

Nutritools.org: an interactive dietary assessment tool website for use in health research

Marisol Warthon-Medina¹, Jozef Hooson¹, Neil Hancock¹, Nisreen A. Alwan², Andy Ness³, Petra A. Wark^{4,5}, Barrie Margetts⁶, Sian Robinson⁷, Toni Steer⁸, Polly Page⁸, Paul Finglas⁹, Tim Key¹⁰, Mark Roe⁹, Birdem Amoutzopoulos⁸, Darren C. Greenwood¹¹, J. E. Cade¹, on behalf of the DIET@NET consortium

DIETary Assessment Tool Network (DIET@NET) Consortium.

¹Nutritional Epidemiology Group, School of Food Science and Nutrition, University of Leeds, Leeds LS2 9JT, UK; ²Academic Unit of Primary Care and Population Sciences, Faculty of Medicine, University of Southampton, Southampton General Hospital, Southampton SO16 6YD, UK; ³NIHR Bristol Biomedical Research Centre Theme, University of Bristol, Bristol BS8 1TH, UK; ⁴Centre for Technology Enabled Health Research (CTEHR), Faculty of Health and Life Sciences, Coventry University, Coventry, CV1 5FB, UK; ⁵Global eHealth Unit, Department of Primary Care and Public Health, Imperial College London, London, SW7 2AZ, UK; ⁶Faculty of Medicine, University of Southampton, Southampton SO17 1BJ, UK; ⁷MRC Lifecourse Epidemiology Unit, University of Southampton, Southampton; NIHR Southampton Biomedical Research Centre, University of Southampton and University Hospital Southampton NHS Foundation Trust, Southampton, SO17 1BJ, UK; ⁸MRC Elsie Widdowson Laboratory, Cambridge, CB1 9NL, UK; ⁹Quadram Institute Bioscience, Norwich, NR4 7UA, UK; ¹⁰Nuffield Department of Population Health, University of Oxford, Oxford OX3 7LF, UK; ¹¹Faculty of Medicine and Health, Division of Biostatistics, University of Leeds, Leeds LS2 9JT, UK.

1 INTRODUCTION

- Accurate assessment of dietary intake is challenging.
- No dietary assessment methods are totally free of error.
- Researchers need help to select suitable dietary assessment tools (DATs).

2 AIMS & OBJECTIVES

- To improve the quality of dietary data collected in epidemiological and clinical studies.
- To create an interactive website Nutritools with Best Practice Guidelines (BPG); details of validated DATs; and a Food Questionnaire Creator (FQC).

3 METHODS

- Development of the Nutritools website¹ was divided into 3 strands:

