DERBYSHIRE County Council

A literature review investigating the effectiveness of ‘teachable moments’ on positive health behaviour change

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SUMMARY

Background

Long term conditions are the leading causes of disability and death in England and are strongly associated with behavioural and lifestyle factors. Furthermore, these factors (particularly smoking) are the greatest contributors to health inequalities within England and the East Midlands.

It has been proposed that effective clinician-patient based communication about health behaviour is one of the most important, but often the most overlooked ways of encouraging healthy lifestyle choices. In England, the 2012 National Health Service (NHS) Future Forum advocated that 'every health care professional should use every contact with an individual to maintain or improve their mental and physical health and wellbeing where possible, whatever their speciality or the purpose of the contact'; an initiative termed "Making Every Contact Count" (MECC). However, in practice, some organisations have struggled to fully adopt the approach and evidence of effectiveness is limited, particularly on long term outcomes. In light of the barriers to MECC, this literature review aims to explore the concept of 'teachable moments' and identify its effectiveness of encouraging healthy lifestyle choices, specifically in a primary care setting, in order to help inform MECC delivery.

Method

A comprehensive search of numerous online health and social care databases was undertaken for studies which included the search term 'teachable moment/s' and specifically related to health behaviour / lifestyle change in a primary care setting. After filtering, a total of 9 studies were included. In addition, 'softer' searches of the internet using the Google search engine and Google Scholar were also undertaken in an attempt to identify any key government documents, data and other relevant reports and studies.

Results & Discussion

In relation to health, use of the term 'teachable moment' is largely synonymous with situations where a particular event or set of circumstances results in an increased desire, willingness and capacity for individuals to alter their health behaviour in a positive way. The concept is significantly underpinned by the Health Belief Model, which highlights the importance of cues to action. Within Primary Care, teachable moments do occur naturally and can be created through clinician and patient dialog; in-particular, where a clinician is able to identify an issue salient to the patient, link this to a lifestyle behaviour and provide subsequent encouragement to motivate the patient to change their current health behaviour.

Conclusion and Recommendations

Evidence of the effectiveness of the teachable moment approach (particularly on quantitate outcomes) is currently limited, with at best only theoretical and tentative evidence suggesting advantages over other methods of health behaviour change discussion. The wider literature revels the existence of numerous other 'brief' or 'very brief' behaviour change intervention studies that would also be considered 'teachable moments', but just not labelled as such.

Where possible, clinicians might want to consider utilising opportunities to create teachable moments with patients in order to encourage healthy lifestyle choices. Elements of the teachable moment delivery model should be considered when developing staff training for MECC delivery. Future research in the form of a systematic review and meta-analysis would be useful to identify other 'brief' or 'very brief' intervention studies that would be considered teachable moments and compare outcomes to other approaches. Organisations implementing a teachable moment approach or MECC in general need to ensure robust data monitoring and evaluation in order to help strengthen the evidence base.

CONTENTS

1 INTRODUCTION

1.1 Lifestyle risk factors for chronic diseases

Long term conditions such as heart disease, stroke, cancer, respiratory disease, liver disease and type 2 diabetes are the leading causes of disability and death in England[1,2]. Evidence shows a strong association between these conditions with behaviour and lifestyle factors and by making changes such as stopping smoking, dietary improvements, increasing physical activity levels or reducing alcohol intake, individuals can significantly reduce their risk of disease[2]. In fact, a 2013 study looking at the global burden of disease[3] found that behavioural risk factors accounted for 28% of the United Kingdom's (UK) current disability adjusted life years (a summary measure used to give an indication of the overall burden of disease). Furthermore, these factors (particularly smoking[3]) are one of the greatest contributors to health inequalities within England and the East Midlands[4].

The latest figures for Derbyshire show that 13.9% of adults smoke, 68.3% are overweight or obese (significantly higher than the England average), 46.7% eat less than the recommended 5 daily portions of fruit or vegetables, 19.7% are physically inactive and the rate of alcohol related hospital admissions are significantly higher than that of England – see figure 1 below. These statistics are concerning and highlight the need to promote and encourage healthy lifestyle choices as much as possible; doing so has great potential to significantly reduce the burden of disease and health inequalities within Derbyshire.

Figure 1 Key adult health and lifestyle indicators

Indicator	Derbyshire	England
Adults who smoke [a]	13.9%	15.5%
Adults who are overweight or obese [b]	68.3%	64.8%
Adults eating <5 portions of fruit & veg daily [c]	46.7%	47.7%
Physically inactive adults [d]	19.7%	22.3%
Alcohol related hospital admissions [e]	713 per 100k	647 per 100k

The Derbyshire rates in the above table are colour coded based upon the statistical significance (95% confidence) to England:

Better Similar Worse

[a] 2016, Source: Annual Population Survey. [b] 2013-15, Source: Active People Survey, Sport England. [c] 2015, Source: Active People Survey, Sport England. [d] 2015/16, Source: Active Lives Survey, Sport England. [e] Narrow definition for all ages. Directly standardised rate per 100,000 population. 2015/16. Source: Hospital Episode Statistics.

1.2 Promoting healthy lifestyle choices through clinician-patient based interactions

It has been proposed that effective clinician-patient based communication about health behaviour is one of the most important, but often the most overlooked ways of encouraging healthy lifestyle choices[5]. In England, the 2012 National Health Service (NHS) Future Forum summary report advocated that health promotion should be a core part of the day to day business of NHS staff[6]. It stated that 'every health care professional should use every contact with an individual to maintain or improve their mental and physical health and wellbeing where possible, whatever their speciality or the purpose of the contact – in particular targeting diet, physical activity, smoking and alcohol (the four main lifestyle risks)'[6]. This initiative was coined "Making Every Contact Count" (MECC) and intended to be achieved via the 'opportunistic delivery of consistent and concise healthy lifestyle information'[6] and subsequent signposting to behaviour change services[7] (very brief or brief intervention). Recent iterations to the MECC definition have sought to extend the delivery of public health advice from the medical setting to relevant partner organisations such as Local Authorities (LAs) and to also encourage conversations to address the wider determinants of health such as debt management and housing[2].

