







Please cite the Published Version

Nichol, B , Kemp, E , Wilson, R , Rodrigues, AM , Hesselgreaves, H , Robson, C and Houghton, C  (2024) Establishing an updated consensus on the conceptual and operational definitions of Making Every Contact Count (MECC) across experts within research and practice: an international Delphi Study. Public Health, 230. pp. 29-37. ISSN 0033-3506

DOI: <https://doi.org/10.1016/j.puhe.2024.01.023>

Publisher: Elsevier BV

Version: Published Version

Downloaded from: <https://e-space.mmu.ac.uk/637280/>

Usage rights:  [Creative Commons: Attribution 4.0](https://creativecommons.org/licenses/by/4.0/)

Additional Information: This is an open access article which first appeared in Public Health, published by Elsevier

Enquiries:

If you have questions about this document, contact openresearch@mmu.ac.uk. Please include the URL of the record in e-space. If you believe that your, or a third party's rights have been compromised through this document please see our Take Down policy (available from <https://www.mmu.ac.uk/library/using-the-library/policies-and-guidelines>)



Original Research

Establishing an updated consensus on the conceptual and operational definitions of Making Every Contact Count (MECC) across experts within research and practice: an international Delphi Study?

B. Nichol^{a,*}, E. Kemp^b, R. Wilson^c, A.M. Rodrigues^b, H. Hesselgreaves^c, C. Robson^d, C. Haighton^a

^a Department of Social Work, Education, and Community Wellbeing, Northumbria University, Newcastle upon Tyne, United Kingdom

^b Department of Psychology, Northumbria University, Newcastle upon Tyne, United Kingdom

^c Newcastle Business School, Northumbria University, Newcastle upon Tyne, United Kingdom

^d Northumbria Healthcare NHS Foundation Trust, Newcastle upon Tyne, United Kingdom

ARTICLE INFO

Article history:

Received 1 November 2023

Received in revised form

18 January 2024

Accepted 23 January 2024

Keywords:

Making Every Contact Count

Prevention

Delphi

Health promotion

ABSTRACT

Objectives: The Making Every Contact Count (MECC) initiative is broadly defined as an opportunistic approach to prevention by making use of the thousands of conversations service providers have with service users every day. However, since its conception, the application of MECC has diverged and developed considerably. Thus, the current study aimed to revise the definition according to current research and practice to better describe what is and is not included.

Study design: A consensus building classic Delphi methodology, completed by an expert panel.

Methods: Round 1 asked open questions around the definition of MECC. Content analysis of round 1 identified statements that were rated for agreement in round 2. Statements achieving $\geq 80\%$ agreement were included in a short, long, or operational definition of MECC that were rated for agreement in round 3 (the minimum number required). An agreement of $\geq 80\%$ indicated consensus.

Results: Forty out of 100 contacted experts completed three rounds. Experts in practice and research were recruited internationally although most were from England. From round 1, 274 statements were generated, of which 96 achieved consensus and were included within round 3. The short and long definition received consensus in round 3, the operational definition required four rounds to reach consensus.

Conclusions: MECC is a person-centred approach to health behaviour change that, provided an individual possesses the relevant skills, can be delivered by anyone and anywhere. The distinguishing feature of MECC is not in its duration, target behaviour, or conditions for delivery, but rather in the approach taken and the mechanisms applied to conversations. Implications for research and practice are discussed, and the limits for applicability acknowledged.

© 2024 The Author(s). Published by Elsevier Ltd on behalf of The Royal Society for Public Health. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

Introduction

Making Every Contact Count (MECC) is an initiative to help tackle the rise of non-communicable diseases¹ driven by health behaviours such as smoking and alcohol consumption,² alongside ever decreasing contact time with service users.³ It is broadly defined as an opportunistic approach to prevention by making use of the thousands of conversations service providers have with service users each day.⁴ MECC was initially implemented locally in

Yorkshire and the Humber⁵ before being endorsed nationally by Public Health England in 2016, with healthcare professionals required to undertake MECC training as part of their professional development.⁴ The proposed definition of MECC was agreed upon by numerous organisations supporting public health in England to align with existing agendas to tackle obesity, smoking, and alcohol consumption,⁶ and existing NICE guidelines recommending brief interventions.⁷ In accordance with targets for prevention,⁸ MECC was broadly suggested to holistically target health behaviours, with 'MECC plus' proposed as a broader term to incorporate the wider determinants of health and well-being such as finance and housing.⁴

Evidence for effectiveness of MECC is limited, reflecting a wider difficulty in quantifying the impact of preventative public health

* Corresponding author. Tel.: +44 7792247810.

E-mail address: bethany.nichol@northumbria.ac.uk (B. Nichol).

interventions due to difficulty in defining and prioritising objectives and subsequent health outcomes and measures of 'success', and isolating any effects from the influence of other population level factors.⁹ However, there is some evidence that MECC can improve dietary quality and decrease sedentary time in pregnant women,¹⁰ and increase physical activity within new mothers¹¹ although differences were non-significant overall and neither alcohol nor smoking have been investigated in the context of MECC. Despite a lack of evidence to indicate concrete behaviour change in the general population, service users were significantly more likely to report that service providers helped them change a lifestyle habit¹² and were better able to identify where they could make changes and set goals accordingly¹³ if trained in an approach to facilitate MECC conversations. Since the publication of the consensus statement,⁴ MECC has been widely implemented across the UK and beyond, including Ireland,^{14,15} Australia,¹⁶ and Canada.¹² Furthermore, existing research has found MECC to be generally acceptable by the healthcare workforce^{17–19} and MECC training has been demonstrated to significantly increase the confidence^{16,20–23} and competence^{16,18,19,24} of frontline staff to initiate and deliver health conversations.

However, since its conception, there has been an increasing diversification of the use of the term MECC. For example, MECC has been implemented within public²⁵ and third sectors,²⁶ topics have been added¹⁴ or specified¹⁰ such as weight management,²⁷ behaviour change has been approached holistically,^{28,29} and the MECC approach has been applied to group activities and resources as well as one to one conversations.²⁶ Additionally, the original definition of MECC does not specify the behaviour change techniques utilised within the brief health conversation, providing little guidance or consistency in how it is applied. Subsequently, MECC training varies widely and is often developed on a regional level such as healthy conversation skills, which focuses on key skills to facilitate motivation and self-efficacy including asking open discovery questions, active listening, and setting SMART goals.³⁰ Although the elasticity of MECC as a concept may have been key to its success, the lack of consensus of the mechanisms of MECC means there is no solid foundation to justify its effectiveness or guidance for measuring fidelity of MECC delivery. NICE guidelines on public health interventions require that they focus on 'clearly circumscribed and defined actions' relating to health promotion or prevention.³¹ However, the variation in the use of the term MECC indicates that the current definition lacks clarity.