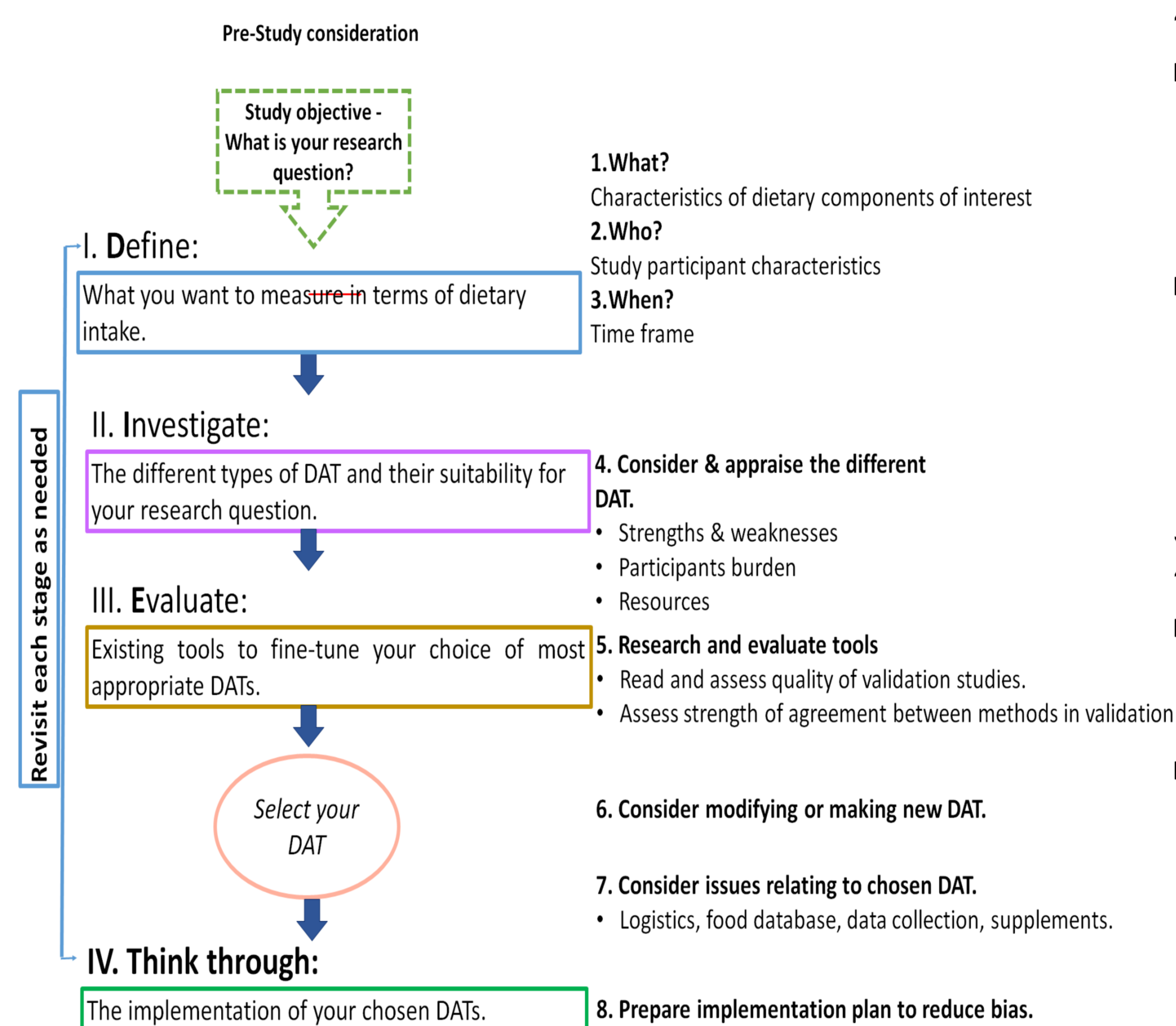
- 1) Best Practice Guidelines² (BPG)** to help choose the most appropriate DATs, generated using a Delphi method to integrate expert views.
- 2) Interactive DAT e-library**, with validated DATs identified through a review of systematic reviews.
- 3) Online interface**, between food tables and DATs.

4 RESULTS

➤ Best Practice Guidelines (BPG):

- 57 international experts contributed to the guidelines.
- 43 guidelines, DAT strengths and weaknesses; online interactive format (figure).

Figure: Best Practice Guidelines (BPG)



➤ Tool Library:

- DAT e-library includes 63 UK and 65 other country dietary assessment tools validation study details.
- Visual presentation using bubble and summary plots (see below), allows easy comparison between the DATs.
- **Food Questionnaire Creator (FQC):**
 - New online food questionnaires can be created or use existing valid DATs.
 - You can create a food database from scratch with your own food items and nutrients, or extend an existing one.

5 CONCLUSIONS

- The Nutritools website, www.nutritools.org, provides guidance for measuring food & nutrient intakes. **Nutritools Launch event 27th April at University of Leeds:** <https://www.eventbrite.co.uk/e/nutritools-launch-event-tickets-43340047248>
- The BPG assists the selection of the most appropriate DAT.
- The Nutritools website, hosts validated, interactive DATs.
- Validated DATs can be accessed through the DAT e-library, and create new tools using the FQC.

6 REFERENCES

- Warthon-Medina, M., Hooson, J., Hancock, N., Alwan, N.A., Ness, A., Wark, P.A., Margetts, B., Robinson, S., Steer, T., Page, P., Finglas, P., Key, T., Roe, M., Amoutzopoulos, B., Greenwood, D.C. and Cade, J.E. Development of Nutritools, an interactive dietary assessment tools website, for use in health research. *The Lancet*. 390, Ps94
- Cade, J.E., Warthon-Medina, M., Albar, S., Alwan, N.A., Ness, A., Roe, M., Wark, P.A., Greathead, K., Burley, V.J., Finglas, P., Johnson, L., Page, P., Roberts, K., Steer, T., Hooson, J., Greenwood, D.C. and Robinson, S. 2017. DIET@NET: Best Practice Guidelines for dietary assessment in health research. *BMC Medicine*. 15(1), p202