While the National Institute for Health and Care Excellence (NICE) have highlighted both the effectiveness and cost-effectiveness of 'very brief' or 'brief' interventions which can be used to support MECC[2,8], in practice, some organisations have struggled to fully adopt the approach. Some of the known barriers to implementation include:

- How staff feel about their own health and wellbeing[4]
- Lack of leadership and organisational support[4]
- Lack of easy access to health improvement information and services[4]
- Workforce time and capacity (including concerns about the amount of formal training time required)[4,9,10]
- Not knowing when it is appropriate to ask an individual about their lifestyle[4]
- Lack of skills / effective strategies[9]
- Concerns for the clinician-patient relationship – the 'uncomfortable possibility that that clients may be offended'[10]
- Patient resistance[9]
- Staff not interested or supportive of MECC (treat rather than prevent)[10]

Moreover, due to the relative infancy of MECC, evidence of effectiveness in practice, particularly on long term health behaviour change outcomes remains limited and is mostly reliant on short term anecdotal evidence of success (at best tentative evidence of increased uptake of lifestyle services) rather than robust evaluation[11,12].

1.3 Study Aim and Objectives

1.3.1 Aim

In light of the barriers to MECC, this study aims to explore the concept of 'teachable moments' and identify its effectiveness of encouraging healthy lifestyle choices specifically in a primary care setting, in order to help inform MECC delivery.

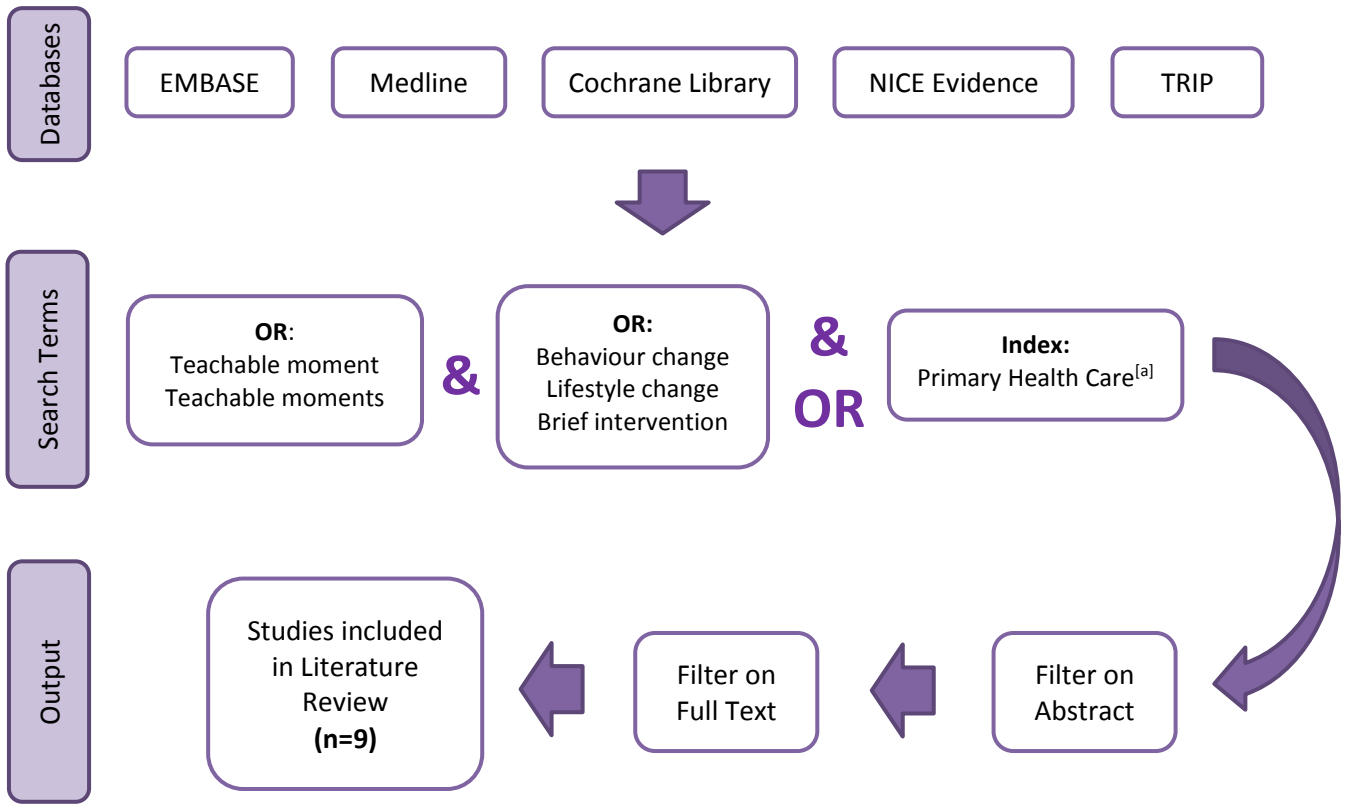
1.3.2 Objectives

- Define the concept of 'teachable moments'.
- Identify how a 'teachable moment' might initiate positive health behaviour change? (Theory).
- Identify appropriate models for delivery.
- Identify the extent to which teachable moments 'naturally occur' within primary care.
- Critically discuss the effectiveness of 'teachable moments' & how this could help support MECC.
- Formulate recommendations for practice & future research.