Therefore, there is a need for an updated consensus definition of MECC that both practitioners and researchers may jointly refer to, that reflects its development since 2016.⁴ The classic Delphi method is a technique to achieve consensus by asking experts to provide their opinion and revise and rate their agreement to the resulting statements in at least two rounds of anonymous questionnaires.³² Compared to other consensus group methods, the Delphi methodology can coordinate a large group of experts across a range of occupations and locations and retain their anonymity, vastly reducing any effects of power dynamics and social dynamics,³³ which is especially important given that key experts involved in MECC include both researchers and coordinators of public health and healthcare. However, the constructivist nature of the final definition is acknowledged, determined by experts' values, assumptions, and attitudes. Updating and specifying the current definition of MECC to clearly specify what it does and does not describe will facilitate consistent MECC messaging and buy-in, which will in turn promote MECC implementation. The resulting consensus definition for MECC will provide a 'common thread'³⁴ across research, practice, and implementation, ensuring all stakeholders are communicating the same concept when they use the term MECC. It is of particular importance to generate an

elaborated, clear, and specific definition of MECC, as the current definition reflects the poor specification of behaviour change interventions overall.³⁵ The aim of the current Delphi study was to develop a short, long, and operational consensus definition of MECC as appropriate, to optimise communication of MECC within education and practice (short definition) while also providing enough detail to ensure consistency and guidance for implementation and research (long and operational definitions).

Methods

The protocol for the current study was pre-registered prior to data collection via Open Science Framework (available: https://osf.io/s3wdq/?view_only=302aa337b6e248e0b3f580d8749324fe).

Reporting followed the Conducting and REporting DELphi Studies (CREDES) guidelines (Supplementary Material 1).³⁶

Study design

The current classic Delphi study adopted a mixed methods design, applying both qualitative open-ended and quantitative scale survey questions to achieve a consensus definition. An overview of the Delphi procedure is shown in Fig. 1.

Expert selection

Participants were identified as experts through either their experience and knowledge in MECC implementation and practice or research. For research, experts were defined as experienced researchers in MECC who either; held one or more first author papers, or two or more papers of any other position, on MECC or its derivatives such as healthy conversation skills. For implementation and practice, experts were defined as regional MECC leads or coordinators within NHS foundation trusts or equivalent in Ireland, HSE, or public health bodies. Practice experts could cover other programmes within their portfolio or work part-time. Additionally, experts were required to be over 18 and initially, the inclusion criteria stated that experts must reside in the UK or Ireland. However, during recruitment for round 1, it became apparent that MECC research and implementation was international, thus the scope was extended accordingly. The sampling strategy was purposive to reach experts according to the inclusion criteria, and all experts meeting the inclusion criteria were sought for participation where possible. Pyramid searching (whereby identified experts suggest further experts) was avoided as it increases the likelihood of a false sense of consensus due to participants being part of connected teams.³⁷ However, anyone suggested by identified experts who fitted the inclusion criteria was included. Although some authors participated as experts in the Delphi study (CH, RW, AMR, and CR), these authors were not involved in data collection or analysis.

Given that the average sample size for Delphi studies within health research is 40³⁸ with a range of 20–60,³⁴ the target sample size was 40³⁴ with no maximum sample size. The target aimed to comprise of half researchers ($n = 20$), and half involved in implementation, practice, and training ($n = 20$). Experts were contacted via email using publicly available sources such as University, NHS, and HSE web pages. Existing contacts from national and local MECC networks were utilised to disseminate the study to eligible experts in implementation and practice. To identify experts in research, all available existing MECC literature was gathered through a literature search and discussion with colleagues, and authors were compared against the inclusion criteria.

