

## Information to fight the flab: findings from the Net.Weight study

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# **Information to fight the flab: findings from the *Net.Weight* study**

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## **Abstract**

The purpose of the paper is to examine information use and information literacy in the context of weight management. It reports on a two-year study funded by the Department of Health known informally as the Net.Weight Study. Net.Weight examined the potential for increased, innovative and effective uses of information and communication technologies (ICTs) to support the self management of weight. The research was conducted in the city of Brighton & Hove by an inter-disciplinary team from the University of Brighton. The paper gives a brief overview of the various methods used in the study as a whole but discusses one strand, the user survey, in more detail. The survey gathered data on people's information and ICT use around weight management. The design of the survey questionnaire required the adaptation of existing literacy assessment instruments and this process is described in this paper. The findings show that people use a wide range of information sources for information and support around weight management. The most useful sources are slimming groups, food packaging, friends and family, magazines, TV and health books, thus representing a variety of media, formal and informal, and including human sources. The internet was reported to be a useful source for around half the survey respondents and is most often used for information about diet and exercise. A majority of respondents described themselves as active information seekers and confident about their information skills. They are less confident about internet information than information generally and even less confident about using the internet to support weight management activities.

The concept of literacies, particularly around information and health, provide a framework for examining the Net.Weight findings. The findings are discussed in terms of their implications for health information policy and for those interested in applying information literacy theory to health. The role of healthcare practitioners in weight management information is addressed, as is the need for targeted rather than generic health information. It is suggested that the work done in the education sector to increase awareness of information literacy and improve

skills could provide a useful model of good practice in a health context. However, the evidence provided by the *Net.Weight* study suggests that for such an approach to be relevant it needs to reflect the complexity of health information processes in everyday lives.

## Keywords

Information literacy; health literacy; e-health literacy; health information; weight management

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## 1. Introduction

This paper examines information use and information literacy in the context of weight management. It reports on a two-year study officially called *Supporting the self management of obesity: the role of information and communication technologies*. This study was funded by the Department of Health and was informally known as the *Net.Weight* Study (Henwood and Guy, 2008). *Net.Weight* has been examining the potential for increased, innovative and effective uses of information and communication technologies (ICTs) to support the self management of weight. The study was located in the city of Brighton & Hove and conducted by an inter-disciplinary team from the University of Brighton and Brighton and Sussex Medical School.

This paper outlines the research methods used in the study and concentrates on one strand of the research, known as the user mapping exercise, which used focus groups and a survey to gather data on people's information and ICT use around weight management. The findings from the survey are presented and discussed, in particular those which relate specifically to information sources, behaviour and skills, using a framework of information and related literacies. Where relevant, findings from the focus groups are also included.

## 2. The *Net.Weight* study – an overview

The study had several research strands and the research team worked in partnership with local health and information providers, building on existing 'healthy living' initiatives in Brighton & Hove. A provider-mapping exercise identified local information provision and formed the basis for a web-based directory of relevant sources. A user mapping exercise, in the form of focus groups and a questionnaire-based survey, examined participants' awareness and use of these and other information sources. On the basis of data from the user-mapping exercise, parallel series of participatory learning workshops were designed and implemented, taking place in community venues throughout the summer in 2008. These workshops used supported peer learning to develop critical engagement with health information and ICTs in the context of weight management. In January and February 2009, the workshops were evaluated in terms of their success in increasing participants' ability to make effective use of health information and ICTs and to reach their self-defined health goals. This was done by means of interviews with study participants. Before moving on to a closer examination of the user survey, the following section discusses the policy context and relevant literature.

## 3. Context and Literature Review

The *Net.Weight* Project sits at the intersection of three major health policy agendas: self care, as a building block for a patient-centred health service (Department of Health 2006), patient and public involvement and empowerment (Department of Health 2000 & 2007) and information provision for decision-making (Department of Health 2004). As well as addressing those policy areas, however, it challenges some of the underlying assumptions,

such as the tendency to link the development of a patient-centred health service with the implementation of ICTs. Considerable resources, for example, have been put into developments such as the *NHS Choices*<sup>1</sup> website, although studies show that the internet may play only a relatively modest role as a preferred health source for many people (Department of Health 2005; Ellins and Coulter 2005).

*Net.Weight* also sits at the intersection of different literatures about literacy, notably information, digital and health literacies. Information literacy is defined by CILIP, the professional body for the library and information profession in the UK, as

“knowing when and why you need information, where to find it, and how to evaluate, use and communicate it in an ethical manner” (CILIP 2007).