2 METHODOLOGY

A comprehensive search of numerous online health and social care databases was undertaken. The details of the search strategy are outlined in figure 2 below.

Figure 2 Flow chart showing how studies were selected for the literature review



[a] Index term for 'primary care' may vary between databases. Where an index was not available, 'primary care' variants were included in the search terms.

Due to the large number of studies found when excluding the 'teachable moment' search terms (i.e. searching for behaviour/lifestyle change or brief intervention in a primary care setting), the results were limited to those in which the 'teachable moment' terminology was specifically included. Only studies written in the English language were considered with a publishing date no older than the past ten years (2007), to ensure that evidence was as current as possible. As the number of studies in this topic area were limited, the scope was not just restricted to the UK, but extended to include studies from other developed countries around the world.

In addition, 'softer' searches of the internet using the Google search engine and Google Scholar were also undertaken in an attempt to identify any Government documents, data and other relevant reports and studies. The reference list of studies and reports identified were also searched in order to identify key documents in a 'reverse snowball' like manner. In this case, the time period of study inclusion was also extended sub 2007 to encapsulate any older, but key documents.

3 RESULTS & DISCUSSION

3.1 What is a teachable moment?

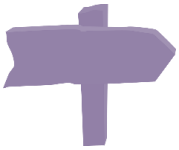
A comprehensive review of the literature by Lawson & Flocke (2008)[13] found that although the term 'teachable moment' can be somewhat ambiguous, usage largely remained synonymous with particular opportunities, circumstances or events that increased desire, willingness and the capacity of individuals to positively change their behaviour. For example, in relation to health (specifically the encouragement of healthy lifestyle choices), opportunities for creating a 'teachable moment' might arise naturally following the diagnosis of a particular disease such as cancer, hospitalisation or pregnancy determination[14,15].

The majority of research concerning the creation of teachable moments for health behaviour change has been pioneered chiefly in the primary care setting in the United States of America (USA). In their USA based observational study investigating how 'teachable moments' are naturally created between clinician and patient in the primary care setting (via the analyses of 811 audio recorded patient visits of adults aged 18-70 years), Cohen *et al* (2011)[16] proposed that teachable moments are composed of three key elements. Firstly, discussion around a concern that is salient to the patient, such as a symptom worry or life issue (this could be raised by either the patient or clinician) is linked to a relevant health behaviour. Secondly, the clinician initiates talk designed to motivate the patient toward changing the health behaviour and thirdly there is acceptance by the patient that their current health behaviour is relevant to the problem and a commitment towards changing is expressed.

Variations of advice that lack key elements of teachable moments were later defined by Flocke et al (2014)[17] as either a teachable moment attempt or a missed opportunity. Teachable moment attempts are defined as discussions where a link from a patient concern to a lifestyle behaviour is made by the clinician, followed by motivation to change talk, but the patient's response does not indicate acceptance and a commitment change[17]. Missed opportunities are where either (a) a link is made from a patient concern to a lifestyle behaviour, but there is no motivation to change talk, (b) there is motivation to change talk, but this had no link to a patient concern and (c) the health behaviour discussion lacked both a link to a patient concern and any motivation to change talk[17] – see figure 3. However, it is not clear from the author's categorisations as to where motivation to change talk in the absence of a link to a patient concern which did lead to commitment to change would be placed (missed opportunity?). Although it is clear by definition that such delivery would not be regarded as a teachable moment.

It is important to note that as the latter definitions of teachable moments have been developed specifically in the primary care setting, delivery tends to be focused around negative concerns of the patient such as a symptom. However, this does not mean to say that positive events cannot be linked to a lifestyle issue to create a teachable moment. For example, pregnancy has been often referred to as a potential teachable moment, where by mothers may be more motivated to quit smoking in order to protect the health of the foetus and from strong social pressure[18].

Figure 3 Key elements of a teachable moment

Element	Teachable Moment	TM Attempt	Missed Opportunity A	Missed Opportunity B	Missed Opportunity C
 **[1] Link to patient concern –** a symptom, worry or life issue of the patient is linked to a lifestyle risk.	✓	✓	✓	✗	✗
 **[2] Motivation to change talk –** health behaviour discussion where there is talk to persuade, motivate or support change.	✓	✓	✗	✓	✗
 **[3] Commitment to change –** the patient displays willingness and engagement to undertake behaviour change.	✓	✗	---	---	---

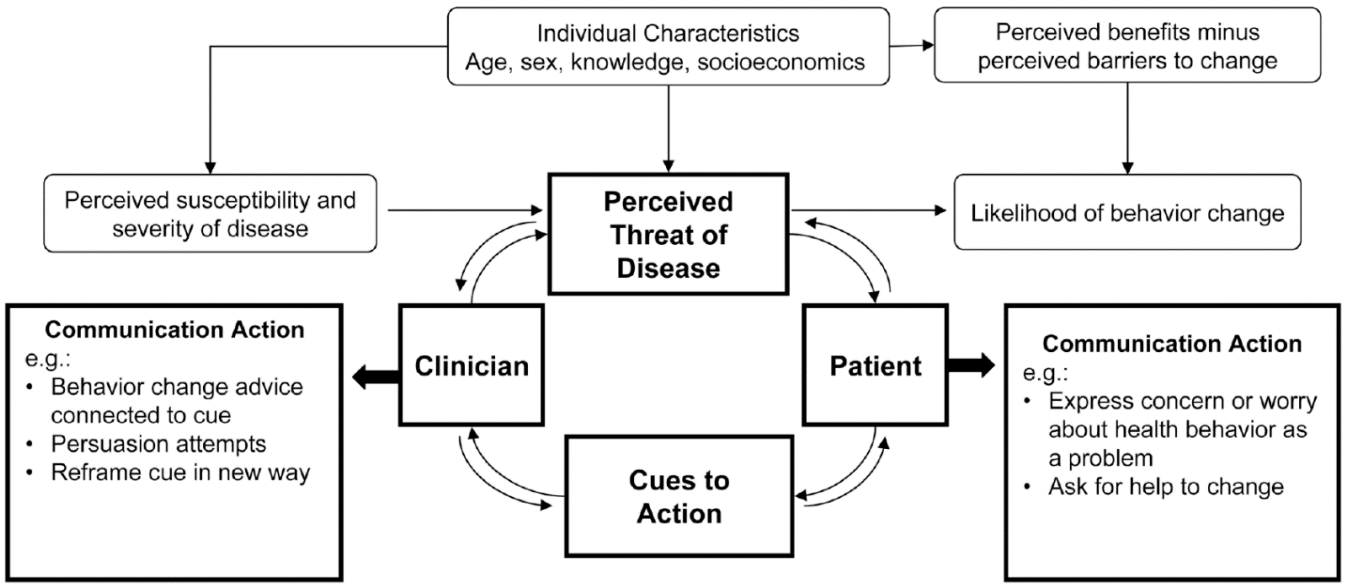
Source: Adapted from Flocke et al (2014)[17]