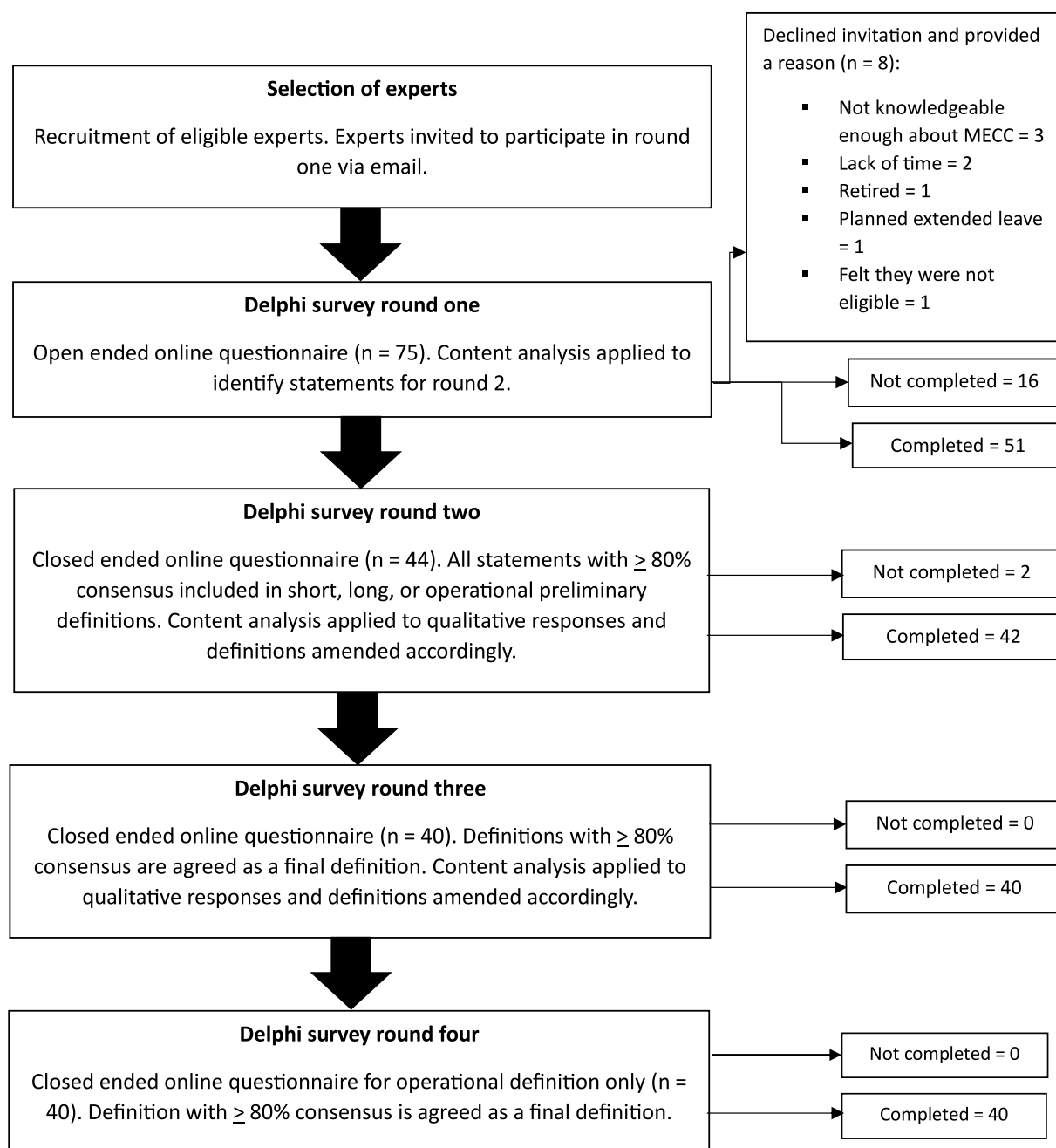


Fig. 1. Flow chart of the Delphi study process. Data were collected between April to August 2023. n = number of participants who started the survey.

Delphi study round 1

All rounds of the online survey were conducted via Qualtrics.³⁹ Since it is required that participants participate in both a consecutive number of rounds without missing one and that they are provided with their previous responses during round 2 onwards, responses were anonymous between participants but not to the researcher. Participants that did not complete the previous round were unable to participate in the following round. The number of rounds required could not be defined apriori; Delphi rounds ceased when the pre-defined consensus was reached.

On initial contact, participants were invited to participate through provision of the information sheet and round 1 survey link. To inform possible self-selection bias, participants were asked that

should they decline to participate, they may click the survey, select 'I do not accept the invitation to participate', and select their reasoning from a list of pre-specified options including 'other', with a free text box to specify their reason for declining. For participants willing to participate, after consenting, participants were asked to provide their name and email address for future rounds before answering some basic demographic questions; age, gender, type of expertise (research, implementation, or training), years of experience with MECC, country (England, Northern Ireland, Republic of Ireland, Scotland, or Wales), and region (for participants from UK and Ireland). Given that the reach was expanded to international only after round 1 was launched, data on the region of international participants was not collected, and they were advised to select 'other' and type their country in a free text box. Next, in line with

the classic Delphi approach, the first round consisted of a qualitative open-ended online survey that asked, ‘how would you define Making Every Contact Count?’ Participants were asked to consider the key elements that make up a conceptual definition of MECC, alongside a brief description of a conceptual definition. Participants were also asked ‘Can MECC be operationalised (defined in terms of how to measure it)? If not, why not?’ Participants were asked to consider any ways of operationalising the elements noted in their previous answer, with a brief description of an operational definition.

Delphi study round 2

The content of round 2 onwards was generated from responses by participants. From responses to round 1, a number of statements were built within each dimension of MECC (see ‘data analysis’ for further details). Within the email invitation for round 2, participants were provided with a general summary of the responses for round 1, alongside their own answer. Within the survey, participants were asked to rate their agreement with each statement on a five-point scale ranging from ‘strongly disagree’ to ‘strongly agree’. After each group of statements, participants were provided with a free text box to add any further comments. After round 2, statements rated at a consensus of $\geq 80\%$ were included to form a short and long conceptual definition of MECC and operational definition. An operational definition was built if $\geq 80\%$ participants agreed that MECC could be operationalised and followed the same inclusion criteria as for building the conceptual definitions. Definitions were amended based on common qualitative comments (a frequency of ≥ 5) while retaining coherence within the consensus statements.

Delphi study round 3 and 4

Round 3 (and onwards until a consensus was reached) asked participants to rate their agreement with the definitions. Within the invitation email for round 3, participants were provided with the percentage agreement for each statement alongside their own response and a short summary of responses. Consensus was achieved for a short and long definition at round 3. The operational definition was amended in accordance with qualitative comments and sent for a fourth round.

Consensus and endorsement

The stopping criteria were a consensus of $\geq 80\%$ of participants that responded either ‘agree’ or ‘strongly agree’ to at least a short and long definition of MECC. The same stringent definition of consensus was shown to be feasible to achieve in the minimum number of three rounds for a similar topic.³⁴ In accordance with CREDES guidelines,³⁶ endorsement of the resulting definitions from public health bodies was sought.

Data analysis

Results of round 1 and qualitative responses to subsequent rounds were analysed using content analysis, conducted via Nvivo.⁴⁰ Content analysis was intentionally selected as the most appropriate approach in contrast to asking participants to generate their own statements, to reduce required responding time in round 1 and, to a greater extent, round 2. As a frequent limitation of Delphi studies is the high drop-out rate between rounds which possibly induces an artificial appearance of a consensus,⁴¹ it was considered of utmost importance to retain participants, and thus the small risk of misinterpreting participants or moving away from their original meaning was accepted. To ensure reliability and

minimise subjective interpretation, two coders (BN and EK) independently conducted content analysis of round 1 in duplicate, with any discrepancies resolved through discussion. As content analysis was applied inductively rather than using a coding scheme defined apriori,⁴² it was not possible to calculate inter-rater reliability including a kappa statistic. To facilitate open data sharing, on receiving participant consent, the anonymised data were uploaded onto OSF (https://osf.io/s3wdq/?view_only=302aa337b6e248e0b3f580d8749324fe). SPSS⁴³ was used to test for significant differences in baseline characteristics between completers (of all three rounds) and non-completers (completed round 1 but not round 3). An independent *t*-test (Welch variation) was the default for continuous variables meeting normality assumptions (age). However, years of experience with MECC did not meet normality assumptions; thus, a Mann Whitney U test was applied. Chi-squared tests were applied for nominal variables (gender and region). All tests applied an alpha level of 0.05.

