Quality assurance of patient information resources on treatment for stress urinary incontinence and pelvic organ prolapse: user testing

Transvaginal Mesh Implants Oversight Group

March 2020
Key Points

- 13 people were recruited to take part in the user testing of two patient resources.
- Overall, both resources were considered clear and helpful by participants. However, participants’ opinions varied greatly and neither resource was universally liked or disliked.
- For both resources, barriers to understanding included the use of technical terminology.
- The use of a diagram facilitated understanding in one resource (pelvic floor exercises resource) but was seen as a barrier in the other (complications resource).
- Usability of the resources was influenced by font size, page layout and the use of headings and bullet lists.
- For both resources, their physical appearance was considered a barrier to desirability. Although in most cases, participants reported they would pick up the resources because they had a personal interest in the content.
- The use of online sources was discussed by some participants who highlighted the internet would be there first source for accessing information relating to the resources.
- Overall, participants reported they would use the advice in the resources. The use of NHS branding promoted credibility and participants reported the detail of the information and tone of the writing promoted transparency.
Background

Following publication of the independent review, Scottish Government requested that Healthcare Improvement Scotland establish and support an independent oversight group for the use of transvaginal mesh implants in Scotland. The overall aim of the Transvaginal Mesh Implants Oversight (TVMO) Group was to provide a monitoring role to NHSScotland until a clinical network was established.

One of the key roles of the TVMO Group was to ensure that patient information was up-to-date. In August 2018, the TVMO Group agreed to form a patient resource subgroup (PRS) to ensure that any patient information on treatment options for stress urinary incontinence (SUI) and pelvic organ prolapse (POP) was up-to-date, accurate and appropriate. The PRS consisted of patient representatives, public partners, Healthcare Improvement Scotland representatives and healthcare professionals.

In order to achieve its aims, the Knowledge Management Team (KMT) within Healthcare Improvement Scotland conducted an evidence search to identify patient information resources published in the UK or internationally. A list of 59 information resources were identified by the KMT and later provided to the patient resource subgroup for a quality assessment (QA).

Of the 61 resources assessed using the DISCERN tool, two were identified by the PRS in October 2018 to be user tested. They were:

- *Vaginally inserted Synthetic Mesh Potential complications* (hereafter referred to as ‘Complications’) – a new leaflet from NHS Lothian, and
- *Pelvic Floor Exercises* – the leaflet most commonly issued by physiotherapists.
Methodology

Participants and setting
User testing interviews were conducted between January and March 2019 at locations across Scotland, including Glasgow, Aberdeen and Dumfries.

Based on a user testing exercise conducted by SIGN, it was estimated that 12-15 participants would be sufficient sample size to achieve saturation (Ferns et al, 2016).

Participants were recruited through the HIS Patient and Public Involvement unit, who approached the following third sector organisations:

- Health and Social Care Alliance Scotland
- Age Scotland
- Chest Heart and Stroke Scotland
- Diabetes Scotland (positive response received)
- Bladder and Bowel Community
- Bladder Health UK
- IBS Network
- Scottish Women’s Convention
- Engender

Eleven participants were recruited through this approach and a further two participants were recruited by a HIS Project Officer who attended the Scottish Women’s Convention Menopause conference in February 2019.

User testing

The method of user testing was a ‘think-aloud protocol’ with a semi-structured interview guide, based on a methodology developed by Rosenbaum et al (2010). In this approach, the lead tester observes the participant as they read through the resource and encourages them to articulate their thoughts. This allows the tester to gain an understanding of the users’ experiences, observe any issues they encounter and collect suggestions.

User testing was conducted by the Healthcare Improvement Scotland Project Officer, who received training on interview technique prior to starting the interviews. The Healthcare Improvement Scotland Project Officer used a semi-structured interview guide, which was developed by Ferns et al (2016) for their user testing of SIGN guideline 144: Glaucoma Referral and Safe Discharge.

Hard copies of each resource were presented to the participants and the Healthcare Improvement Scotland Project Officer made structured field notes as she conducted the interview. One participant was interviewed at a time and the resources were tested
consecutively (‘complications’ first, followed by ‘pelvic floor exercises’) with each interview lasting approximately two hours. All interviews were recorded and transcribed.

Analysis

Feedback on content, language and presentation was analysed using the revised honeycomb model of user experience, which was adapted from Peter Morville’s honeycomb framework (Morville, 2004) (figure 1). The transcribed interviews were categorised by a Healthcare Improvement Scotland Research Analyst using the frameworks eight facets: accessibility, findability, usefulness, usability, understandability, credibility, desirability and identification. An explanation of the facets (or categories) can be found in appendix 1.