3.2 How might a teachable moment initiate positive health behaviour change? (Theory)

Lawson and Flocke's (2008)[13] review of the literature found there to be a limited number of studies which attempted to conceptualise the mechanisms by which a teachable moment might elicit positive health behaviour change. McBride, Emmons and Lipkus (2003)[18] propose that a teachable moment is significantly underpinned by the Health Belief Model (HBM), which highlights the importance of cues to action. Here, a cueing event (such as disease diagnosis) may increase a patient's perceptions of both risk and positive or negative outcomes, which in turn may produce a strong enough emotional response to motivate the patient into taking action to change their current behaviour[13]. Indeed, subsequent research by McBride and others (2008)[14] showed for example that when colon polyp diagnosis was used to create a teachable moment in primary care, those assessed as being more worried by the event (a greater perceived risk of susceptibility to colon cancer and the possible severity of those implications) were statistically significantly more likely to engage with intervention. However, the long term outcomes this had on behaviour change were not assessed and this is really key to the ultimate success of a teachable moment.

An elaboration of the HBM by Lawson and Flocke (2008)[13] shows how cues to action and perceived threats can be influenced by both the clinician and the patient communication (figure 4). Although it is not quite clear from the arrow transition in the authors diagram [figure 4], there is no reason to suggest that clinician-patient based communication could not be used to additionally influence the patients perceived benefits of change (e.g. relief of symptoms) or navigation of some of the patient barriers. Perhaps because the key element of a teachable moment lies heavily on the connection with a patient concern (threat) and thus cue to action, Lawson and Flocke's (2008)[13] elaboration of the HBM may reflect this accordingly.

Figure 4 Elaboration of the Health Belief Model: a dynamic interaction of cues to action & perceived threat during clinician and patient interaction.



Source: Lawson & Flocke (2008)[13]

3.3 A Teachable Moment Delivery Model

Only one study was identified from the literature which attempted to create and promulgate a teachable moment delivery model in a primary care setting. By building on previous work about how clinicians and patients naturally create teachable moments for health behaviour change[16] (See chapter 3.1) and partnering with experts in medical education and communication, Flocke et al (2012)[5] developed a five element communication process with the aim of teaching primary care clinicians how to capitalise on teachable moments for smoking cessation. This is shown in figure 5.

As previously elucidated, the process begins with the identification of a concern salient to the patient, which the clinician is able to link to an unhealthy behaviour (in this example smoking). Next, the clinician provides a brief intervention which is designed to motivate the patient into changing their behaviour. Here, Flock et al (2012)[5] promotes the use of communication strategies such as motivational interviewing and person centred therapy techniques such as 'OPEN' (a mnemonic representing Optimism, Partnership, Elicit and No more). Flocke et al (2012)[5] states that such approaches have been evidenced elsewhere in terms of both effectiveness and ease of implementation. While such communication strategies have also been advocated to help navigate 'difficult conversations' in relation to MECC[7], the critique and appraisal of these specific approaches are beyond the scope of this review.

