Supplementary File 1:

Topic Guide for feedback session exploring and evaluating the pharmacist experiences of a providing behaviour change messages to reduce reliever reliance and overuse.

Introduction: Hello, I am Researcher A, one of the researchers on the study. I'm here to learn about your experiences of being part of the Reducing Reliever Reliance and Overuse study so that this programme can be improved going forward. Thank you for letting me discuss this with you today. This feedback session may last up to 30 minutes. I plan to make field notes during our discussion. Will that be okay? Your comments will remain anonymous and confidential by allocating you a unique participant number.
I'd like to explore what your expectations of the study were and the training you received as part of this study; your experience of the actual training provided and your thoughts about implementing it into practice with patients. I will ask some questions but please feel free to offer any thoughts throughout.
This interview is to find out your views and opinions (no right or wrong answers – we are simply interested in your views to improve future work we do), we are really interested in how our research worked in your pharmacy and any feedback you have on how to improve it in the future.
Prompt items in italics

Topic: Background as pharmacist (few minutes warm up)

1.1 Before we begin can you briefly tell me a little about your background as a pharmacist? *Years of experience/context/clinical setting.*

1.2 What do you usually do with patients in terms of asthma education?

Inhaler technique, general information about asthma

1.3 What approaches have you previously tried with people not using their inhalers as recommended? *How successful do you feel those approaches were?*

Topic: Expectations and Motivations

2.1 The intervention, intended for people who are at high risk of using too much of their reliever, is underpinned by theory based psychology that is known to relate to adherence behaviour. Had you any prior knowledge of psychological approaches to medication adherence?

2.2 What were your thoughts when you first heard about this Study? *Did you have any expectations of what it was about/what it would entail? What motivated you to take part?*

Topic: RRT and interventionTraining

3.1 What were your expectations of training? *(May naturally evolve to whether the expectations were met but if not, included as prompt below)*
3.2 Did you review the intervention materials (e.g. the leaflets, behaviour change messages etc.) before your training sessions? *Easy/self-explanatory/difficult? Would it have been useful to have at-home study materials? (e.g. if rolled out to larger study) Would it be more realistic to introduce these materials in an introductory training session? (e.g. if people do not have time to study at home)*

3.3 What did you think of the training you received before the study began*? What did you feel was the most helpful or unhelpful aspects of the training sessions/ Strengths and weaknesses of training? Were your initial expectations met? Explore, content, structure, quantity and length of sessions, training materials/the case studies. Individual vs group if applicable*

3.4 How did you feel the training helped prepare you to deliver the intervention? If you did not find it effective, what would have helped? *Were there are aspects more difficult to master? If so, how do you think these aspects could be taught more efficiently? Was anything missed that you might have expected to learn?*

3.5 What do you think is the ideal time/place to train pharmacists? *Full/Half days? Evening sessions? Should pharmacists be compensated for their time if they attend training sessions?*

3.6 Are there any barriers to pharmacists being trained to deliver this intervention? *How would you train pharmacists that are new to delivering this intervention?*

Topic: Consultations *Pharmacist experience and perspective*

4.1 What was your experience of delivering the education in practice? *Explore initial and later sessions. Structure of the consultation was it logical for you/ easy to follow/any challenges? Enough time? Form completion?*

Can you describe / walk me through a typical consultation with an asthma patient?

What did / didn't you do differently this time with the RRT intervention?

4.2 Did many people show you their score?
If no, any insight into why?

4.3 How did you use the intervention materials during the consultations? *Explore some examples and confidence. How did you decide on whom to show which materials? Which one was your favourite material? Why?* Prompt: screening questionnaire, leaflets)

4.4 Did you motivate your patients with the prospect of having better asthma control if they reduced their reliever?

Topic: Consultations *Patient experience and perspective*

5.1 What do you think your patients thought about the structure of the consultation?

5.2 How useful do you think your patients found the study materials: tailoring questionnaire, messages, leaflets?

5.3 How do you think patients viewed you as a clinician?

5.4 Do you feel you had impact on your patients? If so, please elaborate.

Topic: Study procedures

6.0 How did the recruitment process go? *Easy/difficult to identify/bring in patients?*

6.1 What were the barriers/enablers of this process?

6.2 Recommendations for improving recruitment rates in the future?

6.3 What do you think contributed to the drop-out rates in the study? Any recommendations for the future?

Topic: Recommendations/Future applicability

7.0 Do you think this intervention could be effectively delivered in the future? *Why/why not? Do you have any recommendations for improvement?*

8.0 Would you suggest changes to the intervention materials? *If so, what would you change?*

9.0 Do you think this intervention would have a positive impact on asthma care in NZ?

10. Are there any barriers to adopting this approach in your consultations treatment? *Explore Time to learn and practice skills/Resources/confidence*

11. How has this experience changed your practice? Will you continue to use the materials?

Supplementary File 2:

Table 1: Overview of changes in beliefs about SABA (SRQ), self-reported adherence to ICS (MARS-5), asthma control (ACT) and self-reported intention to see a GP between the control and intervention groups at baseline, immediately after receiving the intervention or usual care, at 30 days and at 90 days.

	SRQ scores, mean (±SD)			ACT score, mean (±SD)			MARS-5 score, mean (±SD)		
Timepoint after enrolment	**Control**	**Intervention**	**p**	**Control**	**Intervention**	**p**	**Control**	**Intervention**	**p**
Baseline	17.5 (4.0) N=19	17.1 (5.0) N=16	0.77	18.6 (3.4) N=19	18.6 (6.0) N=16	0.97	19.9 (4.7) N=18	17.1 (3.1) N=12	0.08
Immediately after receiving usual care or intervention	17.1 (3.9) N=17	16.3 (4.5) N=7	0.68	NA	NA	NA	NA	NA	NA
30 days	15.9 (4.3) N=13	15.0 (4.6) N=7	0.66	NA	NA	NA	21.7 (3.2) N=12	19.6 (3.9) N=7	0.22
90 days	17.8 (5.5) N=9	12.6 (3.9) N=5	0.09	19.2 (3.3) N=10	22.8 (2.9) N=5	0.06	23.1 (3.0) N=8	19.8 (2.5) N=4	0.09