"A Systematic Approach to Behaviour Change Intervention, Design and Evaluation"

Professor Charles Abraham, Professor of Psychology applied to Health, University of Exeter.

Tuesday 13th January, 2015

These are summary notes to accompany the presentation made by the above named speaker, as one of the Institute of Health & Society seminar series organised by the IHS within Newcastle University. On this occasion the seminar was part of a double-bill linked with a Fuse knowledge exchange seminar organised by the knowledge exchange group. The summary notes of the Fuse KE seminar follow the report on the Professor Abraham seminar. The slide set Sue Bagwell used is available on the Fuse website to accompany the report of her presentation.

Professor Abraham opened the seminar by describing his roles, the range of his work and introducing the team he heads, which includes eight Research Fellows and thirteen PhD students. He highlighted the role of one of the national network of CLAHRCs (Collaboration for Leadership in Applied Research and Care) with which he works, and the specific areas of interest of named researchers within his team.

Referring to two maps of the USA, separated by twenty years (1993-2013), Professor Abraham showed the dramatic change over that period in the gravity of the seriousness of obesity amongst the American population. He described the change as a "disaster" which threatened the viability of comprehensive health care due the demands that obesity levels would place on the system. Clearly, whilst the outcome has been distinctly detrimental to public health, behaviour has changed in recent decades, on the part of food manufacturers and the consumer, with resulting weight gain noticeable at a population level. Potentially there are different levels at which the issue might be tackled (individual, interpersonal, organisational, community, societal, supranational). Professor Abraham posited that one very powerful lever would be to obtain a European Union ruling as a vehicle for change. Professor Abraham referred to a House of Lords enquiry in 2011 on behaviour change that examined the interventions which affected behaviour and made 32 recommendations, to which there had been a subsequent government response. The underlying concern remains whether as a nation there can be an improvement in public health, despite data and research being available. In all interventions the importance of evaluation was stressed in order to ensure the effectiveness of the intervention was properly assessed. However, there was also some good news to impart, behaviour change interventions can work, but with large variations in effect between population groups.

Some key basic building blocks in research were highlighted and these included:

- Needs assessment – it is critical that the research 'problem' comes from reality and it something that needs to be solved. (Elicitation research was the term used for understanding the problem)
- Define measurable objectives
- Identify relevant regulatory mechanisms

- Selection of change techniques
- Feasible, attractive, sustainable delivery formats which need to be co-created with recipients of the intervention
- Planning of marketing, adoption and implementation
- Plan the evaluation of the intervention before materials are created

This was referred to a "very simple science". Professor Abraham alluded to the Fisher & Fisher model which included the following prompt questions about intervention populations – Do they have enough information? Are they motivated? Do they have the behavioural skills? These type of questions can be used as a checklist. An example was given of the significance of public information, for example, the impact of seeing the calorie count on food wrappers such as chocolate bars and/or an indication of how much activity you had to undertake to work off the calorie intake from one bar. These are apparently simple facts that the general public are not cognisant of and might make a difference.

Professor Abraham referred to a checklist of factors influencing motivation, developed by Fishbein et al (2001). If any of these factors or components was not in place then the desired behavioural change may not happen. This kind of research needs to be applied, as the content of public information leaflets is not necessarily well aligned with the findings about motivational theory. The point was made that not everyone who intends to make a behaviour change will actually make it, so a good question to ask is "Are you going to do X?" Skills are relevant too, to whether people will make a change, for example, motor and/or social skills may be important to making the change. An example was given of an additional session on motivation to help dieters tackle difficult situations enhanced the effectiveness of weight watcher classes.

However, much of our behaviour isn't moderated consciously, for example, impulsive behaviour. Behaviours that we undertake regularly become routinized and are initiated and sustained with little conscious control. Some of these behaviours relate to what we feel, drink and do. These behaviours can become the default position, done without analysis, and also become linked with pre-determined reactions, for example, feeling positive just before you go to your favourite pub. Many behaviours can be similar to addictions as illustrated in the book, "The End of Overeating – Food Rehabilitation" by David Kessler, where for example, someone can't go to work without a doughnut. So, people can be motivated but not behave in accordance with their motives. In order to change this position, firstly, personal awareness of the behaviours is needed and then a sequence needs to follow including:

- Identifying and avoiding cues to the undesirable behaviour
- Understanding pre-monitionary urges
- Practicing immediate conscious rejection
- Developing appropriate rewards for good behaviour

Professor Abraham then moved to the topic of evaluation, referring to the developing science of economic evaluation. MRC guidance was published in 2014 on process evaluation which was commended to the audience, see http://www.populationhealthsciences.org/MRC-PHSRN-Process-evaluation-guidance-final-2-.pdf . A cartoon was used to illustrate the pitfalls of changing interventions without

aforethought. It is important to measure implementation and to know what context it works in, which is often overlooked. An example from Albarracin et al (2005) showed that in general threat inducing arguments don't work in changing sexual behaviour. Another example was that in general older people don't respond to normative arguments, (ie; "Everyone's doing it") whereas these arguments are more persuasive for young people. However, it is also important to consider how the message was delivered as well as the content itself. A small set of discrete measures is needed to conduct this work, noting that working on attitudinal aspects of behaviour also affects social norms simultaneously. Coding sheets were shown to the audience to illustrate how the work of evaluation is detailed and painstaking. It's important to exercise care throughout the process and in the interpretation, so, for example, something might be 'right' for men but not for women, or vice versa. Technique and intensity of use can also be important; all measures and parameters need to be taken into account. There's a lot of record to assess effectiveness and "it's much more difficult than rocket science".

The Healthy Living Programme (HeLP)

In the final section of his talk, Professor Abraham referred to the HeLP programme. HeLP is an intervention to prevent weight gain in school pupils aged around 11, currently running in 32 schools. It involves identifying what triggers weight gain. It is a drama based approach to intervention which took ten years to develop, but the time investment has been worthwhile because, parents are engaged and will attend the resulting play(s). A picture was shown of the children wearing T-shirts which they had personalised with designs that show the tempting snacks that they are attempting to give up. The approach to implementation was a key component of success. This study was ongoing at the time of the seminar.

Discussion

Discussion took place on a number of topics with the following points emerging:

- Members of the audience identified other kinds of routinized eating behaviour, for example, going to see a film and eating large portions of popcorn
- Professor Abraham confirmed that the process evaluation he had been describing was a form of hypothesis testing
- A contribution was made from the audience to the effect that a 3d diagram was needed of behaviour change to take account of time, and, as time was critical in making lasting change. It was important to understand people deeply to plan motivational change. Professor Abraham concurred with this point, and referred to a "Stages of change" model in the NHS which didn't work because it was the wrong kind of model for the health context.

Please note the report on the seminar delivered by Sue Bagwell starts on Page 4

Fuse Knowledge Exchange seminar, 13th January 2015, Research Beehive, Newcastle University

"Encouraging healthier catering practices amongst independent fast food takeaways in deprived areas"

Sue Bagwell, Research Development Manager, Cities Institute, London Metropolitan University

Sue introduced herself and explained her background and experience, which includes research to inform healthy catering, work with fast food environments and with small businesses, including with ethnic minorities.

Slide 2 sets the scene outlining the public health challenges associated rising obesity in the UK, which are among the worst in Europe with ¼ men and women and 1/5th of 10-11 year olds reported as obese. Slides 3 shows the prevalence of obesity by deprivation, across all age groups, a point picked up in the Marmot review. Slide 4 on obesity and the environment illustrates a map of fast food outlets (FFO) and how these are clustered in deprived areas. 'Food deserts' in some areas result in limited access to healthier food choices, greater access to chicken and burgers and cheap filling food in poor areas, and poor access to fresh fruit and vegetables (slide 5). Sue noted that FFOs operate in a highly competitive environment and often lack the resources to offer alternative healthier methods of cooking (such as grilling). But FFO outlets also provide local employment opportunities and have relatively affordable start-up costs (slide 6), and in some areas provide an important social space and halal food in an alcohol-free environment that is valued by the Muslim community (slide 7). Sue noted that customers reported that much healthy food was not necessarily halal.