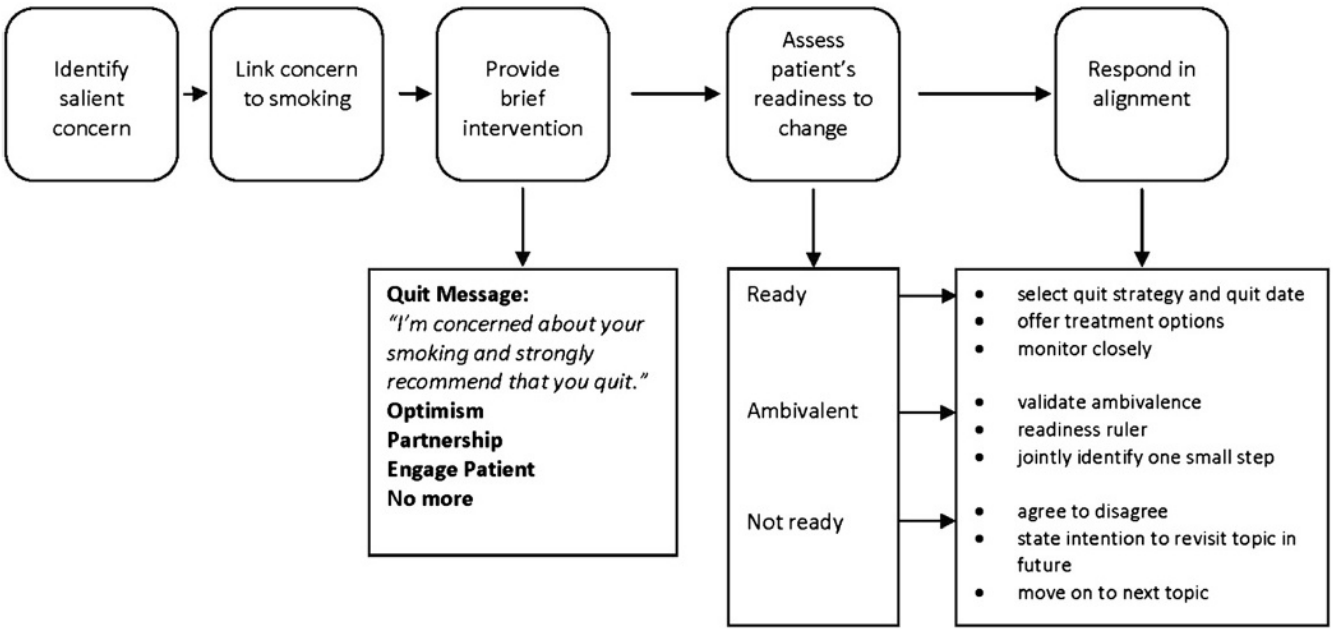
By drawing on the fundamental principles of the trans-theoretical model (or stages of change) Flocke et al (2012)[5] suggests that eliciting the above communication strategies will nearly always reveal the patients level of readiness for behaviour change (the next stage of the process). According to Flocke et al (2012)[5] response by the clinician should then be made in alignment with the patient's expressed level of readiness to change in order to increase the likelihood that the proposed plan is accepted by the patient. Moreover, Flocke et al (2012)[5] argues that if the clinician fails to respond in alignment, where a patient a patient is not ready to change, this can often lead to a

blaming and shaming lecture, which is not only ineffective at changing behaviour, but risks damaging the patient-clinician relationship (this is often cited as a barrier to MECC implementation – see chapter 1.2).

Some studies have argued against the case of assessing a patient's readiness to change before offering treatment. Aveyard et al (2012)[19] conducted a systematic review and meta-analysis to assess the effects of opportunistic brief physician advice to stop smoking and offer of assistance to quit. The authors point to a trial which found that 24% of smokers assessed pre-consultation via a 'stage of change' questionnaire as having no intention to quit within the next month (or at all), accepted cessation treatment when offered and of these 37% subsequently quit. Aveyard at al (2012)[19] concludes that smoking cessation treatment should therefore be offered routinely to all patients who smoke, regardless of readiness to quit, in order to maximise uptake of treatment.

However, in the trial to which Aveyard et al (2012)[19] refers, a significantly higher proportion of patients who were ready to quit accepted treatment (52%) compared to those who expressed no interest to quit (24%). It is not clear what impact offering treatment to those who were not ready to quit had on patient satisfaction of the visit (i.e. the clinician-patient relationship) compared to those who were ready to quit. Readiness to quit was also assessed prior to consultation, whereas the teachable moment delivery model proposed by Flocke et al (2012)[5] states that readiness to quit should be assessed only after the clinician has identified a salient patient concern, linked this to a lifestyle risk factor and provided a brief intervention. It is not specified if or what advise was given in most of the studies included in the review by Aveyard et al (2012)[19] prior to the suggestion of treatment (similar strategies to teachable moments may have altered readiness to change during the consultation). Furthermore the authors acknowledge that most of the included studies in their review were dated, taking place at a time when physician intervention on smoking was more uncommon, so perhaps repeated advice may not be as effective in the present time. It is also important to note that several of the authors of the review undertook research and consultancy for companies that make and sell smoking cessation medication.

Figure 5 A proposed primary care teachable moment delivery model for smoking cessation



Source: Flocke et al (2012)[5]

3.4 Incidents of teachable moments in primary care

Unfortunately there are currently no studies which attempt to quantify the 'natural' occurrence of teachable moments within the primary care setting in Derbyshire or in the UK. However, the primary care observational study by Cohen et al (2011)[16] (as previously discussed in chapter 3.1) found that of the 733 participants who were at risk of at least one unhealthy behaviour, 451 of those patient visits (61.5%) included talk about a health behaviour for a total of 548 discussions. Where a health behaviour discussion was taking place, physicians were found to be naturally making an effort to engage in a teachable moment in just over a quarter (28.2%) of cases (11.1% a teachable moment and 17.2% a teachable moment attempt). The authors conclude that these results show that while there is additional opportunity for creating a teachable moment, teachable moments do occur naturally in primary care and that the skills necessary for delivering a teachable moment 'may well be within the physicians' grasp'.

However, given that this study was USA based, potentially differing population characteristics, culture and practice policies (e.g. in the UK MECC is currently advocated), in addition to any surrogate biases from both clinician and patient uptake of the trial, it is not clear how reflective these findings would be in primary care practices within Derbyshire. Additionally, the prevalence of unhealthy lifestyle behaviours in the study group (with the exception of excess bodyweight prevalence) was generally higher than that of Derbyshire (21% were smokers, 68% were obese or overweight, 45% physically inactive & 57% reported poor fruit and vegetable consumption), although this might be influenced somewhat by differences in data collection methods and definitions – see chapter 1.1 for prevalence of these behaviours in Derbyshire.