While there is evidence of an increasing interest in research which links information and health literacy, the key studies on health literacy have taken place within medical disciplines, where the interest of policy makers and health service providers was derived from research which showed consistently clear links between poor literacy and poor health (Kickbusch et al. 2006; Sihota and Lennard 2004). Nutbeam (2008) traces the roots of the concept, arguing that two distinctly different approaches have arisen in clinical care disciplines on the one hand and public health on the other. The clinical care approach is encapsulated in the definition from the US Institute of Medicine:

“the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions” (Institute of Medicine 2004, p4).

According to Nutbeam (2008) the clinical care approach has tended to emphasise an individual's capacity to understand basic health information and service provision and sees health literacy as a risk factor. The public health approach focuses less on a set of functional capabilities and more on a set of skills which enable people to participate in their own health and well-being:

“Health literacy represents the cognitive and social skills which determine the motivation and ability of individuals to gain access to, understand and use information in ways which promote and maintain good health” (World Health Organization 1998).

This definition is notable for its incorporation of social, as well as cognitive, skills and for the inclusion of other attributes such as motivation. There is consensus in the public health literature that health literacy levels must be improved (Kickbusch et al 2006; Sihota and Lennard 2004), but less of a consensus on how to do this.

With regard to the understanding of health literacy in an electronic context the work of Norman and Skinner (2006a and 2006b) is key. They argue that being health literate in an electronic world requires an expanded set of skills and propose a definition of eHealth literacy as

“the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem” (Norman and Skinner, 2006b).

Their model of eHealth literacy incorporates six core skills or literacies: traditional literacy, health literacy, information literacy, scientific literacy, media literacy and computer literacy. The definitions of information and e-health literacy cited in this section share an underlying expectation that individuals will actively look for information. While the definition of eHealth literacy is the most explicit in this regard, the CILIP definition also implies purposeful activity. The concept of the active information seeker, involving purposeful information-seeking on the part of an individual, is well established in library and information science theory (Ellis 1996; Wilson 1999). However, McKenzie (2003) argues that the existing theory is insufficient to explain the complexity of everyday life information-seeking and has developed a model of information practice which maps modes of information practice, such as ‘active seeking’ and

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<sup>1</sup> *NHS Choices* is at <http://www.nhs.uk> [Accessed 21 September 2009]

'active scanning' to phases of the information process, which she characterises as 'connecting' and 'interacting'. With specific regard to health there is a considerable body of research on the characteristics of health information seekers (Baker and Pettigrew 1999; Cotten and Gupta 2003; Dervin 2005; Huntington et al. 2002). Baker and Pettigrew (1999) use theory from psychology to explain why some people actively seek health information while others do not. Huntington et al. (2002) develop a typology from Pinder (1990, cited in Huntington et al. 2002) to characterise health information seekers into active and passive groups while creating two new group categories to characterise electronic information-seeking behaviour, 'electronic isolated' and 'electronic sociable'. Those labelled 'electronic isolated' use electronic sources, but not in a very active way or social way. In contrast, 'electronic sociable' people use electronic sources, but also rely on friends and family for health information.

Whether or not actively sought, information and knowledge are beginning to be seen as key to effective self care. In a survey of public attitudes to self care, the Department of Health (2005) found that information and knowledge were likely to be the key factors for enabling better self care. The Picker Institute conducted a similar survey, measuring self engagement in health care (Ellins and Coulter 2005), and the report also stresses the role of information in enabling individuals to be actively involved in their health and healthcare. Studies consistently suggest that health information seekers draw on a range of sources, both formal and informal (Ellins and Coulter 2005; Huntington et al. 2002). The next section explores the use of a survey in *Net.Weight* to map the 'information landscapes' of local people attempting to manage their weight.

#### 4. User survey

The user survey, together with four focus groups, constituted the user-mapping strand of the study. The focus groups were used primarily to inform the design of the survey questionnaire, although they provided rich data in their own right. However, due to space constraints the results from the focus groups are not reported in detail in this article. The aim of the survey was to provide benchmark data for the study as a whole and it set out to produce a detailed picture of participants' current health status, their information landscapes, and their existing networks of support in the context of weight management. The key research questions associated with the survey were:

- What are the existing assets (knowledge and skills) held by people seeking to self-manage obesity?
- What are the information, advice and support needs of people seeking to self-manage obesity?
- What are the key sources of information and support currently accessed?
- In what contexts are ICTs used in accessing such sources?
- What learning and skills needs are identified by those seeking to use ICTs to support them in the self-management of obesity?
- How far are engagement in obesity self-management and use of ICTs differentiated by socio-economic status, gender, ethnicity and age?

