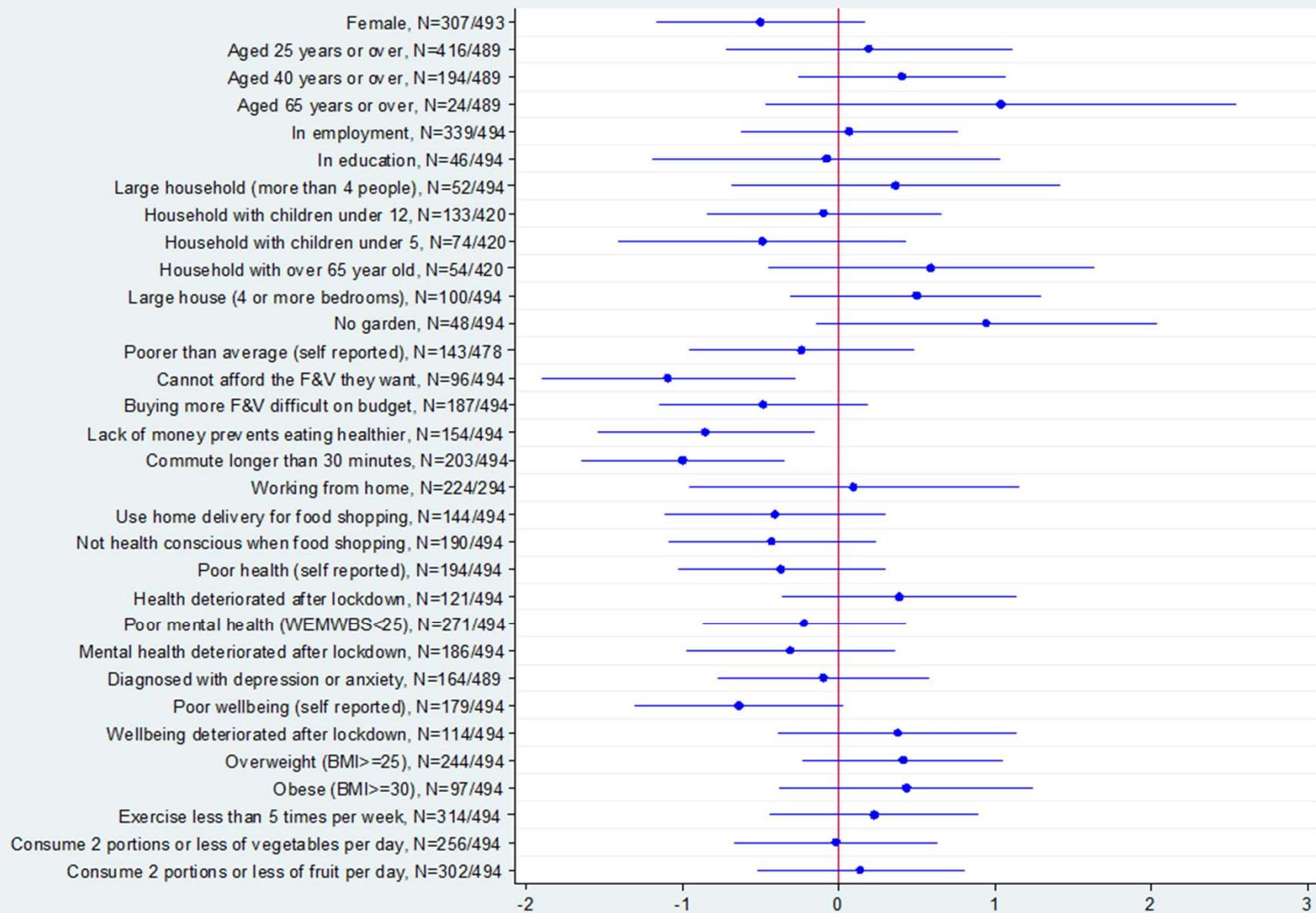
How can we promote consumer demand for diets that are good for health and environment?