Thematic analysis was then conducted to explore themes within each of these categories. During this phase barriers and facilitators of the user experience were identified and suggestions for improvement were compiled.

The Healthcare Improvement Scotland Research Analyst and the Healthcare Improvement Scotland Project Officer worked closely to ensure that participants’ comments were interpreted correctly and the Healthcare Improvement Scotland Project Officer provided points of clarity from her observations to ensure their meaning was accurately captured.

Finally, the interview guide prompted the Healthcare Improvement Scotland Project Officer to ask if each section of the resource was clear and if it was helpful. The majority of the answers provided were either yes, no or somewhat. Descriptive techniques were used to generate percentages for these responses, as well as responses to other questions that frequently received yes or no answers.

Participants

Thirteen people agreed to participate in the user testing interviews. Participants included NHS staff (n=6), patients (n=6) and one carer with varying degrees of education. Participants were aged between 26 and 81, with an average age of 51. All participants were women and all were native English speakers. Participant demographics can be found in appendix 2.
Results

General observations
The interviews captured important feedback on content, language and the presentation of the information in each resource. Overall, participants’ opinions varied greatly and neither resource was universally liked or disliked.

Throughout the thematic analysis it became clear that the categories of the honeycomb model are closely linked and on occasion participants’ comments were categorised into more than one category. For both resources, the majority of feedback related to the categories: understandability and usefulness. A small number of participants discussed accessibility and nothing was captured relating to findability.

A summary of the findings for each resource can be found in tables 2 and 4.

Complications Leaflet
Overall, the resource was considered clear and helpful by the majority of participants.

Figure 2 and 3 illustrate the participants’ answers to questions about clarity and helpfulness aggregated across all sections of the resource.¹

![Overall is it clear?](image1)

![Overall is it helpful?](image2)

When asked if they found the resource appealing, the majority of participants answered no (figure 4). However, the majority of participants reported they would take the advice/use the information in the resource (figure 5).

¹ Occasionally a participant would answer yes but go on to provide an exception or suggest an area of improvement. In this case the answer has been categorised as somewhat.
Understandability

One of the strongest themes to emerge from this category was ‘language’. While some felt the language used was clear and easy to understand, others felt it was overly technical with too much jargon. The terms sacrocolpopexy and inert were highlighted by participants as particularly confusing. Although it was acknowledged by more than one participant that patients who had MESH would probably be able to understand the terminology. One participant also suggested the resource would have to be explained to them by a health care professional.

“Yes, again everyday language, talking about passing urine, things people are familiar with and do every day” (Participant 1)

“If they have had the procedure then they maybe understand better. Sacro-colpo-ney is like a foreign language” (Participant 10)

Several participants’ reported that they would have to read parts of the resource a second time to be able to understand. Specifically participants’ described difficulty understanding the difference between the descriptions of symptoms and problems and the relation of stress incontinence to irritable bladder syndrome. The explanation of Retropubic TVT was also highlighted as confusing and participants questioned whether the level of detail was necessary.

There was mixed opinion about the table depicting the incidence of complications. Most commented that the explanation in the table was better than a ratio for describing complication rates and reported that it helped provide perspective. However, others felt it was unnecessary and confusing.

Nearly all participants agreed that the diagram was not appropriate and caused confusion and only one participant stated that they liked the diagram.
“I’m not so sure about the diagram, being of any use to anybody that’s not a gynaecologist” (Participant 3)

Usefulness

Many of the participants described the resource as informative and generally each section was considered helpful.

Content that is useful and content that is not useful were prominent themes within this category. Frequently occurring comments are summarised in the table below (table 1).