Results

A total of 100 experts were invited to participate (46 in implementation/practice, 54 in research). There were 75 total responses to round 1, although 16 did not provide qualitative responses and were therefore removed. Eight respondents declined (reasons for declining are shown in Fig. 1). Characteristics of respondents to round 1 are shown in Supplementary Material 2. Of the 51 respondents, participants were mostly female (78%) with an age range of 26–65 ($M = 46.18$, $SD = 11.37$) and a range of <1 –15 years of experience with MECC ($M = 5.67$, $SD = 3.75$). The most common form of involvement with MECC was training, with 29 participants involved in more than one and 11 involved in all three (training, implementation and research). There were no significant differences in demographic characteristics of gender ($\chi^2(1) = 0.04$, $p = 0.835$), or region ($\chi^2(3) = 2.20$, $p = 0.533$) between completers or non-completers. There was also no significant difference in years of experience with MECC ($U = 149$, $p = 0.123$) between completers ($M = 5$, $n = 39$) and non-completers (Median = 7, $n = 11$). However, non-completers ($n = 11$, $M = 53.18$, $SD = 10.42$) were significantly older ($t(17.78) = 2.55$, $p = 0.010$) than completers ($n = 33$, $M = 43.85$, $SD = 10.83$).

Participants were international (Fig. 2), although mostly from the North East, North West, and South East of England (Fig. 3).

Further details of the findings from each round and how the previous round informed the next are available in Supplementary Material 3. Content analysis of responses to round 1 identified 274 statements, organised into 14 groups (Supplementary Material 4). After round 2, 96 statements received consensus and were included within the MECC definitions sent to experts for round 3. Both the short and long definitions of MECC reached consensus at round 3 (87.5% and 82%, respectively) and were tweaked in accordance with qualitative comments (see Supplementary Material 5). Table 1 shows the agreement ratings for each definition at round 3. The operational definition received a low level of agreement (42.5%) and was amended according to qualitative comments and resent for round 4 (see Table 2 for definition), of which it achieved an 80% consensus ($n = 40$), with the following distribution; 32.5% strongly agree ($n = 13$), 47.5% agree ($n = 19$), 5% neither agree nor disagree ($n = 2$), 2.5% disagree ($n = 1$), and 12.5% strongly disagree ($n = 5$). The final consensus definitions are displayed in Table 2.

The Royal Society for Public Health (RSPH) endorsed the definitions with the caveat of the inclusion of mental health as an example topic within the short and long definitions (see Supplementary Material 6 for the definitions as approved by RSPH). Their justification for this inclusion was the wealth of literature supporting parity of esteem between mental and physical health.

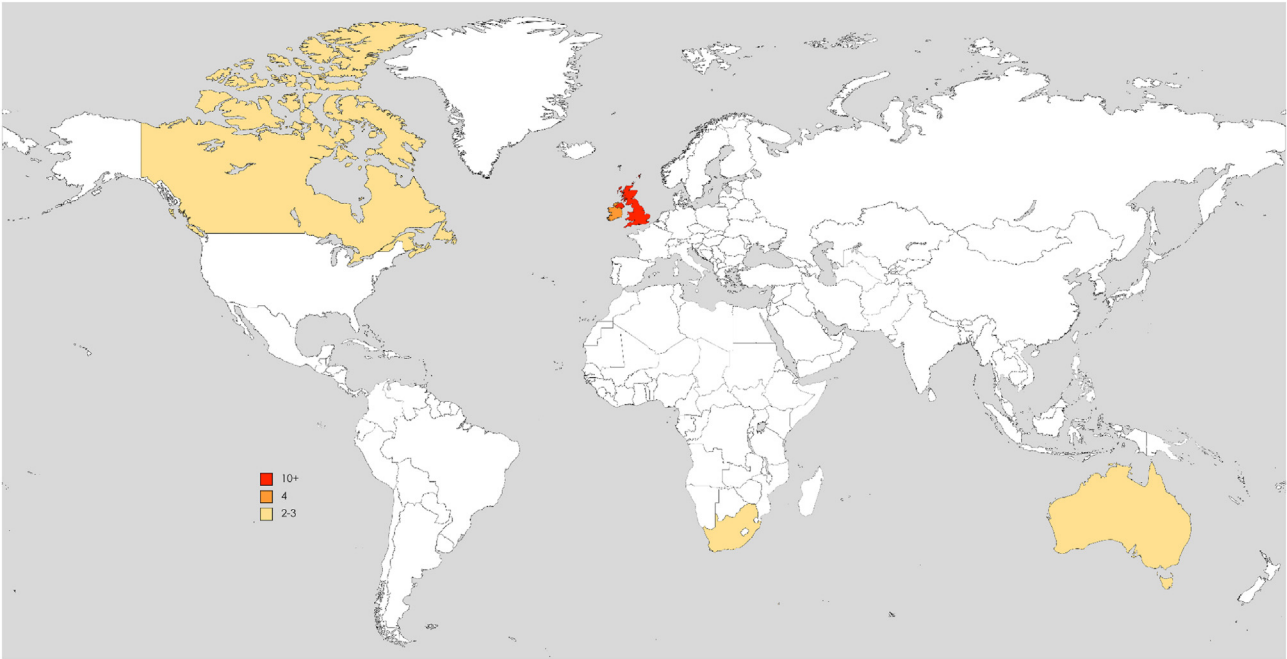


Fig. 2. Heat map of location of participants internationally.