Warwick Obesity Network – What we did

- Documented changes in F&V consumption and health during lockdown in the West Midlands (submitted to *BMJ Nutrition, Prevention and Health*)
- Generated impact of our research on national and local policy makers, and the general public.
 - Evidence reviews, policy briefs, newspaper articles, podcasts, written evidence submission
 - Topics: junk food advertising, Cristiano Ronaldo, microbiome and fibre, mindful eating, intermittent fasting, ethnic differences in Covid outcomes and obesity, ...
- Built strong partnerships with local governments and NGOs around improving access to affordable healthy food.







Warwick Obesity Network – Partners



Warwickshire Food Forum

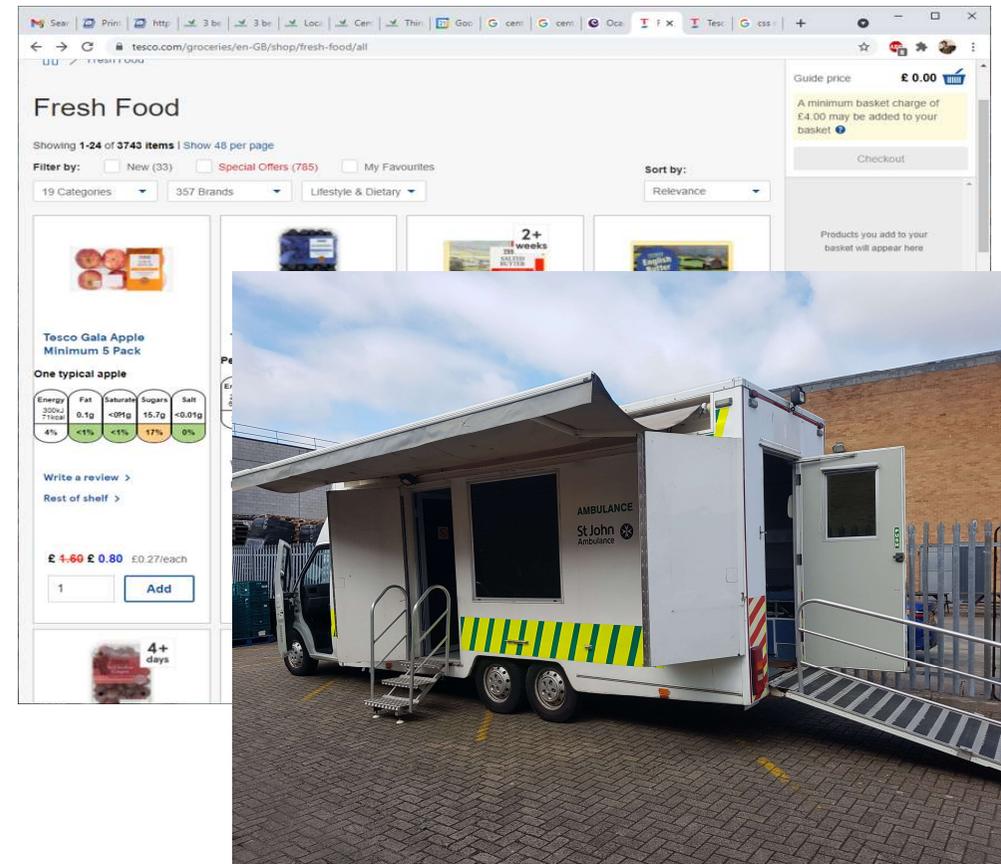


Mandala consortium (Birmingham + Food Foundation + Cambridge + Warwick + ...)



Future: Promoting demand for healthy diets

- Continue our impact activities
- Research online shopping behaviour
- Support an online healthy food market in Coventry (and the first social supermarket in the Warwickshire)
- Research using “field experiments”
- Funding requirements:
 - Develop browser plug in
 - Renovate mobile healthy food market
 - Operating costs MHFM
 - Research grant





Thank you for your
attention

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