<table>
<thead>
<tr>
<th>Content that is useful</th>
<th>Content that is not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>The resource explains that MESH wouldn’t necessarily cause all the symptoms and symptoms might not always be resolved after it’s been removed. This was considered important information by participants.</td>
<td>The resource states that details of a patients operation are recorded in their operation notes and suggests accessing these and/or contacting their GP for more details. Participants suggested that it was unfeasible for patients to access their own medical notes and highlighted the difficulties of accessing their GP.</td>
</tr>
<tr>
<td>Some participants thought it was useful to know that it is the same MESH that’s used to in other operations, such as hernia repair.</td>
<td>Participants felt the explanation of <em>Retropubic TVT</em> was unnecessary and unhelpful.</td>
</tr>
<tr>
<td>Some participants felt that it was useful to know the different types of operation to insert MESH.</td>
<td>Some participants reported that they didn’t understand why it was important to know what operation they’d had. Another explained that even after reading that section, they were still unclear about which operation they’d had and why it mattered.</td>
</tr>
<tr>
<td>From their personal experiences participants highlighted that information relating to bladder problems and urinary incontinence was important to know.</td>
<td>A couple of participants highlighted that the multidisciplinary team is mentioned but there is no explanation of who is in that team.</td>
</tr>
</tbody>
</table>
Another theme to emerge in this category was content that users would find useful. Additional signposting was highlighted by a number of participants as an area for improvement. Signposting to support groups/community groups for patients and their families was suggested as well as signposting to nurse-led services. Participants also suggested it would be helpful to reinforce that symptoms can start a considerable time after the MESH has been inserted. Another participant commented that having the MESH removed is a bespoke procedure and suggested that the resource should reiterate that not everyone will be able to get it and it won’t always work.

Almost all participants commented on the volume of information and level of detail. The majority felt that there was too much detail, which some commented made it difficult to understand and others suggested might be off-putting to readers. It was suggested that the resource should be explained by a doctor, so that they can help the patient navigate to the information that was most relevant to them. However, a number of participants acknowledged that patients experiencing problems might value the amount of information and the level of detail might put them at ease.

“I think it’s clear it’s just the volume of information, maybe someone else would get it right away” (Participant 1)

“...there is a hell of a lot of information in that. Unless you are really very very interested. I could see it being tossed” (Participant 4)

“I think that’s good. Very wordy. Although I suppose if you were badly affected you would probably want to read more, you would probably take comfort from the amount of information that’s being given.” (Participant 8)

Finally, a few of the participants commented on who would find the resource useful. Although there was a general consensus that the resource is for patients who are experiencing problems with MESH, some participants highlighted that carers and family members could also benefit from using the resource. Another participant stated that the information would also be useful for patients who are considering having MESH inserted.

**Usability**

A key theme to emerge from this category was the documents format. The majority of participants described having to flip back and forth to look at the diagram. It was suggested that the layout could be improved by putting the diagram adjacent the text that refers to it.
Overall participants liked the font size and font style. The colour and size of the headings and underlined text was helpful to draw attention to important information, although it was felt that some further highlighting could improve the complications section. Bullet points were considered a good way to present information, although one participant commented that the style of bullet points needs to be consistent.

Only person commented that it wasn’t user-friendly. Another suggested that an appendix could improve usability.

Credibility
A number of participants commented that even though some of the information was frightening, the level of detail and tone helped promote transparency:

“*I don’t think there is anything I would remove....because I feel that that’s information that you would need to know, I think it’s being transparent and being open....... Quite harrowing reading it, but very clear and no false promises*” (Participant 11)

Some participants also commented on the accuracy of the information. While some commented that the information was accurate and well researched, others disagreed with some of the content. An issue raised by three of the participants related to the resource’s advice that there is a lack of evidence about MESH and chemicals/toxins and autoimmune disease:

“*I know that there’s a lot of that, that one wee bit, in telling you there’s no evidence to support, but it’s no telling if there’s any evidence that’s refutes it*” (Participant 3)

“*where it says there is currently no evidence that the mesh material related chemicals or toxins that would harm you in any way em... perhaps consider the risk of inflammation in the body, because there are things there about the mesh causing inflammation or do you say put these in the body and you’ve had it for a long period of time so I think the initial query of having it put in, it might not cause any complications in the body, but there is a kind of thing where some people’s bodies are rejecting it. And it’s coming out elsewhere externally, in hands, and feet and other places like heart, like that could maybe be like a risk factor.....It’s ok to say there is currently no evidence, but if they could document that somewhere or they can suggest a place to signpost people, where perhaps they could read about the fact that there is no evidence, em... builds a person’s confidence in getting the procedure done.*” (Participant 5)

Another participant reported that the advice in the resource was different to the advice she had received from a specialist:
“I’ve been told something totally different about my mesh... That would be much better for me if just the exposed part could be removed. I’d like to take this leaflet to show him.” (Participant 12)

Overall, participants agreed that they would take the advice in the resource because it looked like it was from a reputable source.

“Yes definitely [I would use the advice in this leaflet]. It looks well established, supported with logos and stuff.” (Participant 5)

Desirability
The two main themes to emerge from this category were physical appearance and interest in the subject area.

