

Supplemental materials for:

Cabral C, Ingram J, Lucas PJ, Redmond NM, Kai J, Hay AD, Horwood J. Influence of clinical communication on parents' antibiotic expectations for children with respiratory tract infections. *Ann Fam Med*. 2016;14(2):141-147.

## Clinician Interview Topic Guide

### 1. Background details:

- When qualify
- When start working in PHC
- What experience of children (in secondary & primary)
  - o Frequency
  - o Confidence in diagnosis & treatment
  - o Any bad experiences
- Standard care for RTIs

### 2. Review of extracts from videos of consultations

- describe thought processes and feelings at key points
- reasoning behind decisions made and actions taken
- what they understood from what was said or otherwise communicated
- what they attempted to communicate and any issues / concerns they left unsaid
- how typical each consultation is

### 3. Views and experiences of the consultations

- aspects of consultations that were found to be beneficial/challenging
- satisfaction with consultation
- reasoning behind treatment decisions made during the consultation and what factors they think were taken into account

## Parent Interview Topic Guide

1. Why consulted?
2. How understand cough
  - big/small prob?
  - Threat? – signs / cause
  - Need to consult? – how id
3. Expectations (hoping for)
4. Consultation experience
  - Good / difficult bits – why?
  - Diagnosis / Treatment – understand why?
  - How typical?
5. Review video of consultation
  - Key points: What thinking / feeling
  - Understanding clinician explanations?
  - Feel clinician understood parent?
  - What else understand from clinician – why
    - Listened to
    - Taken seriously
    - Child properly assessed
  - What trying to say
  - Any concerns unsaid – why
  - Feel reassured / more anxious?
6. What is important for proper diagnosis / evaluation
  - Confidence in clinicians diagnosis
7. Self-efficacy post consultation
  - Understand illness? (changed or same?)
  - Know how to care for child
  - Know when to consult in the future? (changed or same?)
    - A&E – ever visit for cough? Might in future?
8. Experience of consulting this clinician in past
  - Good / bad – why
  - How affect this consultation?

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**Supplemental Table 1: Quotes of reflections on within consultation communication**

	<b>Excerpts from video of consultations</b>	<b>Excerpts from interview with clinician</b>	<b>Excerpts from interview with parent</b>
1.1	<p><b>Consultation #01: Boy 2yrs</b></p> <p>C: <i>Looks like it's a typical virus. And viruses tend to raise our body temperature (...) Our body responds to it because our body wants to cook the virus, um and so it ... gives us fever. But sometimes if the temperature is too high it's not exactly right for the brain and er – and that sort of gives sort of like delirium. (...) But as long as the temperature doesn't go too high then that's OK.</i></p> <p>P: <i>Just general fluctuations with the virus then?</i></p> <p>C: <i>Yes, yes</i></p>	<p><b>Clinician #202: Physician Associate, 3 yrs in Primary Care</b></p> <p>C: <i>That's to reassure the – because a lot of parents come in and say, "I want anti" – in their mind they want antibiotics for their child. They just think that's going to – that's good for the child, and they haven't really thought really whether it is good or not. So talking about 'typical virus' helps reassure them: the fact that it's typical means that it's not unusual and so it's not frightening and it's not at an extreme. (...) You know, it's a typical virus: these come and these go. And the fact that it's a virus, then they understand, and if they don't then I can explain to them, that a virus isn't helped by antibiotics, and it's better to keep antibiotics for when they really need it. So if I use the word 'typical virus' it's for that.</i></p>	<p><b>Parent #01: Father, WB, SES 3, 2 children: 4m &amp; 2 yrs</b></p> <p>P: <i>it was already what I was expecting really I was just expecting him not to prescribe anything really or say anything I just wanted to give him a check over and make sure there wasn't anything on top of that.</i></p>
1.2	<p><b>Consultation #30: Boy 8 yrs</b></p> <p>C: <i>The likelihood is that he has one of these winter virus infections, which, erm, have given him such problems over previous winters, er, and that's what's given him, giving him the cough. There's absolutely no sign of anything wrong with his chest, it's, the air is going in and out of his chest fine. There's no wheeze, and there's no sign of infection in his chest, at all. So the cough really is coming from the...</i></p> <p>P: <i>No, sorry.</i></p> <p>C: <i>From high up here, alright? Okay, so, so, roll</i></p>	<p><b>Clinician #18: GP, 20 years in Primary Care</b></p> <p>C: <i>the reason for saying it's a virus though is slightly different, isn't it? Because saying it's a virus um allows me to say things like there's no treatment for virus infections, there's no um – and that antibiotics don't work against virus infections, but they are simple infections which go away by themselves</i></p>	<p><b>Parent #30: Mother, British-Asian, SES 1, 3 children: 10, 8 &amp; 4 yrs</b></p> <p>P: <i>I feel he just like, er, any other patient comes in, and most parents complain about this, that, and that and I think they're used to hearing all these things. For them it's just simple thing, it's a viral thing, don't worry about it.</i></p>