Implicit in several of the research questions is the need to assess participants' information, digital and health literacy skills. As Norman and Skinner (2006a) point out, there are relatively few validated instruments for assessing literacies but, through the literature, three tools were identified and adapted: the *Information Skills Checklist* (Learning and Teaching Scotland 2005); the *eHealth Literacy Scale* (eHEALS) (Norman and Skinner 2006a) and the *National Statistics Omnibus Survey, Internet Access module* (ONS 2005). The Office for National Statistics instrument is designed for self-completion in a stand-alone capacity but the other two, while also designed for self-completion, are to be used with interventions – in an education setting in the case of the *Information Skills Checklist* and in a health setting in

the case of eHEALS. Although the *Net.Weight* study had a later intervention strand, in the form of the participatory learning workshops, the aim of the questionnaire was to provide stand-alone data. Adapting the instruments for the *Net.Weight* questionnaire therefore raised some interesting methodological issues and those, along with other aspects of the questionnaire design, were tested in the focus groups and a pilot survey. The focus groups were organised through two local outlets of the Rosemary Conley<sup>2</sup> Diet and Fitness Clubs; through a community-based weight management group called Shape Up, at the time part of a local regeneration initiative called EB4U<sup>3</sup>; and through an NHS group, called the Healthy Living Group, run under the direction of dieticians at the Royal Sussex County Hospital. The draft questionnaire was piloted through the project partners in Brighton and Hove Teaching PCT, by means of participants in a pilot scheme, called the *Active for Life* referral scheme, which encouraged local GPs and practice nurses to refer people who were overweight to local fitness initiatives, classes or gyms. Feedback from the focus groups and pilot survey was incorporated into the questionnaire and two versions were produced, paper and online.

The target group for the survey was adults who were resident in Brighton & Hove, over the healthy weight for their height and trying to do something about it. These criteria were made explicit in all the promotion material and on the cover page of the questionnaire itself. The paper version was distributed to locations throughout the city, the distribution points being identified by team members and project partners as places that people who were actively involved in managing their weight were likely to go, for example GP surgeries or leisure centres. The URL for the online survey was included in all the promotional material for the study and on the paper questionnaire itself, offering those interested an alternative means of completion. Some of the city's major employing organisations also agreed to participate and they provided links to the online survey via internal networks.

In all, 2610 paper questionnaires were distributed and 280 were returned, resulting in an 11% response. In the online survey, 174 questionnaires were completed<sup>4</sup> and an overall total of 385 valid completed questionnaires were included in the analysis. The majority of survey respondents were female (83.4%), mainly in the 45-59 age range, white, employed and with a university degree. The predominance of women is unsurprising, given that women are more likely than men to visit their GPs (a key distribution point for the survey) and to be actively involved in managing their weight, for example by following a diet or attending classes. The age distribution of the sample is similar to that of Brighton & Hove in that those over 45 made up 56% of the *Net.Weight* sample, compared to 54% of the city's population. Employment rates and education level were slightly higher than in the city's population as a whole, while the ethnic mix was commensurate with the city's ethnic mix. The profile of the *Net.Weight* sample should be borne in mind when comparisons are made with other surveys. For example, in its survey of public attitudes to self care, the Department of Health (2005) used a quota method to ensure that its sample was representative of all adults in Great Britain aged 18 and over. The Picker Institute survey, measuring self engagement in health care (Ellins and Coulter 2005), used statistical techniques to bring its sample in line with the known profile of adults aged 45 and above in the four UK populations. The *Net.Weight* survey did not set out to be representative in the same way.

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<sup>2</sup> Rosemary Conley is a national chain of franchised diet and fitness clubs. The organisation was included in a pilot referral scheme being run by Brighton & Hove City Teaching PCT called Active for Life.

<sup>3</sup> EB4U was the name of the regeneration programme covering six communities in the eastern area of Brighton & Hove. It was renamed in 2007 and is now the East Brighton New Deal for Communities (Ebndc).

