Supplementary Information: Detailed Description of Iterations

In this section, we will describe each prototype in detail. It will cover feedback from the previous action research phase, changes between previous prototypes and 'current' prototype, what the 'current' prototype is seeking to establish and how it was presented to 'users' in the subsequent action research phase.

Prototype V2 ('Wireframe')

The feedback on Prototype V1, derived from the first cycle of action research, is outlined in chapter four. As a result of this feedback, the decision was made to strip out all the content except the flow chart, to revise the presentation of the flow chart, and to amend the format from a level arch folder to a slim line, 'low profile' paper card based folder. This folder would be purposely designed and made for this toolkit and would give consideration to the mechanism for 'storing and managing content' as well as keeping half an eye on (suppressing) likely production costs.

This prototype was tested by hosting a 3-hour session attended by the designers and the action researchers. The prototype was produced in a low fidelity form. The first hour was a discussion, questions and reflections between the designers and researchers focusing on the flow-chart, the format, navigation and hierarchy and head-line language (titles, strap lines, headings etc). The remaining two hours were a drop-in session patient representatives who spent anything from 15 minutes to 45 minutes reviewing version 2. The action researchers subsequently took these prototypes to ward staff who were unable to attend the drop-in session. The end result is shown in Figure 11 below.

Prototype V3 ('Wireframe')

Prototype V3 was designed and tested in parallel with Prototype V2 based on the same feedback derived from the first action research phase.

This prototype was essentially the same as V2, differing only on two points:

a) It offered a similar flow-chart design to V2 but introduced colour differentiations between the various 'steps' of the process.
b) It proposed a potential 'split' in the toolkits processes, resources and content. One part of the toolkit would be for ward staff in the context of use the other part would be for a facilitator. This had the perceived benefit of 'hiding' some of the detail that would not be used by ward staff and, as a result, made the toolkit even more light weight, minimal and subsequently less 'burdensome'.

This prototype was tested in parallel with V2 (see test description above). The end result is shown in Figure 1 below.

Figure 1: An illustration of Prototypes V2 and V3; V2 is the left-hand folder and the left-hand flow chart plus some unillustrated content. V3 is the right-hand folder and the right-hand flow chart plus some unillustrated content

Prototype V4 ('Russian Doll')

The feedback on Prototypes V2 and V3, showed that the flow chart with the additional colour differentiation was preferred. It suggested that consistent colour differentiation applied to the content of the toolkit throughout might be considered, distinguishing content specific to each step of the process more explicitly. Further, it was fed back that, although splitting the content into ward staff and facilitator specific modules was a good idea in terms of providing a 'filter', by exposing people only to the content that they needed or wanted, there might be better ways of doing this. Perceived issues with the content separation proposed in V2 and 3 was that people felt this might not be transparent. This was expressed particularly by Patient Experience staff with QI expertise and by the Patient Reps. This led directly onto the 'Russian Doll' concept as a way of overcoming this issue. It might result in ward staff losing the sense of ownership and 'control' over the process that was so important in the initial Co-Design sessions.

To respond to this feedback Prototype V4 made minor amendments to the flow chart icons, proposed a colour application (consistent with the flow chart) to content sections in different ways and introduced of a three-tier content management system within each step – something referred to as the 'Russian Doll' model (see figure 16). The intention was that this would 'manage' the level of detail that the reader or user would be exposed to in a self-regulating fashion. Advice would be provided about the levels of detail that the user of the toolkit might *need* to go to based on the different ways they might be using it (ward staff user, facilitator,

patient experience and QI staff). But the decision to interrogate the toolkit content to different levels of detail would be personally managed.

This prototype was passed onto the action researchers in physical form with a series of prompts and questions. The action researchers then took this prototype to the ward contexts and to sessions with patient representatives, quality improvement facilitators and patient experience improvement facilitators. The prompts and questions were focused on who the target user was or might be, the initial visual impression of the toolkit prototype, format, use of colour and layout, images and graphics, ease of navigation and use, language, titles, headings and straplines. The end result is shown in Figure 2 below.