Regarding physical appearance, the majority of participants felt that in its current format the resource was not appealing. One participant stated that it looked like an office document and another described it as boring. Most participants indicated that they would not be drawn to pick the resource up, although one participant did highlight that the title would catch your attention. Two participants added that they might be too embarrassed to pick up the resource, one of whom explained that the word vaginal on the front cover could put people off. Several participants suggested that the resource would be more appealing if it was in an A5 booklet format. Other suggestions included adding colour and/or a graphic.

Despite its physical appearance, a number of the participants reported that they would pick up the resource. The main reason given was that they were interested in the subject area because of their personal experience with MESH, others cited they were interested because of the media coverage that MESH had received.

Identification
The majority of participants expressed an emotional response to some of the content, which was frequently described as scary, frightening or threatening.

“I feel emotional that people have to go through this.........Just finding the right words and it is emotional” (Participant 1)

“But reading it, I’m kinda shaking and a bit taken aback by it, em it’s actually quite horrific” (Participant 11)

One participant also explained that she would feel too embarrassed to read the resource in public.
Accessibility

Two participants explained that if they were experiencing complications from MESH they would expect to receive the information in this resource from a doctor. One of the participant reported that after it had been explained by a doctor they would be inclined to look online for more details, whereas the other participant felt that looking at information online would be even more frightening and highlighted that the signposting in the resource is a valuable “safe guard”.

Summary of barriers and facilitators of the user experience

Barriers included:

- Some participants felt the language used was overly technical with too much jargon. The terms sacrocolpopexy and inert were highlighted as particularly technical.
- Many participants highlighted that the volume of information and the level of detail was off-putting and caused confusion (although it was acknowledged that patients experiencing complications might find the level of detail useful and potentially reassuring).
- The diagram caused some confusion and was thought to be overly detailed by some participants.
- Participants had to flip pages of the resource back and forth to reference the diagram.

Facilitators included:

- Using everyday terms that people are familiar with (such as passing urine).
- Font size and style was clear.
- Participants liked the use of bullet lists and felt the size and colour of the headings were clear and would help patients navigate the resource.
- Participants agreed that they would take the advice in the resource because the resource was supported by logos and looked like an NHS document that could be trusted.
- Even though the information could be frightening, some participants felt that the level of detail and tone helped promote transparency.

Suggested Improvements

- Improve the diagram and position it next to the text it is referring to.
- Include signposting to support groups/community groups and nurse-led services for patients and their families.
- Include an appendix to manage the large amounts of information and make the resource more user friendly.
- Consider adding colour and reformatting as an A5 booklet.
<table>
<thead>
<tr>
<th>Honeycomb Category</th>
<th>Theme</th>
<th>Examples from the Complications Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findability</td>
<td>-</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Information online</td>
<td>• Two participants reported they might also look online for more information about complications, which could be frightening.</td>
</tr>
</tbody>
</table>
| Usability          | Layout | • Participants found it difficult to flip between the diagram and the text.  
• Bullet points were considered a good way to present information.  
• The colour and size of the headings helped users navigate that document |
|                    | Font size and style | • Overall participants liked the font size and font style. |
| Usefulness         | Content that is useful | • Examples of content that participants found useful include; the description of the different types of procedure and the explanation that symptoms won’t always go away after the MESH is removed. |
|                    | Content that is not useful | • The explanation about patients’ medical notes and signposting GPs were considered unhelpful by some participants because accessing medical records was thought to be not feasible and GP services difficult to access. |
|                    | Information that would be useful | • Additional signposting to support/ community groups and nurse-led services was suggested.  
• One participant suggested that the resource should reiterate that not everyone will be able to get it and it won’t always work. |
|                    | Volume of information and level of detail | • Several participants highlighted that there was a high level of detail.  
• The majority felt that there was too much detail, which made it difficult to understand.  
• But others suggested the level of detail was necessary and suggested it could provide reassurance to patients experiencing problems. |
<table>
<thead>
<tr>
<th>Credibility</th>
<th>Would participants take the advice in the resource?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Overall, participants agreed that they would take the advice in the resource because the resource was supported by logos and looked like an NHS document that can be trusted.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Trustworthiness</th>
<th></th>
</tr>
</thead>
</table>
|                | • Some participants commented on how accurate the information was.  
|                | • A couple of participants raised the issue of lack of evidence around MESH and autoimmune disease, disagreeing with the accuracy and appropriateness of this content. |