3.5 The effectiveness of teachable moments on behaviour change

3.5.1 Qualitative insights

Qualitative information can be useful for gaining in depth understanding of how teachable moments might naturally unfold in a primary care setting and the effect of such communication on the likelihood of patient behaviour change; at least in terms of acceptance and a verbal commitment to change. The transcript and notations in figure 6 were extracted from the observational study by Cohen et al (2011)[16] (see chapter 3.1 and 3.3) and provide a 'real-life' example of the occurrence of a teachable moment in primary care practice. From the transcript, we can see that at the beginning of the conversation, when the physician initially attempts to persuade the patient to change his diet, the patient expresses little interest in changing and the topic of conversation is swiftly shifted by the patient (i.e. the topic of diet not of importance to the patient). However, as the conversation flows it transpires that concerns over the recent death of the patient's sister from leukaemia and his wife's current pregnancy are particularly salient to the patient. The physician then leverages on those concerns, by re-introducing and connecting the topic of diabetes (inferring that the patient should be concerned about dying from diabetes) with the need for exercise and a healthy diet. This subsequent attempt to motivate the patient appears successful as the patient's verbal response shows acceptance and a stated commitment to change (a teachable moment).

Another example from the literature[7] where is teachable moment is successfully executed in a primary care setting is shown in the transcript in figure 7. Here we can see that at the beginning of the conversation with the practice nurse (PN), the patient, despite having a history of high blood pressure and cholesterol, shows little or no interest in making any dietary changes; a complacency fuelled by her husband's comment that 'she does not need to lose weight'[7] and that the lack of weight loss might be down to the numerous trips away they have together. The PN then attempts to motivate the patient into change by highlighting the potential risks of her current health behaviour and asks the patient to consider how this might impact on her lifestyle with her husband if she became ill (a topic that was evidentially important to the patient). It was then implied that once the benefits to herself, her husband and their lifestyle were understood (acceptance of the problem), the patient was able to engage with intervention and thus a commitment to change. However, it is not clear from the study if this is a real-life or hypothetical example for the purposes of training.

It is interesting to note, that the latter case study (figure 7) was not extracted from a study specifically labelled as exploratory of the use of 'teachable moments', but was an example given in a MECC training workshop, piloted by the Royal Collage of Nursing (RCN) in 2013 in order to help address patient resistance to healthy lifestyle change advice[7]. This indicates that studies exploring the use of 'teachable moments' may not always necessarily be labelled as such, thus making the identification of some potentially relevant studies difficult – a likely limitation of the search strategy implemented for this review, which specifically looked for the words 'teachable moment/s' (see chapter 2).

While such case studies are useful for providing in-depth understanding of the teachable moment process, they provide limited evidence as to the overall effectiveness in practice; particularly in relation to tangible patient outcomes of behaviour change (the ultimate goal of the teachable moment). For example, in the first case study (figure 6) a verbal response indicating acceptance and a commitment to change is all very well, but did this actually lead to behaviour change and was this sustained in the long term? Furthermore, although the study in which the case study was extracted the authors[16] quantified the instances of such teachable moment attempts in practice (see chapter 3.3), we do not know the extent to which these attempts were successful in eliciting a patient response indicating a commitment to change in comparison to other approaches.

Figure 6. Case study 1 – a transcript showing a teachable moment in primary care practice.

This is a 40 year-old man in for a routine check of his cholesterol, blood sugars and high blood pressure. The patient (PT) reports that he lost 4 pounds since his last visit and the physician (MD) congratulates him. The physician asks the patients about his experience with symptoms of diabetes (e.g. thirsty, frequency of urination) and if he is checking his blood sugars. He is not. The physician then reports the patient's weight at this visit and his prior visit, and the patient notices he lost only 2 pounds. The patient is disappointed. The physician frames the weight loss as positive change and then asks the question, in the transcript, below about his diet.

	1	MD:	How are you doing watching your diet?
	2	PT:	I'm eating whatever I want to eat.
	3		(0.7)
	4	PT:	he he ((laughter))
	5	MD:	O::ka:::y. U::m.
	6	PT:	If you want me to lie to you I can lie to you. I-
	7	MD:	No no. That's [okay.]
	8	PT:	[I eat] lots of salads.
	9	MD:	Salads are good.
	10	PT:	he he he he he he he ((laughter))
	11	MD:	A:::::h. Okay. Well um (3.0) I u::h you know I don't want to yell at you. But um you will
	12		actually um lose weight and possibly be able to get off your medications (0.5) if you watch
	13		what you're eating.
	14		(0.3)
	15	PT:	Well I'm planning on doing that. The wife's- she's delivering on the second of September.
	16		So um I'm planning on exercising a lot more so I'll be able to get around and uh with this
	17		young fellow that we're expecting.
	18	PT:	And uh I just had my- buried my sister up in Washington. Uh
	19	MD:	What happened?
Patient's salient concerns	20	PT:	last Friday. She died of leukemia.
	21	MD:	Oh. [I'm so sorry to]
	22	PT:	[She was only]
	23	MD:	hear that.
	24	PT:	fifty-one. And I'm concerned about that too. You know even though my mom and dad are
	25		still alive. My mom is seventy-two and my dad is around eighty-seven and-
	26	MD:	Yeah. Usually in leukemia it does not run in families.
	27	PT:	Oh. It don't?
	28	MD:	Um diabetes runs in families.
	29	PT:	Yeah.
	30	MD:	I'm sorry to hear that.
	31	PT:	Um humm.
	32	MD:	That's
	33	PT:	Okay.
	34	MD:	terrible.
	35	PT:	Um hmm.
	36	MD:	Terrible loss of life so young.
	37	PT:	Um hum.
Link and attempt to motivate	38		(0.5)
	39	MD:	O::::ka::y. Um- yeah. Unfortunately what sometimes happens is you have all these
	40		resolutions that you're gonna do things when the baby's born. But the baby takes up a lot
	41		of time. He he.=
	42	PT:	=Um hum.
	43	MD:	And so you know then
	44	PT:	Yeah.
	45	MD:	things get pushed off. So up I'd love to see- Are you doing any exercise at all?
	46	PT:	No. Just uh working. You know with the uh- so as far as walking and jumping in and out
	47		of my truck and stuff like that. Yeah.
	48	MD:	Okay. All right. We want to- you know keep you around as long as possible
	49	PT:	Yes.
	50	MD:	since you've got a little one. So
	51	PT:	Yeah.
	52	MD:	I would recommend exercising and really watching your sugars.
	53	PT:	Um hmm.
	54	MD:	And I'd be happy to you know fix you up with a dietician? If you- you'd like to get
	55		serious. Unless your- does your wife- is- does she know what you should and shouldn't be
	56		eating?
Patient acceptance and commitment	57	PT:	Yea:::h. And she- she still recommend for me to see a dietician too. She wants to see one.
	58		So I guess if I start she'll follow you know. Cause she's going to need one after that.
	59	MD:	Okay. I'm gonna have Marcie give you the name of Janet Carter. She's a dietician that
	60		comes to our office.
	61	PT:	Okay.