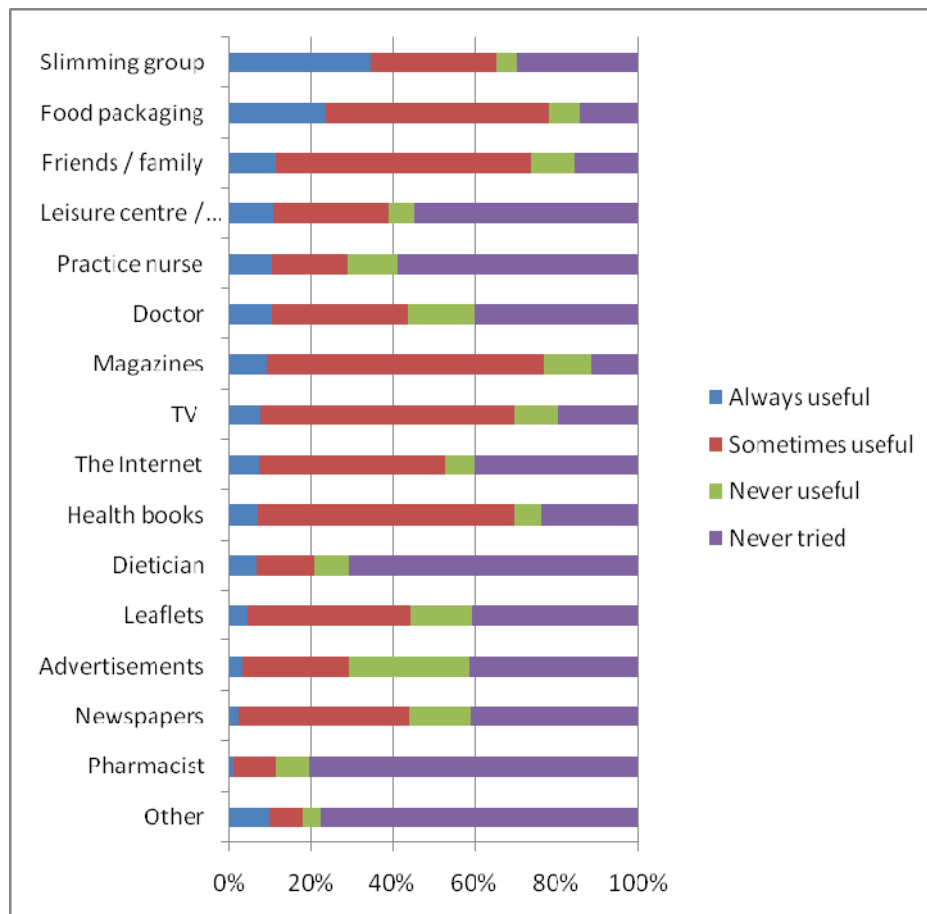
<sup>4</sup> As the online questionnaire was electronically available rather than distributed it is not possible to calculate a return rate

Most (84%) *Net.Weight* survey respondents had a household connection to the internet and most (87%) reported themselves to be very or fairly confident internet users. They used it mainly for email (88.6%) and searching for information about goods and services (76.6%) with 59.5% sometimes using it for finding out information about health. More people responding to the *Net.Weight* survey made use of the Internet either 'often' or 'sometimes' to look for information about health compared to national figures. This possibly indicates a greater awareness of health issues among this largely middle-aged cohort of overweight people - mainly female - who are actively engaged in managing their weight or it could indicate a higher level of health problems, possibly weight-related. However, it could also indicate a greater confidence and resourcefulness in using the internet than in the UK population as a whole. The next sections report in more detail on the findings related to information sources, behaviour and skills.

## 5. Information sources

The range of information sources and support mechanisms available to people wishing to manage weight is considerable. The survey respondents were asked to indicate the usefulness of items from a list of fifteen options. This list was compiled from the survey instruments used by MORI (Department of Health 2005), the Picker Institute (Ellins and Coulter 2005) and Huntington et al. (2002). It consists of a mix of sources and media, including print, electronic and human. Figure 1 shows the perceived usefulness of the different options, which supports the findings from the literature that people use a range of sources, both formal and informal (Huntington et al. 2002; Ellins and Coulter 2005).

**Figure 1: Perceived usefulness of information sources for weight management**





The sources which had the highest rating for *'always useful'* in the *Net.Weight* study were slimming groups (34.7%) and food packaging (23.7%). Of those who had tried slimming groups, only a small number (5%) had found them *'never useful'*. Aggregating *'always'* and *'sometimes useful'*, food packaging, friends and family and magazines were rated most highly. Also rated highly were TV and health books. Thus the most useful sources were a mix of media representing formal and informal sources.