<table>
<thead>
<tr>
<th>Transparency</th>
<th></th>
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<tbody>
<tr>
<td></td>
<td>• Some participants liked that this resource promotes transparency and acknowledges the negative publicity around MESH.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Desirability</th>
<th>Interest in subject matter</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Some participants were interested in the resource because of the recent media coverage but some reported they would not be interested in the resource because the content wasn’t relevant to them.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Physical appearance</th>
<th></th>
</tr>
</thead>
</table>
|                     | • Participants commented on the resource’s physical appearance:  
|                     |   • The heading is eye catching  
|                     |   • The resource looks ‘boring’, ‘insipid’ and ‘heavy’ which is off putting  
|                     |   • Booklet style was preferable. |

<table>
<thead>
<tr>
<th>Understandability</th>
<th>Language</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• While some felt the language used was clear and easy to understand, others felt it was overly technical with too much jargon.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Difficult to understand</th>
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</table>
|                         | • Participants’ described difficulty understanding the difference between the descriptions of *symptoms* and *problems* and the relation of *stress incontinence* to *irritable bladder syndrome*.  
|                         | • The explanation of *Retro pubic TVT* was also heighted a confusing.  
|                         | • One participant suggested the resource would have to be explained by a healthcare professional. |

<table>
<thead>
<tr>
<th>Easy to understand</th>
<th></th>
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</thead>
</table>
|                   | • Most participants felt the table helped them understand by putting the figures in perspective but some felt it was unnecessary and caused confusion.  
|                   | • Some participants felt that patients with MESH would probably be better able to understand some of the more complicated content. |
| What it’s about and who it’s for | • Overall it is clear what the resource is about.  
• On initial presentation some participants suggested it wasn’t clear who it was for. |
| Graphic | • Generally, the diagram cause confusion and was thought to be overly detailed. |
| Identification | How the resource makes participants feel. | • Almost all participants commented that the language and the content was ‘frightening’ or ‘scary’.  
• The resource prompted some participants to reflect on their experiences of MESH. |
Pelvic Floor Exercises

Overall, the resource was considered clear and helpful by the majority of participants.

Figure 6 and 7 illustrate the participants’ answers to questions about clarity and helpfulness aggregated across all sections of the resource.²

² Occasionally a participant would answer yes but go on to provide an exception or suggest an area of improvement. In this case the answer has been categorised as somewhat.
A small majority of participants reported that they found this resource appealing (figure 8) and the majority of participants also reported they would take the advice/use the information in the resource (figure 9).³

**Understandability**

Participants had mixed opinions regarding understandability. While a number of participants commented that the information was clear, several felt that some of the instructions were too complicated or difficult to follow. In particular, the instruction to wear a wrist watch on the opposite wrist caused considerable confusion. One person was also confused by the description of the different types of incontinence. Two participants suggested it might be advisable to have the instructions in the resource explained by a healthcare professional and one participant also suggested that patients whose first language is not English might struggle to understand.

Similarly with the complications resource, ‘language’ was a prominent theme within this category. The majority of participants commented that some of the language used was confusing or meaningless. Four participants raised the issue of the acronym used in the title (IUGA), which was considered to be unhelpful and off-putting. Other terms that were frequently highlighted as unhelpful or confusing were involuntary loss of urine, sacrum, supine and maximally. Participants suggested the resource could be improved with less anatomical terms and the use of more everyday language.

“I don’t even like that blurb, it’s the initials, it means nothing to me except that it reminds me of UGG boots (laughs) it’s just when I look at those initials that’s what I see UGG.” (Participant 1)

³ These figures only represent the responses of 12 participants because one participant terminated the interview before the end, leaving the final questions unanswered.
“how many poor souls that left school at 15 or 16, are going to really know maximally – I mean that’s straight from Latin.” (Participant 4)

“I suppose that it’s already in brackets any way, you can also lie down flat, that the supine position, I don’t know why there is a need for that to be there” (Participant 11)

“You don’t need to say supine position just lie doon flat, honestly.” (Participant 12)

Participants also had mixed views regarding the diagram. The majority of participants felt that the diagram aided understanding but some reported they felt it was off-putting and two participants commented on the fact that the sacrum is not labelled on the diagram.

Usefulness
Content that is useful and content that is not useful were again prominent themes within this category. Frequently occurring comments are summarised in the table below (table 3).