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	<i>on... Okay, the cough is coming from in his throat and the back of his nose where the virus infection is.</i>		
1.3	<p><b>Consultation #15: Boy 9 m</b></p> <p>C: <i>So there's no sign of anything on his lungs, and there's no wheeze at all, like last time as well, which is really good.</i> P: <i>Yeah.</i></p> <p>C: <i>So lungs sound really clear. Um he's got a little bit of a red throat, he's got a little bit of a gland up there, but his ears look absolutely fine and I think it's most likely to be a viral infection.</i> P: <i>Yeah.</i></p> <p>C: <i>And if you're happy with that.</i> [moves on to address parent's concerns about dehydration]</p>	<p><b>Clinician #201: GP, 3 years in Primary Care</b></p> <p>R: <i>Do you have any sense of whether she was accepting? Did you think she was happy about the diagnosis?</i> C: <i>Yeah.</i></p> <p>R: <i>Do you think she had any residual concerns?</i> C: <i>No.</i></p> <p>R: <i>You felt confident that you'd kind of answered what she'd come for and ?</i> C: <i>Yeah.</i></p>	<p><b>Parent #15: Mother, WB, SES 3, 1 child: 9m</b></p> <p>R: <i>so you've had the, 'it's a virus'.</i> P: <i>A thousand times.</i></p> <p>R: <i>A thousand times. What do you understand by that, what does that mean to you?</i> P: <i>That means that he's ill and they're not willing to give any antibiotics or anything, because it won't work apparently.</i></p> <p>R: <i>You say apparently, like you're not really sure.</i> P: <i>Well, I, because I'm not a doctor I don't know, but I think something surely is better than nothing. If, like, say he's ill and he's been ill for a few days, something has surely got to be better than nothing</i></p>
1.4	<p><b>Consultation #11: Boy 1 yr</b></p> <p>C: <i>I don't think it's likely to be a chest infection with a bacteria. It's more likely, considering the fact that all the other bits are red up here as well, that it's more likely to be a viral infection that he's got.</i> P: <i>OK.</i></p> <p>C: <i>The problem we've got is that viruses are little small organisms that just can't be killed by an antibiotic: they just escape an antibiotic.</i> P: <i>So it's just the Calpol?</i></p> <p>C: <i>The difficulty we've got is we can't kill it with an antibiotic. So I think it's a case of supporting his body through it while he kills it off himself. What I'd recommend is regular doses of Calpol and Ibuprofen.</i> P: <i>OK.</i></p>	<p><b>Clinician #201: GP, 3 years in Primary Care</b></p> <p>C: <i>It's ... probably something I regularly explain, because it's a problem we've got nationwide with overprescribing of antibiotics, and patients not understanding the difference between viral infections and bacterial infections. And it's something ingrained in me that every time somebody comes with those sorts of symptoms, whether it be adults or children, it's kind of one of our duties to sort of educate and explain to patients that sometimes these sorts of symptoms are not going to respond to what they think</i></p>	<p><b>Parent #11: Mother, WB, SES 5, 1 yr old triplets</b></p> <p>P: <i>you can't kill viral things you've just got to let them, help them with calpol and stuff if they've got a temperature and they've got to kill it off themselves because antibiotics is for bacterial isn't it, so antibiotics wouldn't have done anything anyway.</i> [...]</p> <p>R: <i>Is that a familiar story?</i> P: <i>That's always the story, [...] because I took Archie last week ... [he] sounded really chesty last week, ... [but] it wasn't in his</i></p>