Source: Lawson & Flocke (2008)[13]

Figure 7. Case study 2 – a transcript showing a teachable moment in primary care practice.

Mrs Jones, aged 58, was overweight and had a history of high cholesterol and high blood pressure. To reduce her risk of coronary heart disease, she was put on a weight-loss programme. She attended all appointments and appeared interested in the advice offered. However, after four months she had not achieved any significant weight loss so was referred to the community dietitian. She returned to the surgery the next month and had the following conversation with the practice nurse (PN). Her weight had remained the same.

PN: 'How did you get on with the dietitian?' (Open question.)
Mrs J: 'She was a lovely lady and gave me lots of advice.'
PN: 'What sort of things did she suggest? (Clarifying her understanding.)
Mrs J: 'She told me all about grilling food and eating fish.'
PN: 'Were you able to try any of her suggestions?' (Clarifying.)
Mrs J: 'Not really, because I did not like to tell her we do not have a grill at home.'
PN: 'Looking over your records, I can see that your weight has not changed on this programme. Why do you think this is?' (Summary/open question.)

Topic salient to patient

Mrs J: 'Well, my husband has just retired and we are going away on trips. He says I do not need to lose weight as I look lovely just the way I am.'

Link & attempt to motivate

PN: 'It sounds like your lifestyle has changed and you are spending more time going out with your husband, who is happy with you as you are.' (Reflection.) 'I wanted to ask you about the weight-loss programme. Why did your doctor recommend it?'
Mrs J: 'It was to do with my heart and blood pressure.'
PN: 'May I explain more about this? (Seeking permission to give information.)

Mrs Jones was then told the facts about her increased risk of experiencing a cardiac episode or stroke and how reducing her weight was a factor in maintaining her health. She seemed surprised.

PN: 'How would it affect your life with your husband if you became ill?' (Open question.)
Mrs J: 'It would be terrible because we have saved all our lives to enjoy our retirement.'
PN: 'What would you be able to do to help yourself stay healthy?' (Agenda setting.)

Patient acceptance & commitment

Once Mrs Jones understood the benefits to herself, her husband and their lifestyle in making the changes to her diet, she was able to engage with the programme. She brought her husband to the next consultation and they worked together on her plan to reduce weight.

Source: Adapted from Percival (2013)[7]

3.5.2 Quantitative Outcomes

Unfortunately studies evidencing quantitative outcomes of teachable moments within primary care are currently limited. Building on their previous observational study[16] which identified the natural occurrence of teachable moments within the USA primary care setting, Flocke et al (2014)[17] attempted to quantify the effectiveness of teachable moments on intermediate patient outcomes based on the same 811 patient visit audio recordings. Height, weight, smoking status, physical activity levels and daily fruit and vegetable intake had all been assessed via phone survey approximately 1-3 days before the observed visit and then again 6 weeks later.

The study[17] found that at 6 weeks, patients were statistically significantly (99% confidence) more likely to recall health behaviour discussion when clinicians communicated behaviour change advise using a teachable moment (83%) or a teachable moment attempt (74%) compared to any other approach (54.4%). Furthermore, with the exception of Body Mass Index (which may be too crude of a measure to assess in the short term), teachable moments had the greatest positive impact on behaviour change outcomes at 6 weeks. Interestingly, discussions which lacked a link to a salient patient concern appeared to have a negative effect on patient outcomes, performing worse than patient visits where there was no discussion on behaviour change at all. However, statistically these differences were not significantly different. Flocke et al (2014)[17] surmises that this may be due to the low numbers in the study sample where a teachable moment took place, thus limiting the power to detect any statistically significant differences. It's possible that this could be the case, but without further, extended research this is not possible to prove.

Although in their study investigating the role of colon polyp diagnosis (potential cancer worry) in creating a teachable moment, McBride et al (2008)[14] found that those who were most worried about cancer were the most likely to engage in intervention, those with the highest risk factors, older patients and ethnic minorities were significantly less likely to engage in intervention - all of which had a negative impact on engagement. This is concerning, as those with the highest risk factors are likely to have the most to gain from health behaviour change. The authors suggests that these groups may not perceive a relatively minor event such as polypectomy as a significant enough threat to elicit behaviour change and that the older patients were less confident that their behaviour change efforts would succeed (low self-efficacy). Although in their study Flocke et al (2014)[17] also recorded such patient characteristics, they did not make comparisons across the patient groups in terms of tangible outcomes which could have been used to help confirm the findings from the McBride et al (2008)[14] study – this was likely due to the low numbers of visits where teachable moments were elicited.