<table>
<thead>
<tr>
<th>Content that is useful</th>
<th>Content that is not useful</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants felt it was reassuring to know that you might not see results instantly. Some also commented that they felt encouraged by the resource’s statement: don’t give up.</td>
<td>The resource encourages patients to use a mirror and feel the muscles with their fingers while practicing the exercises. Neither suggestion was considered helpful.</td>
</tr>
<tr>
<td>Some participants commented that it was useful to have the background information about anatomy and learn about the causes of muscle weakness. They were interested to learn that having children won’t necessarily cause you problems and you don’t need to have had children to benefit from doing the exercises.</td>
<td>The suggestion to keep a diary was considered unhelpful because most people don’t keep a diary nowadays.</td>
</tr>
<tr>
<td>Some participants highlighted the usefulness of the exercise triggers, such as exercising after emptying the bladder</td>
<td>The resource suggests that you wear your wrist watch on the opposite wrist, to remind you to do your exercises but this was not considered useful.</td>
</tr>
<tr>
<td>Referring to the bio-feedback and electrical stimulation section, some participants felt it</td>
<td>Some participants felt the descriptions of bio-feedback and electrical stimulation</td>
</tr>
</tbody>
</table>


was encouraging to know there were option for patients who are unable to contract their pelvic floor muscles. were unhelpful because they didn’t explain where these procedures might take place and it was felt that a minority of women would benefit.

Overall, the explanation of the pelvic floor muscles and the exercises was considered useful by participants. However, there was strong objection to some of the instructions in the resource as illustrated by these quotes:

“Are you kidding...oh no no no OMG is this for really...really....I’m no putting a mirror up there......scratch that out – I can cope with squeezing your bum. In fact all you need to say is squeeze your bum, who wants to see their bits down there in a mirror.... If you notice the area widening, uch away with ye not a bloody change. Too detailed full stop. Put the mirror between your legs – seriously is this for real?.....Delete.” (Participant 12)

“Well it’s very clear.....putting all that information about your anus and mirror. I mean anus? Who is going to do that with a mirror (laughs) I’m laughing but I’m also a bit angry, I’m 62 and if I was handed this leaflet, like seriously handed this leaflet, are they expecting me to get a mirror and look at my vagina and anus?” (Participant 13)

Participants also suggested additional information that they think would be useful to include in the resource, including:

- additional signposting to nurse practitioners, support groups and the mobile app;
- statistics about the number of women who successfully avoid surgery by exercising their pelvic floor muscles; and
- additional suggestions for where and when you can do the exercises, such as on the bus, at work and when washing your hands.

A number of participants also described how they would use the advice in the resource. Some participants reported they felt they would easily be able to follow the instructions but others raised concerns that, although they understood the advice, they wouldn’t know if they were practicing the exercises correctly.

“I would need to read that more than once.......it’s one of those things about doing it and breaking it up to make it easier.......when you read the instructions, it should be easier to do than what this says.” (Participant 1)

“I think that’s informative, I doubt I’d be able to do what it describes. So patently I could follow the instructions.” (Participant 8)
“I would just hope that I was doing it correctly.” (Participant 11)

Finally, most participants felt the amount of information and level of detail was sufficient. Only one participant commented that there was too much information.

Usability

The document’s font size was a prominent theme to emerge from this category. There was a general consensus that the font was too small and several participants commented that they would need to wear glasses to be able to read the content. One participant also commented that the font style felt ‘old fashioned’ and another reported difficulty reading the italics.

The layout was another theme within usability that generated discussion. Several participants noticed that in the headings in the contents box are labelled 1 to 9, however there are no corresponding numbers in the main text, which caused confusion.

Some participants liked that the text was laid out in columns and that the information was on an A4 sheet. However, this was seen as a disadvantage by others, who felt it was too much information on one page.

Credibility

The majority of participants reported they would take the advice in the resource because they felt it was relevant to them, or it could be in the future. One person stated that they would take the advice if the resource was given to them by a physiotherapist.

Desirability

Some participants reported that they would pick up the resource because they had a personal interest in the content. Participants also highlighted that the colour made the leaflet more attractive and a couple of participants also reported that the title (“Guide for Women”) was eye catching and sparked their interest.

However, an equal number reported that they would not pick it up because of its physical appearance. One of the main reasons that was given was that it looked dated. Some participants suggested they would find a resource in booklet form more appealing.

“I’m unlikely to pick up tatty old leaflets. But if my physio gave me that, I would be fine with that.” (Participant 8)

Identification

There was a mixed emotional response to some of the content in the resource. While one participant felt the content and tone were funny, others had strong objections to some of the
instructions, as described previously. Some participants also suggested the explanation of electrodes was alarming.

“It’s awe very informative and gees you a wee giggle, I can imagine them all sitting reading this and get that feeling that they will need to run to the toilet.” (Participant 7)

“Sorry I am taking a bit time to digest it. I find it a bit kind of alarming – electros – maybe it sounds worse than what it is” (Participant 1)

For one participant, her personal experience with MESH prompted a strong emotional response and she terminated the interview early. She explained that she wished she’d had the opportunity to practice pelvic floor exercises in the resource.