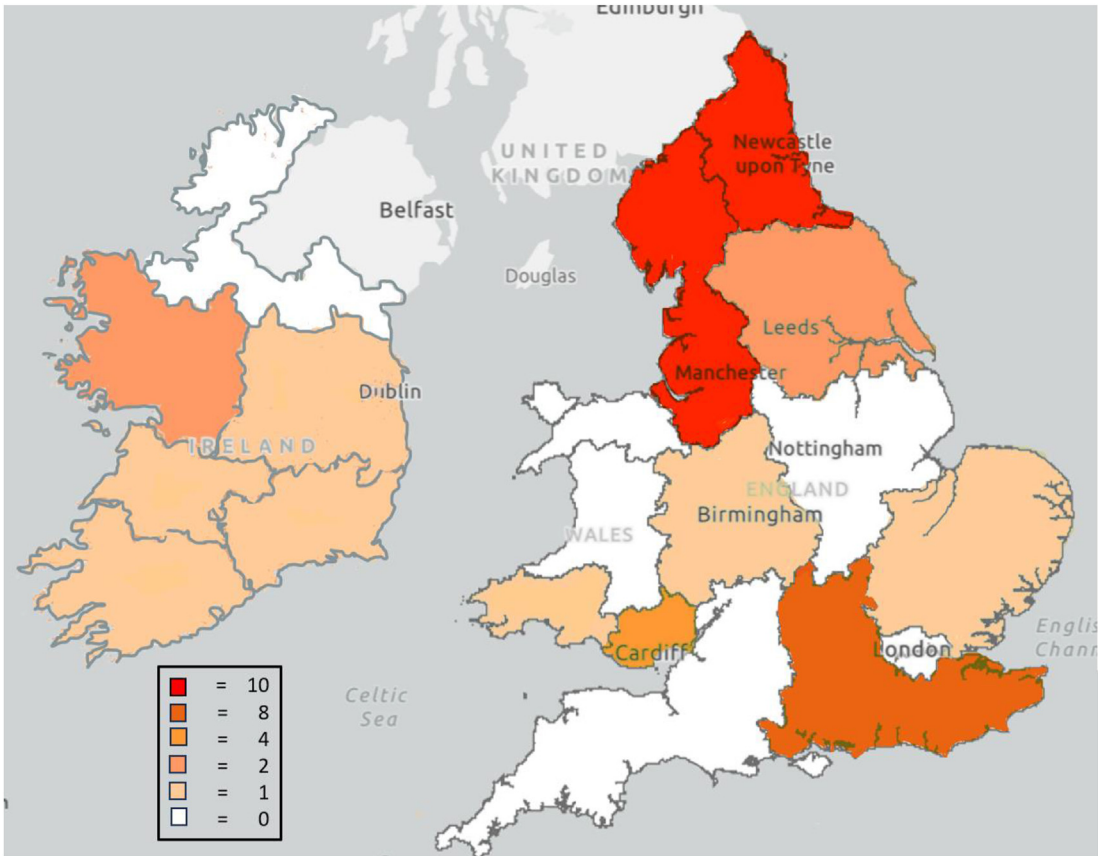


Fig. 3. Heat map of location of participants from the UK and Ireland. Note: No participants were from Northern Ireland or Scotland.

Table 1

Round 3 Delphi definitions and consensus scores. Frequencies, percentages displayed in brackets. n = 40 for short and operational definitions, n = 39 for long definition as one participant did not provide a response.

Definition type	Definition	Strongly disagree (%)	Disagree (%)	Neither agree nor disagree (%)	Agree (%)	Strongly agree (%)	Total agreement (%)
Short conceptual	MECC is a person centred and opportunistic approach to health behaviour change that applies appropriate theory informed behaviour change techniques from behavioural science, delivered during every appropriate contact. Anyone could potentially deliver and receive MECC conversations, within any setting. MECC can be the mechanism that leads to another intervention or applied alone to optimise the potential of routine interactions, through conversations around smoking, physical activity, healthy diet, or alcohol. The duration of MECC conversations is dependent on the need and opportunity presented.	0 (0.0)	2 (5.0)	3 (7.5)	26 (65.0)	9 (22.5)	35 (87.5)
Long conceptual	MECC health behaviour change conversations are delivered to clients during every appropriate contact, of which an appropriate opportunity is judged from the context. Anyone could potentially deliver and receive MECC conversations within any setting, although MECC is typically delivered by health and social care staff to those accessing the service. MECC talks about one or multiple of the following topics; smoking, physical activity, healthy diet, or alcohol, although the specific topic of a MECC conversation is led by the individual. MECC can be the mechanism that leads to another intervention or applied alone to optimise the potential of routine interactions. The duration of MECC conversations is dependent on the need and opportunity presented. MECC helps people help themselves by enabling them to make changes, helping them identify what behaviours they can change, and focus on what behaviours they wish to change. MECC follows a standard set of key principles, including being non-judgemental, person-centred, opportunistic, empathetic, and empowering. MECC applies appropriate theory informed behaviour change techniques, methods, and skills from behavioural science applied in a subtle and flexible way, including; a question that creates an opening for a conversation, a spirit that supports individual's response to person centred conversations, being led by cues given by the individual in the conversation, recognising opportunities to talk about wellbeing, signposting where appropriate, an understanding of when it is acceptable to deliver advice and the world or context of individuals, verbal and nonverbal behaviours that encourage conversations, an ability to pick up when someone is open to positively changing their behaviour, and providing support and an opportunity to feel heard. MECC also requires healthy conversation skills including active listening and asking open discovery questions. To encourage its implementation, MECC aims to embed prevention throughout the NHS, embed MECC within organisations' culture, processes, policies, and staff's professional practice, develop an environment, service, and workforce that facilitates and promotes holistic health behaviour change, improve the quality and consistency of conversations had, support people in making changes to their own behaviour, incorporate prevention as core to organisations, and make health behaviour change conversations integral to staff's professional and social responsibility. This can be achieved by supporting staff through empowerment in their role in health promotion and prevention and increasing their confidence and competence in having health behaviour change conversations, so that MECC becomes a standard and routine behaviour and part of routine clinical care. Outcomes for individuals include enablement to engage in conversations about their health, help to reflect on their own health behaviours and make choices for health behaviour change, and improved health and wellbeing through encouragement of health behaviour change and prevention of ill health, with the ultimate outcome of improved population health.	0 (0.0)	4 (10.3)	3 (7.7)	24 (61.5)	8 (20.5)	32 (82.0)
Operational	1) MECC must discuss one of the following topics, the specific topic led by the recipient; smoking, physical activity, healthy diet, or alcohol. AND 2) MECC must be opportunistic. AND 3) MECC must include one or more of the following elements; a question that creates an opening for a conversation, a spirit that supports individual's response to person centred conversations, being led by cues given by the individual in the conversation, verbal and nonverbal behaviours that encourage conversations, providing support, active listening, and asking open discovery questions.	4 (10.0)	13 (32.5)	6 (15.0)	13 (32.5)	4 (10.0)	17 (42.5)

Table 2
Final consensus definitions of MECC.

