Author's response to reviews

Title: Do English Healthcare Settings Use 'Choice Architecture' Principles in Promoting Healthy Living for People with Psoriasis? An observational study

Authors:

Christopher Keyworth (chris.keyworth@manchester.ac.uk)
Pauline A Nelson (pauline.nelson@manchester.ac.uk)
Lis Cordingley (lis.cordingley@manchester.ac.uk)
Christopher EM Griffiths (christopher.griffiths@manchester.ac.uk)
Chris Bundy (christine.bundy@manchester.ac.uk)

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Author's response to reviews: see over
16th February 2015

Dear Dr Turner,

Re: Do English Healthcare Settings Use ‘Choice Architecture’ Principles in Promoting Healthy Living for People with Psoriasis? An observational study

Thank you for your email on 2nd February which included the reports of the referees for the above manuscript, and for the invitation to submit a revised version of this manuscript. The reviewers’ comments were very helpful and we believe that the manuscript has been improved by addressing the major points raised.

We have addressed each proposed revision in turn. All author responses to reviewer comments are included in the table below:

<table>
<thead>
<tr>
<th>Comment</th>
<th>Author response</th>
<th>Specific changes in the manuscript</th>
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<tbody>
<tr>
<td>Reviewer: Frank Doyle</td>
<td>Thank you for highlighting this point. We agree that other aspects of PILs would be useful to consider. We have made reference to this in the limitations section and suggested areas that future research should focus on.</td>
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<td>The quality indicator seems a little weak – surely other aspects of PILs are useful for consideration – such as theory content perhaps, or even potential bias (although perhaps less relevant for lifestyle changes, as per Doyle et al 2013, citation 35)? Or whether the advice is practical (e.g. how to lose weight), rather than generic (advice to lose weight without practical tips)? This is another limitation of the study?</td>
<td>Yes, a binary scale was used to rate the quality indicators.</td>
<td></td>
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<td>I presume these were rated as present/absent on a binary scale? Or are they rating scales such as Likert?</td>
<td>Due to time limitations and logistical restraints we were unable to analyse the entire sample of PILs, particularly given that this study subsequently informed the next</td>
<td>We have added the following statement to the limitations: ‘These were randomly selected, and having found no examples of high quality materials, we are confident this is a fair</td>
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<td>Why was only a subsample analysed as per the Houts et al framework?</td>
<td></td>
<td>(Lines 349-355).</td>
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(Manuscript lines 174 and 349-355).
phase of our research which is currently in progress.

Our sampling strategy aimed to address this. If we did find any high quality materials we would have continued our search for more examples.

This is an important discussion point – one which has been added to the limitations section.

<table>
<thead>
<tr>
<th>Table 3 – please explain the difference between a ‘Dermatology clinic’ and a ‘Hospital dermatology unit’ – both listed as secondary care?</th>
<th>We have defined a Dermatology clinic’ and a ‘Hospital dermatology unit’.</th>
<th>Please see footnote 1 in Table 3 which reads ‘‘Hospital-based Dermatology Units’ are affiliated with hospitals and cover the full range of in-patient treatment options, where ‘Dermatology Clinics’ are usually out-patient based, may be independently run clinics or are clinics based in community settings.’</th>
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<tr>
<td>PNs should be spelled out – I presume means practice nurses?</td>
<td>Thank you for your suggestion, for clarity we have spelled this out in full.</td>
<td>‘General Practitioners’ and ‘Practice Nurses’ have been spelt out in Table 3.</td>
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<td>Health deprivation score should be explained and interpreted for non-UK readers.</td>
<td>We have clarified and provided a definition of health deprivation to clarify for non-UK readers.</td>
<td>Please see footnote 1, Table 3. We have added the text ‘All 32,482 neighbourhoods in England are given a health deprivation score, where the most deprived has a rank of one. Considers premature death and impairment of quality of life by poor health, and considers both physical and mental health. Measurement of morbidity, disability and premature mortality are all considered.’</td>
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| Is there RCT evidence that psoriasis-specific information would be more effective than generic information for any lifestyle changes? Even if there is, should there be such information available – given the plethora of chronic conditions and associated lifestyle risk factors for each, is to possible, feasible or even advisable to have condition-specific PILs/posters for lifestyle change | Thank you for highlighting this important discussion point. In general tailored information appears to be more effective than generic information but you are correct, there is currently a lack of RCT evidence supporting the claim that psoriasis-specific information would be more effective than generic information. However, we are currently developing such materials and are pilot testing. | We have added a paragraph to include the discussion point around psoriasis versus generic patient information: ‘It is possible that improving the amount and quality of generic information would serve to increase patient understanding of the benefits of a healthy lifestyle. However, given the role of behavioural factors in the maintenance and exacerbation of psoriasis (such
for each one? This is especially relevant given that only A3 posters were effective for stair use, as outlined by the authors (Kerr et al)?