Figure 2: An illustration of Prototype V4

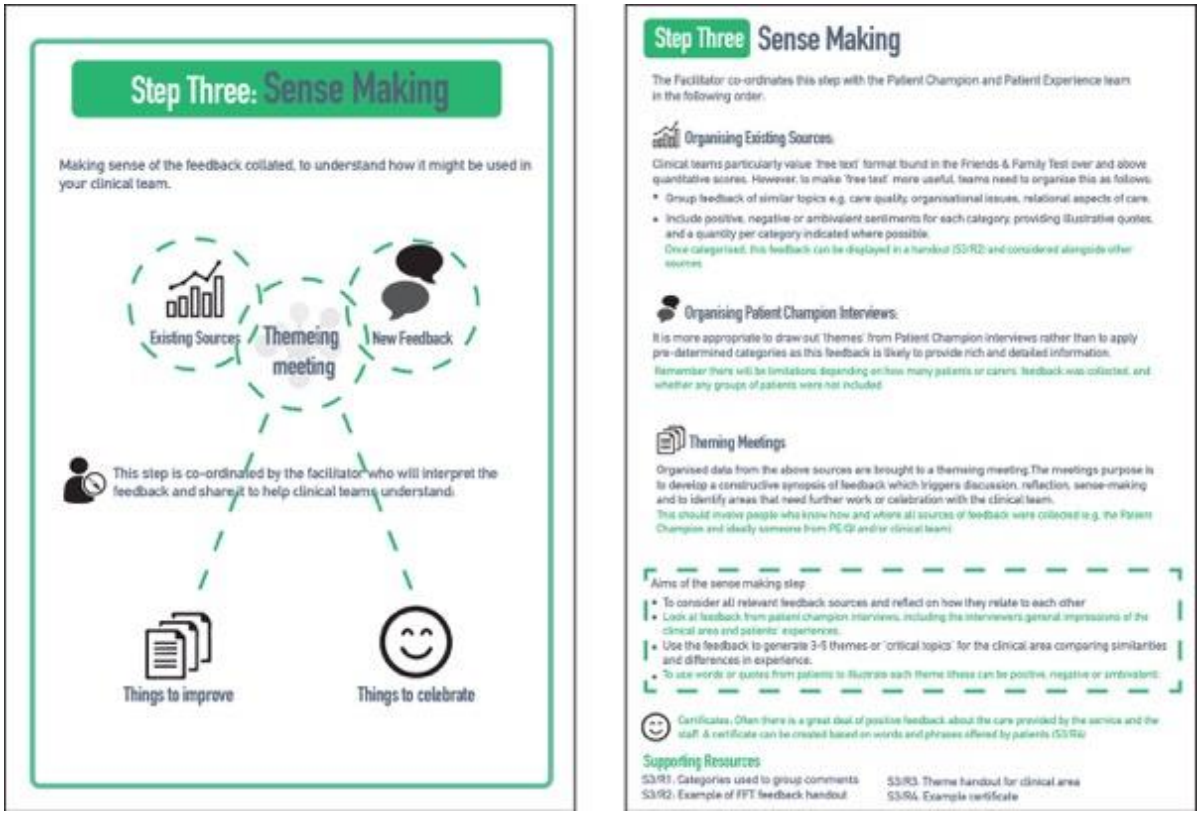

Figure 3: Illustration of the new 'Russian Doll' tiered system

Prototype V5 ('Facilitator Only')

The feedback on Prototype V4 showed the additional colour differentiation in both the flow chart and throughout the toolkit content helped the users to distinguish the resources relevant to the specific step of the process they were currently focused on. The move from two separate modules to a three-tier content management system was preferred. However, it highlighted the limited use that the ward staff would make of any part of the toolkit without a facilitator. Therefore, it was suggested in the feedback that making the toolkit entirely focused on a facilitator as the end user was the most pragmatic and appropriate route to take.

In an effort to address the issues of ownership, additional advisor content (aimed at the facilitator) was suggested. This promoted a manner of approaching ward staff and facilitating the process, that clearly and transparently placed ownership of the process in their hands.

To respond to this feedback Prototypes V5a and 5b made further minor amendments to flow chart icons to visually aim it at the facilitator end user whilst maintaining it as a tool for a facilitator to structure conversations with ward staff. The content was revised to 'speak' directly to a facilitator. Furthermore, amendments were made to the Russian Doll Tiered system to simplify their content (figure 17). This simplification ensured that they were more suitable for

use by a facilitator with ward teams. For example, the first overview tier could be provided for explanation without the depth of the second tier.