Definition type	Definition
Short	MECC is a person centred and opportunistic approach to health behaviour change that applies appropriate theory informed behaviour change techniques from behavioural science, delivered during every appropriate contact. Although MECC is typically delivered within health and social care, anyone could potentially deliver and receive MECC conversations, within any setting. MECC can be the mechanism that leads to another intervention or applied alone to optimise the potential of routine interactions, through conversations around topics such as smoking, physical activity, healthy diet, or alcohol. The duration of MECC conversations is dependent on the need and opportunity presented.
Long	<p>MECC health behaviour change conversations are delivered to individuals during every appropriate contact, of which an appropriate opportunity is judged from the context. Anyone could potentially deliver and receive MECC conversations within any setting, although MECC is typically delivered by health and social care staff to those accessing the service. MECC talks about one or multiple topics such as; smoking, physical activity, healthy diet, or alcohol, although the specific topic of a MECC conversation is led by the individual. MECC can be the mechanism that leads to another intervention or applied alone to optimise the potential of routine interactions. The duration of MECC conversations is dependent on the need and opportunity presented. MECC supports people to help themselves by enabling them to make changes, helping them identify what behaviours they can change, and focus on what behaviours they wish to change. MECC follows a standard set of key principles, including being non-judgemental, person-centred, opportunistic, empathetic, and empowering. MECC applies appropriate theory informed behaviour change techniques, methods, and skills from behavioural science applied in a subtle and flexible way, including;</p> <ul style="list-style-type: none">• a question that creates an opening for a conversation• a spirit that supports individual's response to person centred conversations• being led by cues given by the individual in the conversation• recognising opportunities to talk about wellbeing• signposting where appropriate• an understanding of when it is acceptable to deliver advice and the world or context of individuals• verbal and nonverbal behaviours that encourage conversations• an ability to pick up when someone is open to positively changing their behaviour• providing support and an opportunity to feel heard• healthy conversation skills, including active listening and asking open discovery questions <p>To encourage its implementation, MECC aims to;</p> <ul style="list-style-type: none">• embed prevention throughout healthcare and other relevant organisations• embed MECC within organisations' culture, processes, policies, and staff's professional practice• develop an environment, service, and workforce that facilitates and promotes holistic health behaviour change• improve the quality and consistency of conversations had• support people in making changes to their own behaviour• incorporate prevention as core to organisations• make health behaviour change conversations integral to staff's professional and social responsibility <p>This can be achieved by supporting staff through empowerment in their role in health promotion and prevention and increasing their confidence and competence in having health behaviour change conversations, so that MECC becomes a standard and routine behaviour and part of routine clinical care. Outcomes for individuals include enablement to engage in conversations about their health, help to reflect on their own health behaviours and make choices for health behaviour change, and improved health and wellbeing through encouragement of health behaviour change and prevention of ill health, with the ultimate outcome of improved population health.</p>
Operational	MECC is an approach to health behaviour change conversations that must include one or more of the following elements; a question that creates an opening for a conversation, a spirit that supports individual's response to person centred conversations, being led by cues given by the individual in the conversation, verbal and nonverbal behaviours that encourage conversations, providing support, active listening, and asking open discovery questions

Furthermore, both UK national guidance and policy ask the system to promote this parity for improved outcomes. Also, RSPH highlighted that many statements that received consensus in round 2 included health-being, all of which implies the importance of mental health.

Discussion

This study aimed to develop an updated consensus definition of MECC. Three definitions achieved consensus, although the operational definition was most contentious, as some experts still strongly disagreed with the definition. Nevertheless, the definitions demonstrate that the distinguishing feature of MECC is not in its duration, target behaviour, or conditions for delivery, but rather in the approach taken to conversations and the mechanisms applied to promote health behaviour change. The topic is directed by the needs of the individual, and provided an individual possesses the relevant skills as specified within the long definition, MECC can be delivered by anyone and anywhere. Reflective of the original consensus statement,⁴ defining methods to encourage implementation and delivery was also important to experts, as well as outlining the potential outcomes of MECC. Thus, both were included in the final long definition. In comparison to the original core MECC definition,⁴ the current definition provides clarification on the *who*, *what*, *where*, and *how* of MECC delivery.⁴⁴ While the original definition included the provision of information, the

current definition reflects a motivational interviewing approach, encouraging the recipient to take control, improve their self-confidence, and identify their own solutions.

Although only four topics of health behaviour reached consensus, mental health and wellbeing narrowly missed out, and experts felt strongly that the four topics only be used as examples rather than limitations to the scope of MECC. Furthermore, although none reached consensus, many of the qualitative comments emphasised the inclusion of the wider determinants within MECC, reflecting current implementation⁴⁵ but also the changing landscape in public health towards social determinants as considered inseparable from health and well-being.⁴⁶ Other health behaviours were also suggested reflecting current application of MECC, including breastfeeding⁴⁷ and vaccination.⁴⁸ Given a reluctance to limit topics of MECC, perhaps the concept of MECC plus can be abandoned for an all-encompassing MECC definition.

Strengths and limitations

The current study achieved the target response rate across four rounds and attained a good balance between those involved in the implementation and research of MECC. The need for an extension of the reach of the study to international experts indicates the rapid growth of MECC, further consolidating a need for an updated definition. However, certain areas of England, Ireland, and Wales were not reached, and there were no respondents from Northern

Ireland or Scotland, thus the applicability of the resulting guidance to these missed areas is uncertain. Perhaps relatedly, differences in job titles across areas meant that selection of eligible experts in implementation could be difficult. In Scotland, the implementation of 'making every opportunity count' (MEOC) appears to be similar to MECC,⁴⁹ likely explaining the lack of participants. One limitation of the current study is that the scope was not extended to MEOC, which could have explored the similarities and differences further. Also, whilst the retention of experts from round 2 to 3 was high, nine experts were lost between round 1 and 2. Non-completers were significantly older than completers, possibly attributable to increased seniority and therefore demands of professional roles. However, there was no significant difference in number of years' experience with MECC, indicating a minimal impact of selection bias. Although two experts reported less than one year of experience with MECC which may be considered a limitation, all experts were instead included based on their role or academic achievement, arguably providing a more accurate assessment of MECC knowledge. Finally, although an $\geq 80\%$ consensus for both a long and short definition was achieved in three rounds and four rounds for an operational definition, further rounds may have achieved an even stronger consensus.