| for each one? This is especially relevant given that only A3 posters were effective for stair use, as outlined by the authors (Kerr et al)? | these for use within our wider research programme. Another related study of ours is examining the effectiveness of providing information about healthy living (psoriasis versus non-psoriasis information). Whilst we are hoping to share these soon, there is currently no published work. We have therefore acknowledged this as an important discussion point – specifically that psoriasis-specific information is needed given that unhealthy lifestyle: (1) makes psoriasis worse, and (2) increases risk of associated CVD. Indeed RCT evidence is needed. | as skin flare-ups), as well as associated CVD risk, psoriasis-specific information about behaviour change should be an important aspect of psoriasis management. Future studies should aim to examine the effectiveness and feasibility of providing psoriasis-specific information versus generic information for increasing healthy lifestyles.’ *(Lines 303-309).* |

| Another aspect to consider is the immediacy of the behaviour – as with the Kerr findings. To use a stairs or a lift is an immediate choice. However, being presented with an A3 poster promoting physical activity such as stair use may not be as effective in a primary care centre without stairs!? | This is a helpful suggestion – this study was indeed related to an individual’s immediate choice and should be acknowledged in the discussion. We have added this point to the discussion to make this clearer for the reader. | We have added the following to the section in the discussion where the implications of the Kerr findings are discussed: ‘Interestingly, Kerr et al. found that only posters larger than A3 were effective for health promotion in the context of an immediate behavioural choice, suggesting studies such as this can be used to inform recommendations for the size of more effective materials in the context of the health centre environment.’ *(Lines 314-318).* |

| LBC – is a needless acronym – suggest replacing with full wording, or just using ‘lifestyle’ | We have removed the acronym LBC and replaced with the suggested term ‘lifestyle’. | All uses of the term ‘LBC’ have been replaced with ‘lifestyle.’ |

**Reviewer: Gareth Hollands**

| The ideas of choice architecture and the centrality of automatic processes are not obviously compatible with discussion of the need for attention, comprehension and understanding (lines 89-95), so I think these could be better integrated. This could be resolved by explaining that placing prompting | Thank you for this very helpful suggestion. We agree the transition in the discussion between automatic processes and messages attention, comprehension and understanding could be improved. We have made additions to the introduction to make this coherent. | We have added the following to the discussion: ‘This information can be used to ‘prompt’ behaviour change. Whilst this strategy may rely on conscious engagement with the information, this is recognised as an intervention strategy, whereby micro-environments can be altered by adding visual prompts [13]. These can be processed by individuals either |
Information such as posters and leaflets is one of the ways in which micro-environments can be altered (for example, the typology in reference 13 includes prompting as one type of micro-environmental or choice architecture intervention, whilst stating that it may be more reliant on conscious engagement than some other choice architecture interventions). By placing these prompts, they can then be subject to being processed at either a more automatic level or a more engaged, reflective level if people have the resources to do so, but both rely on the messages being clear, visible and accessible in order to have any impact. Then if we want any complex health information to be well understood, then there are the various considerations outlined in 89-95.

| The heading on line 167, I presume this relates to the six “quality criteria” in the top part of Table 1 but is called something different. It would be much easier if the text in Table 1, the Methods (including headings) and also other mentions in the Results, used the consistent terminology and wording to refer to this (e.g. visual condition, if that is the preferred term, or on line 162, the term ‘visual quality’ is used). The same goes for the visibility/accessibility automatically, or at a more engaged, reflective level [13]. However, for this to happen often complex health messages should be clear, visible and accessible to have the desired impact on behaviour.’ (Lines 86-91).

For clarity the following sentences have also been reworked: ‘The influence of environmental factors in shaping behaviour is becoming increasingly prominent in public health policy’ (Lines 22-23).

‘Brief, and somewhat subtle interventions employing this strategy, have proved successful in prompting behavioural change through changing implicit environmental cues.’ (Lines 76-78).

‘According to information processing theory [16], comprehension is central to message acceptance and is particularly important for complex health information [17]. Patient information leaflets must therefore be designed in such a way that makes them easily understood.’ (Lines 94-97).

We agree that the language used when describing the quality criteria could be made clearer. We have some specific changes to the manuscript.

For consistency, the term ‘good visual condition’ has been added to line 169, and lines 520 and 522 in Table 1.

The sub-heading ‘presence of themed notice boards’ previously on line 231 has been removed, and the paragraph of text has been moved to lines 214-218 to improve the structure and clarity of the results.
| I think it much more intuitive to present quality criteria as criteria that it is desirable to meet to follow recommendations. Can the wording in Table 1 be reworded accordingly and then the Levels coded in a corresponding manner i.e. Level 3 (good signposting) would be where all recommendations were met, whilst level 1 (very poor signposting) would be where 3 or fewer recommendations were met. The same applies to visibility/accessibility criteria. | Thank you for this useful suggestion. We agree that the coding system could be reworded to a more intuitive system. | In relation to quality criteria:

The methods section has been slightly amended to now read: `we devised a quality checklist of desirable criteria to meet recommendations in relation to the following principles’ (Lines 167-168).` And also:

`Level 3 (good signposting) if the recommendations were fully met, Level 2 (poor signposting) if meeting 4-5 of the criteria, and Level 1 (very poor signposting) if meeting 3 or fewer recommendations.’ (Lines 177-179).` The text in the results section has also been amended to account for the new coding system, which now reads:

`two (11.8%) were coded as Level 3 signposting (good signposting), eleven (64.7%) were coded as Level 2 signposting (poor signposting), and one (5.9%) was coded as Level 1 signposting (very poor signposting).’ (Lines 251-253).` The wording in Table 1 related to the assessment of the visual condition of information has been amended to:

`Large, well-organised notice boards

Large posters, with appropriately sized text which is clearly visible

Lifestyle information is clearly visible and not obscured by other notices (e.g. contact details on self-referral posters for smoking cessation services are clear)` |

| criteria (in the bottom part of Table 1), but this seems to be more consistently worded. | | |
Visually high quality information (e.g. no torn or crumpled leaflets)

All information is up-to-date (e.g. details of exercise classes or organised walking groups previously held in the local area)

Information is visible in the health centre waiting area or not easily accessible from the immediate waiting area.

In relation to visibility/accessibility criteria:

The methods section has been slightly amended to now read: 'Information displays within the waiting areas were coded as having good visibility if they met all of the desirable criteria to follow recommendations relating to visibility/accessibility of information. For displays not meeting these criteria, they were coded as having poor visibility/accessibility.' (Lines 186-189).

The wording in Table 1 related to the assessment of the visibility/accessibility of information has been amended to:

Notice boards/displays/leaflet stands unobstructed by chairs or tables.
Notice boards/displays/leaflet stands in sight of people in waiting area (as opposed to in the corridor or outside the main waiting area).

For clarity we have also reworked the following sentence:

The criteria were discussed and agreed upon within the study team of experienced researchers from the fields of health psychology and applied health
| Lines 204-206. What exactly constitutes LBC information, could this be defined somewhere? Here signposting is mentioned (specifically contact numbers and places for more information) and I’m not clear on why. Does LBC information need to include this property to be counted? | This is a useful suggestion. We agree the manuscript would be improved by including a more explicit description of what constitutes LBC information. Additionally, to address other reviewer comments we have removed the acronym ‘LBC’ and replaced with the term ‘lifestyle’ | We have included an explicit definition of LBC information: ‘Items were recorded if the information made reference to any problematic health behaviours (smoking, alcohol, weight gain, restricted activity).’ (Lines 162-163).

We have also removed the example of ‘contact numbers and places’ (Lines 211-212) as to avoid confusion for the reader. |
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<td>Lines 273-279. Point 2 is fine. Point 3 could just do with some additional explanation regarding choice architecture principles (this maybe means being placed in the environment in the first place and being readily accessible).</td>
<td>Thank you for the suggestion regarding clarifying this point. We have added an additional statement.</td>
<td>We have included the following sentence to support point 3: ‘In order to conform to such principles information must be placed in the environment in a clear, visible and accessible way.’ (Lines 295-296).</td>
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</table>
| Point 1 (line 275): I think this will be more strongly made if the Results (perhaps also adding to Table 4) are in addition also presented in a broken down form to highlight the information that is found in those centres that represent specialist psoriasis/dermatology clinics vs GP surgeries (or some similar categorisation) – I think this is 7 specialist dermatology centres or clinics going by Table 3? I think Point 1 would be most strongly made if you could also highlight that even in those clinics/settings where one would hope for a good coverage of both general and psoriasis-specific LBC | Thank you for this useful suggestion about adding an additional component to breaking the information down further. We have added an extra table to illustrate the type of information found in specialist psoriasis/dermatology centres versus primary care centres. We have also made reference to this in the results. | We have added the following paragraph to the results section:

‘Breakdown by type of service (specialist psoriasis/dermatology health centre vs. general practice health centre)

Signposting for lifestyle was more visible general practice health centres (median= 10, range 0-40) than specialist psoriasis/dermatology health centres (median= 3, range 0-29) and this was almost exclusively generic information about healthy living, with the exception of a limited number of lifestyle psoriasis-specific practitioner materials in the specialist services settings (n=8). (See Table 5).’ (Lines 239-245). |
posters / leaflets, this is still lacking in quantity and quality.

We have also added Table 5 to the manuscript to give a full breakdown of this comparison.

Table 1
Most criteria here would appear to be relatively objective and clear e.g. outdated material, obscured by other notices, but if possible could any of these be better explained with a little more additional detail e.g. how to assess whether a noticeboard is small or disorganised vs large or well-organised? Could an example photo or photos (if any were taken) be included of two exemplars showing meeting vs not meeting any of the criteria, just to make these distinctions less abstract for the reader?

Table 5
An example for illustrative purposes would indeed be useful for the reader to visualise the information in relation to the quality criteria. We have added two examples to illustrate poor lifestyle signposting.

We have added Figure 2 to the manuscript and made reference to this in the text: ‘Examples of poor lifestyle information are presented in Figure 2 for illustrative purposes.’ (Lines 255-256).

We hope that these changes are satisfactory in addressing the reviewers’ comments and we look forward to hearing from you soon.

Yours sincerely

[Signature]

Mr Chris Keyworth on behalf of the IMPACT team

University of Manchester, UK.