“I am done with this leaflet. It’s depressing. I don’t like it, I’d never pick it up and I’m annoyed at why I wasn’t given this option, why? Why? I might not be in this position if done this. Why do I have mesh when I went for a bowel prolapse, I didn’t have trouble with my bladder, I don’t pee myself…I got the mesh and I still have a bowel prolapse and now it’s all going wrong, it wis good at the start (long pause) it upsets me.”

Accessability

Although this category of the honeycomb model wasn’t explored specifically, some of the participants highlighted that this information could be better delivered in an online format.

“it’s not just if English is not your first language, if you’ve got language limitations you can’t read them as they are. But if you struggle to read it, they could have this in verbal format on line or send it to YouTube. Younger people nowadays it’s all YouTube.” (Participant 8)

“My friend’s daughter has an app on her phone why are we not promoting that?” (Participant 12)

Summary of barriers and facilitators of the user experience

Barriers included:

- Some participants felt that there was too much information squashed onto a small space and others commented that it looked dated and tatty.
- That the headings in the contents box are labelled 1 to 9, however there are no corresponding numbers in the main text, which caused confusion.
- The font was too small, which made it difficult to read.
- There were several terms that were frequently highlighted as unhelpful or confusing, including involuntary loss of urine, sacrum, supine and maximally.
Facilitators included:

- Some participants liked the fact the resource was in colour and some liked that the information was in columns, on a sheet of A4.
- The majority of participants felt that the diagram aided understanding.
- The amount of information and level of detail was generally considered sufficient.

**Suggested Improvements**

- Either remove the contents box or label the headings in the main text with their corresponding number in the contents box.
- Increase the font size.
- Consider changing the terms that were highlighted by participants as confusing.
- Include statistics about the number of women who successfully avoid surgery by exercising their pelvic floor muscles.
- Include additional suggestions for where and when you can do the exercises, such as on the bus, at work and when washing your hands.
- Consider an online format.
<table>
<thead>
<tr>
<th>Honeycomb Category</th>
<th>Theme</th>
<th>Examples from the Pelvic Floor Exercises Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>Findability</td>
<td>-</td>
<td>Not assessed</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Information online</td>
<td>• Some participants reported that they would be more likely to use information from online apps.</td>
</tr>
</tbody>
</table>
| Usability          | Format/layout              | • The heading in the contents box are labelled 1 to 9, however there are no corresponding numbers in the main text, which caused confusion.  
• Some participants liked that the text was laid out in columns and that the information was all on one sheet of paper. However, this was seen as a disadvantage by others, who felt it was too much information on one page. |
| Font size and style|                            | • There was a general consensus that the font was too small  
• Participants also commented that the font style felt ‘old fashioned’ and it was difficult to read text in italics. |
| Usefulness         | Content that is useful      | Examples of content that was helpful include:  
• You might not see results instantly  
• Having children won’t necessarily cause you problems and you don’t need to have had children to benefit from doing the exercises.  
• The explanation of the pelvic floor muscles and the exercises to strengthen.  
• The exercise triggers, such as exercising after emptying the bladder |
|                    | Content that is not useful  | Examples of content that was not helpful include:  
• The instruction to use a mirror while practicing the exercises  
• The instruction to wear a wrist watch on the opposite wrist to remind you to do your exercises  
• The suggestion to feel the muscles with your fingers while exercising |
| Information that would be useful | • Additional signposting to nurse practitioners, support groups and the mobile app;  
• Statistics about the number of women who successfully avoid surgery by exercising their pelvic floor muscles  
• Additional suggestions for where and when you can do the exercises |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>How the advice will be used</td>
<td>• Some participants felt they would easily be able to follow the instructions but others raised concerns that, although they understood the advice, they might not be able to practice the exercises correctly.</td>
</tr>
<tr>
<td>Volume of information and level of detail.</td>
<td>• Most participants felt the amount of information and level of detail was sufficient.</td>
</tr>
</tbody>
</table>
| Credibility | Would participants take the advice in the resource?  
• The majority of participants reported they would take the advice in the resource if they felt it was relevant to them, or it could be in the future. |
| Desirability | Physical appearance  
• Some felt the colours and title made the resource appealing.  
• Others felt the resource looked dated and *tatty*. |
| Interest in the subject area | • Some participants reported they would pick up the resource because they were interested in the subject matter.  
• Equally, some participants reported they subject matter didn’t affect them and they’d be unlikely to pick it up. |
| Understandability | Language  
• Several participants raised the issue of the acronym used in the title (IUGA), which was considered to be unhelpful and off-putting.  
• Other terms that were frequently highlighted as unhelpful or confusing were *involuntary loss of urine, sacrum, supine* and *maximally*. |
| Difficult to understand | • Several participants felt that some of the instructions were too complicated or difficult to follow.  
• The instruction to wear a wrist watch on the opposite wrist caused considerable confusion. |
<table>
<thead>
<tr>
<th>Identification</th>
<th>How the resource makes participants feel.</th>
<th>One participant was also confused by the description of the different types of incontinence.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphic</td>
<td>The majority of participants felt that the diagram aided understanding but some reported they felt it was off-putting.</td>
<td></td>
</tr>
</tbody>
</table>