With regard to health professionals, only 10.2% of participants found their doctor *'always useful'*, with around one third (33.6%) finding the doctor *'sometimes useful'*. More participants (16.1%) found their doctor to be *'never useful'* compared with *'always useful'* (10.2%), while a substantial percentage (40.1%) had never tried their doctor as an information source. In contrast, the studies by the Picker Institute (Ellins and Coulter 2005) and the Department of Health (2005) found doctors and other healthcare professionals to be key information sources. The Department of Health report states that "GPs are overwhelmingly the preferred source of self care information, mentioned by over half [of the respondents] (51%)" (Department of Health 2005, p. 44). It would appear from the *Net.Weight* survey that doctors and other health care professionals are perceived to be less useful as a weight management information source than for other aspects of self care. Throughout the study there were reports of interactions with health care practitioners which would support this finding. In one of the focus groups, for example, the following exchange took place, illustrating a GP response which was not particularly useful, as reported by a participant:

*INT: And what about people like your doctor, or practice nurse, have you ever spoken to them about it?*

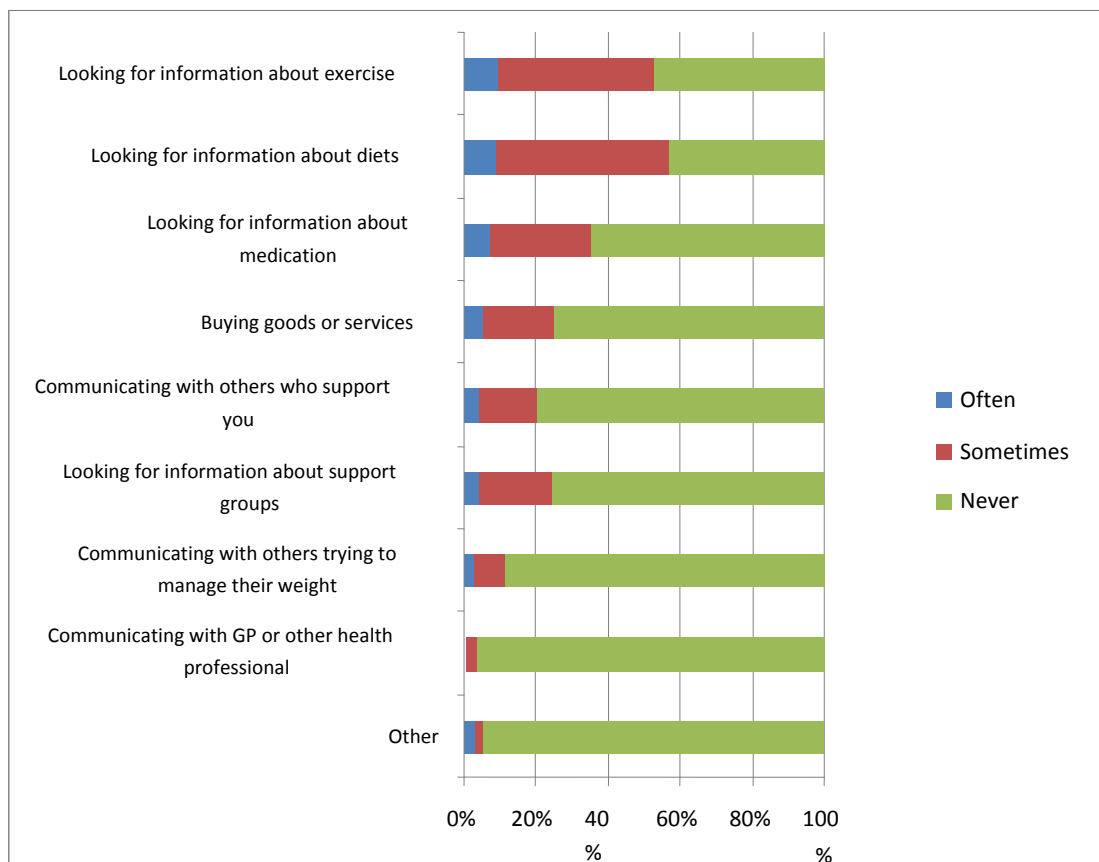
*RES3: Yes, I spoke to my doctor and I said I've put on so much weight, and [he] said, 'well maybe you're just that type of person who puts on weight'.*

The questionnaire asked a series of open-ended questions about how respondents' weight management activities might be supported. One theme that emerged was the need for very specific information. Some survey respondents, for example, said that they had specific information needs related to other health problems such as exercise advice for someone with osteoarthritis, weight control for an individual confined to a wheelchair, or advice on foods that might help someone lower their high blood pressure. The same theme was raised again in the participatory learning workshops, where several participants spoke about their own complex health problems, often related in some way to weight and the difficulty in obtaining tailored information and advice.