In the previous sub-chapter (chapter 3.5.1) we saw how in the wider literature there were examples of qualitative based studies that would be defined as 'teachable moments' but not strictly termed as such. In terms of quantitative studies, this also appears to be the case. In fact, a significant number of the studies referred to by NICE (most of which are incorporated into wider systematic reviews) as evidence for the success of 'brief' or 'very brief' behaviour change interventions[20] and therefore in support of MECC, would actually be considered 'teachable moments'.

3.6 Potential Implications for MECC delivery

As we have seen in chapter 3.2, the health belief model, which underpins a teachable moment approach provides insights into when might be an appropriate time to engage in health behaviour change discussion (a key barrier to MECC implementation) and how clinicians may then be able to utilise such opportunities to influence patients perceptions to change, thus navigating resistance. Without identification of an issue/event salient to the patient and subsequent linkage to a lifestyle issue (i.e. key elements to teachable moment delivery – see chapter 3.3) it might not be appropriate to initiate health behaviour change discussion during 'every' contact as the MECC programme branding would suggest. As Flocke et al (2013)[17] argues, such circumstances may not only be ineffective at changing behaviour (the study by Flocke et al (2013)[17] showed a negative effect on behaviour change when discussion was not linked to a patient concern) but risks damaging the patient-clinician relationship (another key barrier to MECC implementation), particularly if the patient was not ready to change[5]. Thus, the adoption of the teachable moment approach, including an assessment of readiness to change prior to treatment suggestion (as proposed by Flocke et al (2012)[5]), may help address patient resistance to change while simultaneously keeping the patient-clinician relationship intact i.e. by not irritating or offending the patient.

A pilot study evaluating primary care clinician training to use the teachable moment communication process developed by Flocke et al (2012)[5] for smoking cessation counselling found that the approach increased the time spent discussing health behaviour during consultation compared to other methods[21]. While this may initially appear concerning (time and capacity are frequently quoted barriers to MECC implementation without increasing it further), it is important to note that this may be influenced by the relative inexperience of delivery of the teachable moment

process for those clinicians in the intervention group who were recently trained compared to the familiar methods used by the control group.

It is reasonable to assume that any very brief or brief intervention delivery in primary care to encourage behaviour change is likely to impact on the consultation time somewhat, particularly if the patient is keen to engage and we have already seen how the teachable moment process might encourage patient engagement if the issue is salient to the pateint[14]. Moreover, given that the teachable moment approach does not advise health behaviour discussion during every contact (unlike what the MECC branding would imply), overall, aggregated consultation time spent discussing lifestyle issues with across patients may be lower than compared to a universal MECC approach.

3.7 Limitations of this literature review

As previously discussed throughout chapter 3.5, studies included within this review have been methodologically restricted to those which specifically use the 'teachable moment' terminology (please refer to the search strategy in chapter 2). However, by extending beyond the confines of this search strategy and into the wider literature, we begin to see the emergence of numerous 'brief' or 'very brief' behaviour change intervention studies that (by assumed definition) would actually, also be considered 'teachable moments'. As a result, this literature review has been restricted to a handful of studies, providing only limited tentative evidence on the effectiveness of teachable moments in comparison to other methods of health behaviour change discussion. Furthermore, most of the identified studies were USA based with potentially differing population characteristics, culture and practice policies to that of Derbyshire or the UK and tended to be dominated by the same few authors, thus, potentially adding an element of bias.

4 CONCLUSION

The literature shows that in relation to health, the use of the term 'teachable moment' is largely synonymous with situations where a particular event or set of circumstances results in an increased desire, willingness and capacity for individuals to alter their health behaviour in a positive way. The concept is significantly underpinned by the Health Belief Model (HBM), which highlights the importance of cues to action. Within primary care, teachable moments do occur naturally and can be created through clinician and patient dialog; in-particular, where a clinician is able to identify an issue salient to the patient, link this to a lifestyle behaviour and provide subsequent encouragement to motivate the patient to change their current health behaviour. Additionally, if the clinician responds in alignment with the patient's expressed level of readiness to change, this may increase the likelihood of acceptance and prevent damaging the patient-clinician relationship.

At present, research concerning the effectiveness of teachable moments to influence behaviour change, particularly on quantitate outcomes is in its relative infancy, with at best only theoretical and tentative evidence suggesting advantages over other methods of health behaviour change discussion. Clearly, if a teachable moment approach was the most effective way for primary care clinicians to communicate healthy behaviour messages in order to elicit positive behaviour changes in their patients while preserving the patient-clinician relationship, this would present significant implications for MECC delivery in both primary care and beyond and raises additional concerns over MECC programme branding ['every' contact].

The wider literature revels the emergence of numerous 'brief' or 'very brief' behaviour change intervention studies that (by assumed definition) would actually, also be considered 'teachable moments', but are just not labelled as such. Despite being useful for understanding the concept, specifically including 'teachable moment' in the search strategy for this literature review may have restricted the number of studies in which outcomes could be assessed.

5 RECOMENDATIONS

- Wherever possible, clinicians should consider utilising opportunities, circumstances or events where patients may have an increased desire, willingness and capacity to change their behaviour, to encourage healthy lifestyle choices. Tentative evidence suggests that this may enhance the effectiveness of MECC delivery.
- Providers and commissioners should consider the findings of this literature review and the key elements of the teachable moment delivery model when developing staff training for MECC delivery.
- It would be useful if for future research, a systematic review and meta-analysis were undertaken to determine from the wider literature ‘brief’ or ‘very brief’ intervention studies considered teachable moments, but not necessarily labelled as such and compare the outcomes on behaviour change to other approaches.
- Given the lack of robust evidence of the effectiveness of teachable moments or that of MECC in general (particularly on long term outcomes and in practice), whatever approach is chosen to encourage healthy lifestyle choices via clinician-patient interaction, there must sufficient monitoring in place and appropriate evaluation in order to help expand the frontiers of knowledge within this field.

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