In her next slides, Sue went on to explain the options for policy intervention by government, outlined by the House of Lords (2011) report on behaviour change ranging from the provision of information, to 'nudging', through to fiscal measures (slide 8). An example of nudging might for example be hiding the salt shaker or placing it behind the counter in a FFO. Policy options using the planning regime to influence the location and concentration of FFOs in any given area were noted as more recent developments (slides 9 &10). Sue pointed out that in Tower Hamlets 97% of the population live within a 10 minute walk of FFO, so even if new outlets can be banned, you still have to work with existing providers. Education and voluntary agreements (slide 11) have been introduced through some public health responsibility deals and in London the Healthy Catering Initiative has been taken up by 14 LAs, but evaluation shows that the criteria are too onerous for many FFOs (e.g. availability of fresh fruit, using less fat), and tend to be more successful with businesses in more affluent areas, thereby potentially widening health inequalities (slide 12).
The next part of Sue's presentation focused on the ESRC knowledge exchange project targeting the least healthy FFOs. The key research questions are set out in slide 13. The research framework drew on Pawson and Tiley's (1997) Realist Evaluation, which examines what works for whom, in what context (context/mechanism/outcome combinations on slide 14). Methods used included participatory action research, and sought to develop an 'engaged relationship with partners' (Van de Ven 2007). A phone survey was conducted of

healthier catering initiatives (n=34) and in-depth interviews with best practice businesses in London in the 20% most deprived areas, (slide 15), exploring different types of initiatives underway (slide 16). From this, general principles of best practice interventions were identified (slide 17). From the interviews with FFOs in London, a number of possible combinations of changes in product, price, promotion and place were identified (slide 18). Sue gave examples of some of these including use of healthier oils, less salt, smaller helpings, healthy swaps, steamed not fried options, pricing strategies (eg.water cheaper than pop), placing healthy drinks at eye height, 2 for 1 on salads, smaller trays piled high with chips, salt shakers with 5 not 17 holes (slides 19-23). Context was felt to be important, and some successful examples were given, such as encouraging rice instead of chips, but this depended on the types of food sold as well as the customer base slide 24). Levels of competition on the High Street also affected what businesses felt was possible (slides 25-26). Sue acknowledged the importance of social and cultural norms in introducing healthy catering for businesses (eg. chip shops found it hardest to reduce salt).

Barriers for suppliers were outlined (slide 27); healthier products cost more, e.g. wedges are twice as expensive. Higher costs could not always be passed on to customers. Outlets were tied into deals with suppliers. For example coke and pepsi provide free fridges on the basis that minimum 75% stock is suppliers own brands, which limits options for healthier options like fruit juice (slide 28). Suppliers also reported barriers to change (slide 29), but there were examples of success, e.g some did agree to highlight healthy options on their supply lists, website etc. Suggestions were given of ideas for LAs and national bodies, e.g. through contracts and positive press coverage (slide 30). Sue finished by emphasising the importance of a whole community approach, including schools, and the need to understand the context and for work to happen earlier on, further up the supply chain (slide 31).
A key output has been the development of an interactive toolkit to encourage healthier takeaways in low income communities, including case studies, available on www.ifsip.org/Takeaways_in_Deprived_Areas_Toolkit.html. Sue's presentation finished with an inspiring example of a Haringey based take away, Tasty Buds, and interviews with staff outlining their strategies to encourage healthier eating options.

Questions and comments from the audience focused on;

- How to generate enthusiasm and motivation among businesses, (potentially through customer demand). Sue emphasised the importance of working with consumers, and working with a few small businesses who sign up and influence others. There are multiple initiatives underway, embracing diverse approaches.
- Whether the research included mobile takeaways. Sue confirmed 2 burger vans were included, one outside Arsenal football ground, as a case study.
- Any work done which made a difference to consumers? And how? It was noted healthier frying practices will make a difference to people's health.
- What legislation / policy options would make a difference? Sue noted in Denmark a fat tax on saturated oils was introduced for a year but then changed, as a result of a backlash. In the UK, gov is more interested in voluntary agreements and individual behaviour change models.
- To what extent is there a role for global change re. supersizing/trading up to large, for example, by KFC and McDonalds.

- Balance promote alcohol in moderation. Is there a role for re-framing and marketing takeaways as occasional 'treats', not the norm. The need to target politicians was noted.

Sue was thanked for her excellent presentation.

Notes drafted by Mandy Cheetham and Avril Rhodes
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