|                          |                                                                 | There was a mixed emotional response to the resource. |
|                          |                                                                 | One person felt the content and tone were funny.     |
|                          |                                                                 | Some felt some of the instructions were unacceptable (in particularly the use of a mirror whilst exercising). |
|                          |                                                                 | And one person was deeply saddened that they had not had the opportunity to try these exercises before her MESH implant. |

Table 4
References


Rosenbaum S. Improving the user experience of evidence: A design approach to evidence-informed health care. PhD thesis. The Oslo School of Architecture and Design; 2010

## Appendix 1: Honeycomb Framework

<table>
<thead>
<tr>
<th>Category explanation from framework</th>
<th>Type of content captured from interview transcripts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Findability</strong> Can this person locate the product or the content that they are looking for?</td>
<td>Not assessed</td>
</tr>
<tr>
<td><strong>Accessibility</strong> Are there physical barriers to actually gaining access?</td>
<td>• Would the resource be more accessible in a different format?</td>
</tr>
</tbody>
</table>
| **Usability** How easy and satisfying is this product to use? | • How easy is it to read?  
• Font style, size and formatting  
• Are the right bits highlighted? |
| **Usefulness** Does this product have practical value for this person? | • What is useful? What is not useful? Is there other information that could be useful?  
• Who would find the resource most helpful?  
• Did the user learn something?  
• Is there information that the user thinks is particularly important?  
• Volume of information and level of detail |
| **Credibility** Is the product/content experienced as trustworthy? | • Would you use the information and why?  
• Do you agree with the info? Do you disagree with the content?  
• Does the resource seem trustworthy? |
| **Desirability** Is the product something this person wants? Has a positive emotional response to? | • Does it look appealing?  
• Would you pick it up?  
• Is the content of interest to you? |
| **Understandability** Does this person comprehend correctly both what kind of product this is, and comprehend the content correctly? Is this person’s subjective experience of | • Is the language used easy to understand?  
• Does the amount of information impair clarity?  
• Are there any questions raised about the content? |
| Identification | Does this person identify with the product, on a personal or a social level, or is it alienating, experienced as being not designed for “someone like me”? | • Is there an emotional response to the resource?  
• Acceptability: embarrassing, frightening etc. |

• What bits are difficult to understand and why?  
• Do diagrams make it harder or easier to understand?

whether or not they understand in line with their actual (correct or incorrect) understanding?
### Appendix 2: Participant demographics

<table>
<thead>
<tr>
<th>Participant age</th>
<th>Education level</th>
<th>Patient or staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>Diploma</td>
<td>Staff</td>
</tr>
<tr>
<td>40</td>
<td>University Degree</td>
<td>Patient</td>
</tr>
<tr>
<td>55</td>
<td>High School</td>
<td>Patient/ Staff</td>
</tr>
<tr>
<td>81</td>
<td>University Degree</td>
<td>Patient</td>
</tr>
<tr>
<td>26</td>
<td>University Degree</td>
<td>Patient (carer)</td>
</tr>
<tr>
<td>46</td>
<td>University Degree</td>
<td>Staff</td>
</tr>
<tr>
<td>52</td>
<td>High School</td>
<td>Patient</td>
</tr>
<tr>
<td>54</td>
<td>Postgraduate Degree</td>
<td>Staff</td>
</tr>
<tr>
<td>55</td>
<td>PhD</td>
<td>Staff</td>
</tr>
<tr>
<td>63</td>
<td>University Degree</td>
<td>Patient</td>
</tr>
<tr>
<td>43</td>
<td>University Degree</td>
<td>Staff</td>
</tr>
<tr>
<td>42</td>
<td>University Degree</td>
<td>Patient</td>
</tr>
<tr>
<td>61</td>
<td>High School</td>
<td>Patient</td>
</tr>
</tbody>
</table>
April 2020

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