## 5.1 The internet

Figure 1 also illustrates that the respondents were fairly evenly split over the usefulness of the internet as an information source for weight management. It was reported to be either *'always'* or *'sometimes useful'* by just over half of the respondents (53%), while 40.2% had never tried it and a small number (6.8%) found it to be *'never useful'*. The *Net.Weight* study was interested in the internet as a tool for support and communication as well as for information and at a later stage in the questionnaire, respondents were asked about the frequency with which they used the internet to help with a selection of individual and collaborative weight management activities.

**Figure 2: Use of the internet to support weight management**



The responses to this question, as shown in Figure 2, illustrate that the internet is not often used to support weight management. When it is, it is used primarily for looking for information rather than to facilitate collaboration and communication and is used most often to look for information about exercise (9.4%), diets (9.1%) and medication (7.1%). A larger number of respondents sometimes use the internet to look for information about exercise (43.2%) and diets (47.8%). A significance test showed that people in the younger age groups of 18-29 and 30-44 were more likely to use the internet often to look for information about exercise; older people were more likely never to do this. The Picker Institute study (Ellins and Coulter 2005) reported a similar finding, in that while the internet and health websites were the most commonly cited sources of health information after doctors, the likelihood of using the internet for health information declined with age, particularly with the over 65s.

## 6. Information-seeking behaviour and skills

### 6.1 Active information seeking

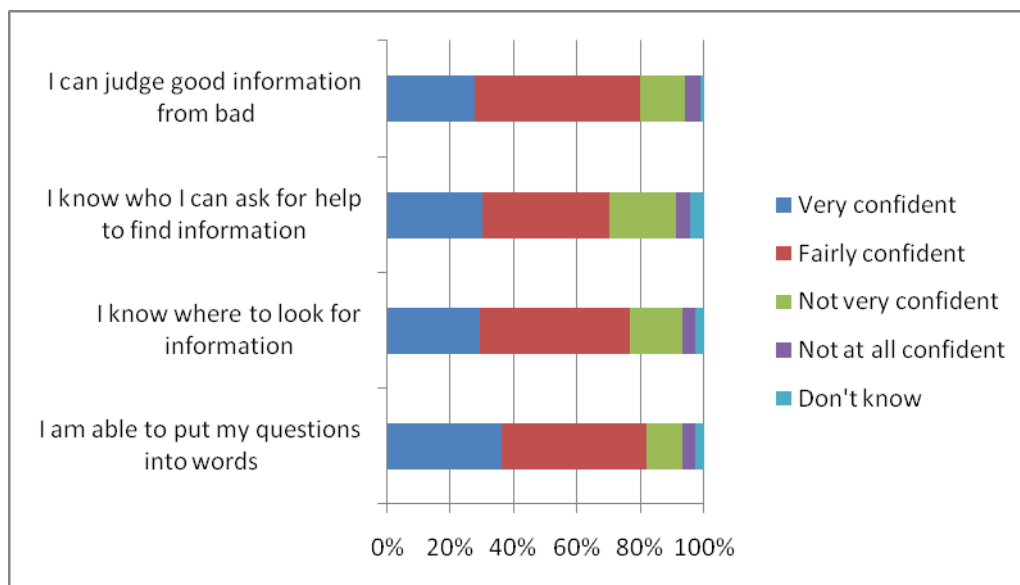
Respondents were asked how likely they were to actively look for information about issues related to weight. This question was designed to probe the extent to which they saw themselves as active information seekers. More than 55% of respondents reported that they were 'likely' to search for information themselves and more than 20% were 'very likely' to do so. This amounts to more than 75% of respondents describing themselves as active information seekers on issues related to weight. Only a very small proportion, less than 20%,

were either *'unlikely'* or *'very unlikely'* to actively look for information about weight issues. This reflects the Picker Institute's findings (Ellins and Coulter 2005) where the majority also said that they were *'likely'* or *'very likely'* to seek out information to learn about how to cope with health problems.

## 6.2 Information skills and confidence

*Net.Weight* respondents were asked to rate their levels of confidence with reference to information skills, and the results, as shown in Figure 3, illustrate high levels of confidence, supporting the finding from Ellins and Coulter (2005) that most respondents (93%) to their survey on engagement in healthcare expressed confidence in their ability to find trustworthy sources of information. A similar level of confidence was reported in the Department of Health (2005) survey, which found that the majority of the public say that they feel confident that they have the knowledge and understanding they need to do self care.