Conclusion

The current study provides a detailed and common reference point for MECC across research and practice and an opportunity for those working on MECC programmes, practice and research to reflect on and re-evaluate their knowledge and learning around MECC. Although there was an acceptance of the implementation of MECC outside of health and social care, reflecting current implementation,^{25,26} some differences in the conceptualisation between health and social care and wider implementation settings were apparent. Thus, while the current definitions provide areas of agreement, it is likely that the specific approach to MECC implementation and delivery will differ and continue to change as it evolves in practice and in response to new policy initiatives. The resulting definitions also signal implications for the use of existing, and indeed future exploration of, evidence to support MECC, given the change in the conceptualisation of MECC since the consensus statement⁴ was released. For example, as the definitions suggest no specific setting for MECC delivery, evidence is needed to support the effectiveness and implementation of MECC across settings including outside of healthcare. Also, the consensus definitions reflect motivational interviewing in approach and are not defined by duration in contrast with brief advice; thus, MECC training should ensure to draw upon the corresponding evidence. Furthermore, future research to investigate the implementation and effectiveness of MECC should apply the mechanisms outlined in the consensus operational definition, which can also facilitate the measurement of intervention fidelity. Namely, such an investigation should retain the opportunistic and person-centred nature of MECC conversations, such that any future research utilising cluster randomised controlled-trial, before-and-after, and non-randomised controlled trial (controlled before-and-after) designs should ensure an opening of opportunity such as screening or questionnaires relating to multiple health behaviours.

Author statements

Acknowledgements

The authors would like to sincerely thank all experts for their contribution towards the current study, including (in alphabetical order by forename); Agatha Lawless, Amelia Parchment, Annie

Petherick, Catherine Hayes, Chris Keyworth, Craig Robson, Daniella Watson, Darren Holmes, Deborah Harrison, Dymrna Tuohy, Em Rahman, Estelle Venter, Jane Beenstock, Jay Anderson, Jenna Hollis, Jennifer Davies, Jess Keeley, Judit Varkonyi-Sepp, Lize Havemann-Nel, Louise Harlanderson, Mary Ann McKibben, Michael Shuttleworth, Mo Foley, Sandie J. Keall, Natasha Grindrod, Nelly Araujo, Oonagh Meade, Polly Hardy-Johnson, Rachel Cartwright, Roberta Pomponio, Sally Faulkner, and the South East MECC group represented by Joanne Keeling (Phil Godfrey, Rob Anderson-Weaver, Imogen Coningsby, Charlotte Heydon-Millard, Catherine Wilson, Taiwo Emmanuel, and Gail Hughes).

Ethical approval

The current study received full ethical approval from Northumbria University Ethics Committee prior to data collection (Project Number: 3408). An amendment was made to include international participants, which was approved.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Competing interests

The authors have no conflicts of interest to declare. Although some authors also contributed as experts (AR, RW, CR, CH) including the regional MECC at scale coordinator (CR), these experts were not involved in data analysis.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.puhe.2024.01.023>.

References

1. Organization WH. *Global health estimates 2020: deaths by cause, age, sex, by country and by region, 2000–2019*. Geneva, Switzerland: WHO; 2020.
2. Watkins DA, Msemburi WT, Pickersgill SJ, Kawakatsu Y, Gheorghe A, Dain K, et al. NCD Countdown 2030: efficient pathways and strategic investments to accelerate progress towards the Sustainable Development Goal target 3.4 in low-income and middle-income countries. *Lancet* 2022;**399**(10331):1266–78.
3. Irving G, Neves AL, Dambha-Miller H, Oishi A, Tagashira H, Verho A, et al. International variations in primary care physician consultation time: a systematic review of 67 countries. *BMJ Open* 2017;**7**(10):e017902.
4. Public Health England P. *Making every contact count (MECC): consensus statement*. 2016.
5. Payne K, De Normanville C, Stansfield K, Barnett N, Machaczek K, Qutishat D, et al. *Prevention and lifestyle behaviour change: a competence framework. Prevention and lifestyle behaviour change A competence Framework*. 2010.
6. Public Health England P. *From evidence into action: opportunities to protect and improve the nation's health*. 2014.
7. National Institute for Health and Care Excellence N. *Behaviour change: individual approaches*. Public health guideline; 2014 [PH49].
8. National Health Service N. *Five year forward view*. 2014.
9. Cribb A, Haycox A. Economic analysis in the evaluation of health promotion. *J Publ Health* 1989;**11**(4):299–305.
10. Adam LM, Jarman M, Barker M, Manca DP, Lawrence W, Bell RC. Use of healthy conversation skills to promote healthy diets, physical activity and gestational weight gain: results from a pilot randomised controlled trial. *Patient Educ Counsel* 2020;**103**(6):1134–42.
11. Baird J, Jarman M, Lawrence W, Black C, Davies J, Tinati T, et al. The effect of a behaviour change intervention on the diets and physical activity levels of women attending Sure Start Children's Centres: results from a complex public health intervention. *BMJ Open* 2014;**4**(7):e005290.
12. Jarman M, Adam L, Lawrence W, Barker M, Bell RC. Healthy conversation skills as an intervention to support healthy gestational weight gain: experience and perceptions from intervention deliverers and participants. *Patient Educ Counsel* 2019;**102**(5):924–31.
13. Lawrence W, Vogel C, Strömmer S, Morris T, Treadgold B, Watson D, et al. How can we best use opportunities provided by routine maternity care to engage