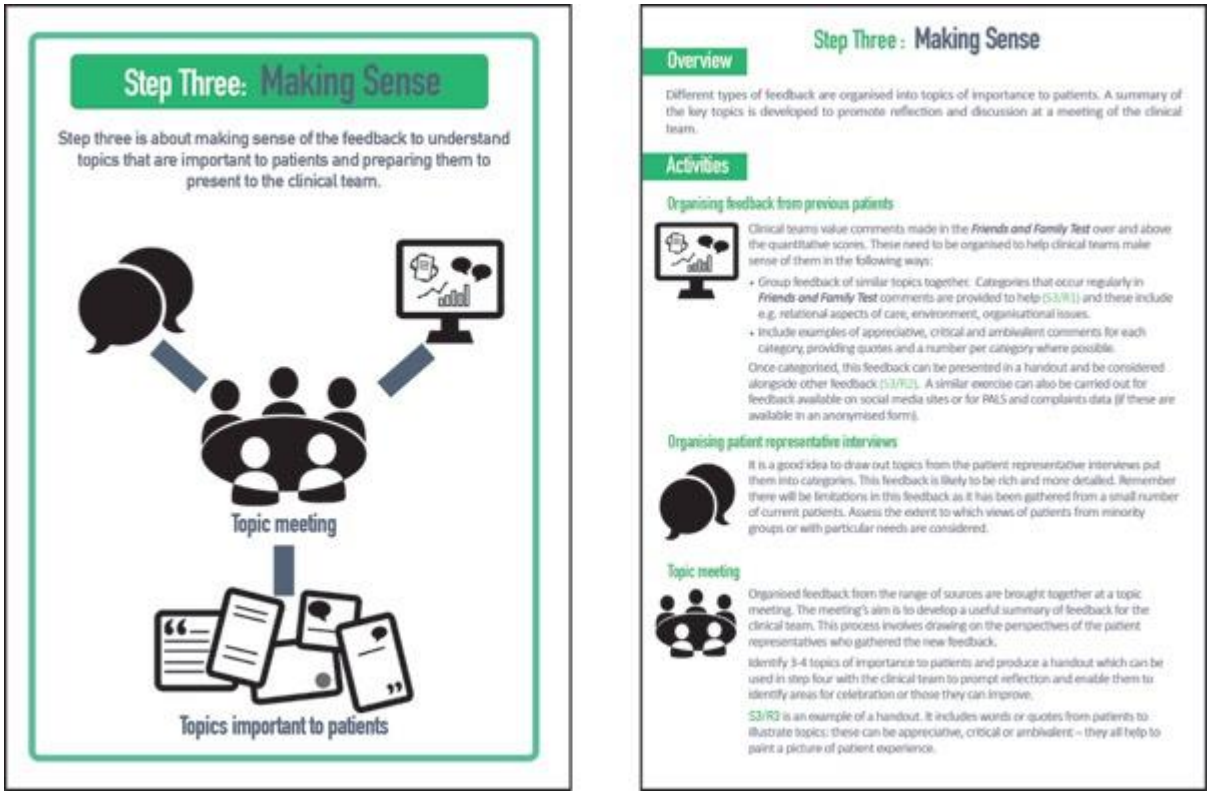

Figure 4: Amendments to the Russian Doll tiered system

This prototype was tested by the action researchers. The designers produced and sent the prototypes to the action researchers in physical form. They scanned through and ‘used’ them in contrived scenarios. The focus prioritised the content, presentation and wording of the resources within the toolkit. Subsequently, the action researchers took the prototypes to those who were likely to play the facilitator role (Patient Experience and Quality Improvement staff) and to Patients Reps.The end result of flowchart changes are shown in Figure 5 below, where Prototypes V5a and 5b are demonstrated:

Figure 5: An illustration of Prototype V5a and 5b

Prototype VFinal– design lock

Prototypes V5a and V5b were produced in a variety of formats (see figure 21) and taken to the Action Research Hub (April 2018), a final celebratory event that also offered the ward staff, patient representatives and improvement staff a final opportunity to make suggestions. Due to the timeframes of the project, suggestions were limited to the format rather than the content of the toolkit.

Figure 6: Prototypes taken to the celebratory event.

These can be summarised by the following:

- External folder could be redundant- many teams were happy with format where one side was edge bound. It was suggested that removing the folder could reduce production costs.
- For those who wanted to be able to remove the pages- a ring binder might be most appropriate to keep it all together.
- There were different levels and variations (see below) of the pack requested by ward teams with some suggesting they would want the in-depth detail currently 'reserved' for the facilitators.
- Further consideration needs to be given to tabs as they stick out far and might end up looking tatty.

Suggestions of toolkit variations that could be requested, ordered or downloaded included:

1. Full toolkit & resources bound together
2. Toolkit and resource packs bound separately (with or without external folder)

3. Flowchart on its own (in various sizes)
4. ‘High level’ detail for ward teams (either in a pack or unbound)
    a. Flowchart & ‘Russian doll’ level one for each phase
    b. Full toolkit on its own (bound) without resources