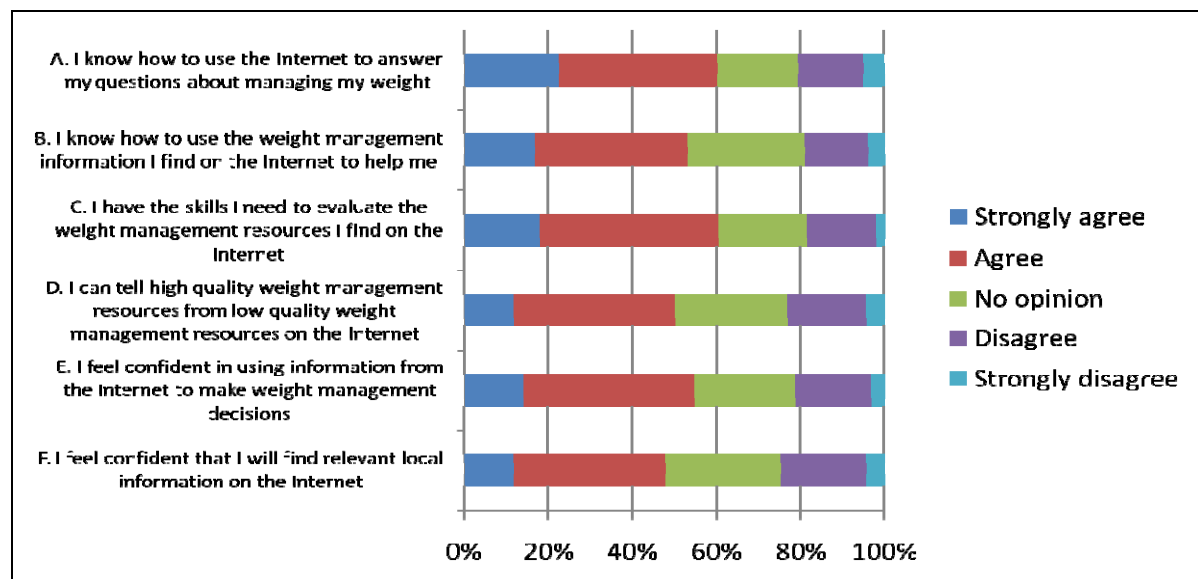
**Figure 3: Confidence with information skills**



In the *Net.Weight* survey, just over 80% of respondents were either *'very confident'* or *'fairly confident'* about formulating a search question (putting questions into words), and just under 80% were *'very'* or *'fairly confident'* about judging good information from bad. Around 76% were either *'very confident'* or *'fairly confident'* in knowing where to look for information and 70% were either *'very'* or *'fairly confident'* about who to ask for help to find information. There was a statistical correlation between the respondents' confidence with information skills and levels of education, where those with a university degree were more likely to be *'very confident'* or *'fairly confident'* in judging good information from bad; in knowing where to look for information; and in putting their questions into words. Those with 'O' levels or no qualifications were more likely to be *'not at all confident'* in those activities. The only activity where education played no role was that of asking for help to find information.

Later in the questionnaire, respondents were asked a similar question about levels of confidence, skills and experience in using the internet for weight management. The responses to this question are shown in Figure 4.

**Figure 4: Confidence in skills to use the internet to support weight management**



The answers showed that people were fairly evenly divided in whether or not they feel confident about their ability to use the internet for weight management. As shown in Figure 4, 60.1% of respondents ‘strongly agree’ or ‘agree’ with statement A: “I know how to use the internet to answer my questions about managing my weight”, while 20.6% either ‘disagree’ or ‘strongly disagree’. Figure 4 illustrates that the responses to statements B-F were similarly distributed.

To sum up the findings on skills and confidence, the *Net.Weight* respondents are less confident about their skills with internet information than they are about information generally, about which they are fairly confident. They are even less confident about using the internet to support weight management activities than they are about their ability to use the internet generally. Although the confidence findings around information generally reflect those from the reports by Ellins and Coulter (2005) and the Department of Health (2005) it is interesting that the Department of Health sounds a note of caution, arguing that while reported high levels of confidence is a positive finding it may also indicate complacency, lack of motivation or lack of knowledge. Gross (2005) echoes this cautionary note, suggesting that people who function at a low level of skills with regard to handling information overestimate their abilities and proceed with confidence as they develop ineffective strategies and make poor decisions. Responses to the open questions included comments such as the need for “proper unbiased facts” and “good basic information” suggesting that the finding is less straightforward than might initially appear. The fact that respondents are less confident about internet information supports Norman and Skinner’s argument (2006b) that people need an expanded set of skills to be health literate in an electronic world.