- women in improving their diets and health? *Matern Child Nutr* 2020;**16**(1): e12900.
14. Meade O, O'Brien M, Mc Sharry J, Lawless A, Coughlan S, Hart J, et al. Enhancing the implementation of the Making Every Contact Count brief behavioural intervention programme in Ireland: protocol for the Making MECC Work research programme. *HRB Open Research* 2022;**5**.
 15. Meade O, O'Brien M, Noone C, Lawless A, Mcsharry J, Deely H, et al. Exploring barriers and enablers to the delivery of Making Every Contact Count brief behavioural interventions in Ireland: a cross-sectional survey study. *Br J Health Psychol* 2023;**28**(3):753–72.
 16. Hollis JL, Kocanda L, Seward K, Collins C, Tully B, Hunter M, et al. The impact of Healthy Conversation Skills training on health professionals' barriers to having behaviour change conversations: a pre-post survey using the Theoretical Domains Framework. *BMC Health Serv Res* 2021;**21**(1):1–13.
 17. Watson D, Godfrey P, Rahman E, Varkonyi-Sepp J, Lawrence W. *Adapting making every contact count/healthy conversation skills to pilot online supportive conversations training in response to covid-19*. Behavioural Science & Public Health; 2020.
 18. Parchment A, Lawrence W, Perry R, Rahman E, Townsend N, Wainwright E, et al. Making Every Contact Count and Healthy Conversation Skills as very brief or brief behaviour change interventions: a scoping review. *J Publ Health* 2021;**31**:1017–34.
 19. Lawrence W, Black C, Tinati T, Cradock S, Begum R, Jarman M, et al. 'Making every contact count': evaluation of the impact of an intervention to train health and social care practitioners in skills to support health behaviour change. *J Health Psychol* 2016;**21**(2):138–51.
 20. Moss C, Bancroft D. Developing an evidence-based making every contact count (MECC) model of practice within MSK physiotherapy services. *Physiotherapy* 2019;**105**:e169.
 21. Parchment A, Lawrence W, Rahman E, Townsend N, Wainwright E, Wainwright D. 'Making every contact count' with patients with musculoskeletal conditions: a qualitative exploration of acceptability to physiotherapists. *BMC Health Serv Res* 2023;**23**(1):1125.
 22. Black C, Lawrence W, Cradock S, Ntani G, Tinati T, Jarman M, et al. Healthy conversation skills: increasing competence and confidence in front-line staff. *Publ Health Nutr* 2014;**17**(3):700–7.
 23. Tinati T, Lawrence W, Ntani G, Black C, Cradock S, Jarman M, et al. Implementation of new Healthy Conversation Skills to support lifestyle changes—what helps and what hinders? Experiences of Sure Start Children's Centre staff. *Health Soc Care Community* 2012;**20**(4):430–7.
 24. Lawrence W, Watson D, Barker H, Vogel C, Rahman E, Barker M. Meeting the UK Government's prevention agenda: primary care practitioners can be trained in skills to prevent disease and support self-management. *Perspectives in Public Health* 2020:1757913920977030.
 25. Byrne-Davis L, Marchant D, Bull E, Gyles D, Dean E, Hart J. How do members of a fire and rescue service perceive expanding their roles to deliver more health care services? *J Publ Health* 2019;**41**(3):593–9.
 26. Harrison D, Wilson R, Graham A, Brown K, Hesselgreaves H, Ciesielska M. Making every contact count with seldom-heard groups? A qualitative evaluation of voluntary and community sector (VCS) implementation of a public health behaviour change programme in England. *Health Soc Care Community* 2022;**30**(5):e3193–206.
 27. Rodrigues AM, Kemp E, Aquino MRJ, Wilson R, Vasiljevic M, McBride K, et al. Understanding the implementation of 'Making Every Contact Count'(MECC) delivered by healthcare professionals in a mental health hospital: protocol for a pragmatic formative process evaluation. *Health Psychology and Behavioral Medicine* 2023;**11**(1):2174698.
 28. Chisholm A, Byrne-Davis L, Peters S, Beenstock J, Gilman S, Hart J. Online behaviour change technique training to support healthcare staff 'Make Every Contact Count'. *BMC Health Serv Res* 2020;**20**(1):1–11.
 29. Parchment A, Lawrence W, Rahman E, Townsend N, Wainwright E, Wainwright D. How useful is the making every contact count healthy conversation skills approach for supporting people with musculoskeletal conditions? *J Publ Health* 2022:1–17.
 30. Barker M, Baird J, Lawrence W, Jarman M, Black C, Barnard K, et al. The Southampton Initiative for Health: a complex intervention to improve the diets and increase the physical activity levels of women from disadvantaged communities. *J Health Psychol* 2011;**16**(1):178–91.
 31. National Institute for Health and Care Excellence N. *Developing NICE guidelines: the manual national institute for health and care excellence*. updated 18/01/2022. Available from: <https://www.nice.org.uk/process/pmg20/resources/developing-nice-guidelines-the-manual-pdf-72286708700869>; 2014.
 32. Hasson F, Keeney S, McKenna H. Research guidelines for the Delphi survey technique. *J Adv Nurs* 2000;**32**(4):1008–15.
 33. Bolger F, Wright G. Assessing the quality of expert judgment: issues and analysis. *Decis Support Syst* 1994;**11**(1):1–24.
 34. Muhl C, Mulligan K, Bayoumi I, Ashcroft R, Godfrey C. Establishing internationally accepted conceptual and operational definitions of social prescribing through expert consensus: a Delphi study. *BMJ Open* 2023:13.
 35. Presseau J, McCleary N, Lorenzatto F, Patey AM, Grimshaw JM, Francis JJ. Action, actor, context, target, time (AACCT): a framework for specifying behaviour. *Implement Sci* 2019;**14**:1–13.
 36. Jünger S, Payne SA, Brine J, Radbruch L, Brearley SG. Guidance on Conducting and Reporting Delphi Studies (CREDES) in palliative care: recommendations based on a methodological systematic review. *Palliat Med* 2017;**31**(8): 684–706.
 37. Winkler J, Moser R. Biases in future-oriented Delphi studies: a cognitive perspective. *Technol Forecast Soc Change* 2016;**105**:63–76.
 38. Niederberger M, Spranger J. Delphi technique in health sciences: a map. *Front Public Health* 2020;**8**:457.
 39. Utah, USA: Qualtrics. Qualtrics. Provo; 2013.
 40. Ltd QJP. Nvivo 2018. version 12.
 41. Linstone HA, Turoff M. *The delphi method*. Reading, MA: Addison-Wesley; 1975.
 42. Burla L, Knierim B, Barth J, Liewald K, Duetz M, Abel T. From text to codings: intercoder reliability assessment in qualitative content analysis. *Nurs Res* 2008;**57**(2):113–7.
 43. Corp I. *IBM SPSS statistics for windows, version 28.0*. Armonk, NY: IBM Corp; 2021.
 44. Hoffmann TC, Glasziou PP, Boutron I, Milne R, Perera R, Moher D, et al. Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide. *Br Med J* 2014:348.
 45. Health Service Executive H. *Making every contact count, A health behaviour change framework and implementation plan for health professionals in the Irish health service*. Health Service Executive; 2016.
 46. Westbrook M, Harvey M. Framing health, behavior, and society: a critical content analysis of public health social and behavioral science textbooks. *Crit Publ Health* 2023;**33**(2):148–59.
 47. Public Health England P. *Care continuity between midwifery and health visiting services: principles for practice*. 2021.
 48. England N.. *Next steps for the NHS COVID-19 vaccination programme planning and delivery*. Available from: <https://www.england.nhs.uk/coronavirus/documents/next-steps-for-the-nhs-covid-19-vaccination-programme-planning-and-delivery/>; 2022.
 49. Service HPH. Making Every Opportunity Count n.d. Available from: <https://www.hphsgrampian.scot.nhs.uk/view/meoc>.