## 7. Conclusion

The survey data demonstrated that it is possible to adapt existing instruments to assess literacy skills for a questionnaire. While this is not necessarily recommended as standard practice, it did enable the gathering of baseline data for the *Net.Weight* Study on how people assessed their own information behaviour activities and their own information and ICT skills. The study went on to explore this in more depth with smaller groups in the participatory learning workshops and the results of the workshop strand of the research will be the subject of future papers.

From a policy perspective, the *Net.Weight* survey showed that people are using a range of information sources through a variety of media for information and support around weight management. In contrast to other studies, (Ellins and Coulter 2005; Department of Health 2005) the *Net.Weight* survey found that doctors and other health professionals were not the most useful sources of information and that overweight people are tending to look elsewhere for information and support for weight related activities. This has obvious implications for the healthcare professions and for health information policy. The healthcare practitioner is assumed to have a pivotal role with regard to health information and indeed the new government initiative on information prescriptions (NHS 2007), whereby people with long term conditions may be given an information prescription from their GP, relies on this relationship. However, the *Net.Weight* findings suggest that this route is not always appropriate.

People managing their weight are often knowledgeable about their own health and already have more than enough access to general health information. What is lacking is easy access to specific information, such as information for people with additional health problems. The *NHS Choices* website is an extremely rich resource and is being developed in ways which enable individual personalisation. People can, for example, create their own information prescriptions. However, the emphasis remains on the provision of generic information, with the assumption that making this type of information available, for example on diet and exercise, is sufficient to enable people to change their behaviour or take better care of themselves. The *Net.Weight* study has shown that the reality is far more complex and nuanced.

The most useful source of information for the *Net.Weight* survey respondents, and consistently mentioned throughout the study, was slimming groups. This implies the importance of social support alongside information provision and while the differences between information and support are difficult to disentangle, there are implications for information literacy. The information literacy definition, along with the digital and e-health literacy definitions cited at the beginning of this paper, carries the implication of individual rather than social activity. Johnston and Webber (2006, p. 111) challenge this and shift the emphasis, making “a critical move from approaching information literacy as an enumeration of personal attributes to a concern for the person situated in the information society”. They argue that information literacy must be seen as a “socialized activity” (p. 113). Their re-conceptualisation of information literacy as a “soft applied discipline rather than...a set of personal attributes” (p. 109) echoes Nutbeam’s (2008) argument about the need to see health literacy as an asset which will enable engagement in social action. Findings from the *Net.Weight* study would appear to support an approach to information and health literacy which emphasises, or at least includes a social as well as an individual perspective.

A further implication of the literacy definitions cited earlier is the expectation that people actively look for information. The *Net.Weight* survey showed that the majority of respondents reported themselves to be active information seekers. However, the fact that the most useful sources of information in the survey were slimming groups and food packaging suggests that the respondents have a different perspective on the process of active information seeking from that implied in the literature. These findings suggest that the concept of active information seeking is open to interpretation and that a more complex set of activities is in operation, more in line with McKenzie’s (2003) patterns of shifting information behaviours. Again, findings from the *Net.Weight* study would appear to support an approach to information and health literacy which includes a more flexible notion of information seeking.

The importance of food packaging as an information source for the *Net.Weight* respondents is logical and there is a lot of current debate about the need to simplify and standardise the information on food packaging. However, as a source of information, it is arguably outside the scope of the standard information (CILIP 2007) and health (Institute of Medicine 2004)

literacy definitions. Applying the model of staged activities implied by CILIP (2007) shows a partial match, in that food packaging cannot be identified and searched in the same way as a more conventional source such as a health book, for example, but the information on it can be evaluated and used. Again, if the definitions and supporting practices linked to information literacy are to be relevant in this type of everyday context, then some sense of the validity of non-conventional information sources needs to be recognised.

The *Net.Weight* respondents were confident about their information skills but less so about internet information and even less about using the internet specifically to support weight management activities. These findings may disguise some complexities around self-rated skills, but they would certainly tend to support Norman and Skinner's argument (2006b) that people need an expanded set of skills to be health literate in an electronic world. The experience gained from the work around raising awareness of information literacy and improving information literacy skills in education (Secker et al. 2007; Webber and Johnston 2000) could be used to inform initiatives around improving health literacy. However, as Bawden points out "[t]o deal with the complexities of the current information environment, a complex and broad form of literacy is required" (2001, p. 251). Marshall and Williams (2006) conclude similarly that there is a need to develop information literacy for health in ways which reflect the complexity of the process and which are appropriate to individual needs and experiences. Findings from the *Net.Weight* study would appear to support this conclusion, while posing further questions about the role of social activity, the multiple approaches to information-seeking and the validity of previously under-recognised forms of information.

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