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		<p><i>it's going to respond. But having said that, we're not quite sure in her eyes what her concern was, but that's something that I would probably do anyway.</i></p>	<p><i>lungs it was viral. So yeah...</i>  R: <i>So ... why do you think she's telling you that bit?</i>  P: <i>To sort of, in case I wanted antibiotics, or thought that antibiotics was going to clear it, she's explained it so obviously I know that antibiotics would be useless anyway so there's no point in having it, because it's pointless.</i>  R: <i>And how did you know that, where did you know that from?</i>  P: <i>Just when she checked and said his lungs were clear it was like oh there's nothing bacterial then, she's going to say it's viral then.</i></p>
1.5	<p><b>Consultation #51: Boy 1 yr</b>  C: <i>Because he is snotty and the ear drum looks in pain, it's likely to be just part and parcel of the viral infection so as this is day 3 I wouldn't give him antibiotics at the moment but I will give you the prescription. Okay? ... I would hope that he turns a corner sort of overnight by tomorrow, and that his temperature has started to come down. If not, start the antibiotics.</i>  P: <i>From tomorrow?</i>  C: <i>Yes. The antibiotics aren't trying to get rid of the ear infection any quicker, it's basically trying to prevent any complications from it.</i></p>	<p><b>Clinician #203: GP, 5 years in Primary Care</b>  C: <i>Trying to explain an otitis media compared with an ear infection, as opposed to an RTI, like when something would need antibiotics. Erm, I think it is a lot of information to take in and I'm never convinced that they actually understand what I'm saying 'cause even if you try and clarify that. So I mean, in terms of talking about where the infection is or even understand by infection. I haven't really don't know that, the answer to that. Erm, but it's me trying to safety net really and justify why they don't need antibiotics straight away</i>  ...  C: <i>I think parents quite like that [delayed antibiotics] because it takes the worry off them that they</i></p>	<p><b>Parent #51: Mother, WB, SES 4, 1 child: 1 yr</b>  R: <i>Do you think you would be able to tell if he had ... the kind of infection that did need antibiotics?</i>  P: <i>No, I, I wouldn't know what would need it and what wouldn't really.</i>  R: <i>So you've got to go and see them just to find out?</i>  P: <i>Yeah.</i>  R: <i>If he had something similar in the future, would you still go and see the doctor to check or will it change what you did?</i>  P: <i>I think I'd have to go back because, you know, you can't see that it's an infection. ... I don't feel confident to know ... whether he would need them [antibiotics] or not. ... If he had a</i></p>

		<p><i>don't need to (...) they've got clear guidance about having a temperature and if it's after a certain amount of time, then antibiotics. If not, know it's just gonna get better on its own</i></p>	<p><i>temperature, I wouldn't know if it was the same thing or not.</i></p>
1.6	<p><b>Consultation #39: Girl 8 yr</b>  P: <i>then this morning, when she coughed up loads of phlegm, it was like a yellowy color.</i>  C: <i>Oh, was it? The actual phlegm was yellowy? Okay. I think if the phlegm was yellowy, it's probably worth using an antibiotic.</i>  P: <i>Right, okay.</i>  C: <i>I can't hear anything rattling around on your chest, which is really good, and the oxygen was really good as well, so that's wonderful.</i>  [<i>child coughs up phlegm and C offers her a paper towel to spit into so she can examine it</i>]  C: <i>do you want to get us a little white towel there? Well, that'll be good. We can have a look at it and see what color it is. You spit in there. Oh, just a little bit colored, isn't it?</i></p>	<p><b>Clinician #213: GP,</b>  C: <i>I mean, I think I probably prescribe slightly more often than the standard, I think I'm probably on that end of it. And it's, it's quite an interesting question as to why you do that. (...) however much research you read, I think your own personal experience always has more, (...) you only need one adult who (...) had an appalling bronchial pneumonia, when you didn't prescribe, to, to actually make you probably over prescribe.</i>  C: <i>if I had chest signs, I would probably give something. But, if they're coughing up something, definitely colored, and they haven't got much in the way of nasal symptoms, I might prescribe even, even if their chest is clear.</i></p>	<p><b>Parent #39: Mother, White-British, SES 1, 2 children: 8 &amp; 2 yrs</b>  P: <i>she had a real bad cough and um it turned out she had a real bad chest infection. (...) so they gave her antibiotics for her, and plus an asthma pump.</i>  R: <i>And so what was it about her cough that made you know that it was a bad one?</i>  P: <i>because normally she'll sleep all night: come from about 2 o'clock in the morning she'd be up all night coughing, so that's how I knew.</i>  [...]  P: <i>Um it weren't till she coughed and then looked at the phlegm that she realized um it was like a yellowy color.</i>  R: [video continues] <i>So it's that yellow phlegm that made her decide to use the antibiotics.</i>  P: <i>Yeah.</i>  [...]  R: <i>And what did you understand the diagnosis to be? Because she doesn't actually say.</i>  P: <i>I just put it down to a chest infection.</i>  R: <i>So if it's antibiotics then it's got to be chest infection?</i>  P: <i>Yeah.</i></p>

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1.7	<p><b>Consultation #06: Boy 6 yr</b></p> <p>C: <i>I think he has an infection in his ear. And that might be why he's getting the temperatures and being sick. His chest sounds very clear, so I can't hear any problems on his chest. And I think he must be coughing because of the infection around his throat and his ears.</i></p> <p>P: <i>We tried, we tried to cool him down, the temperature. ... it's not going, it's not going away. So he refused to eat and he's just drinking milk and water.</i></p> <p>C: <i>Well I think that will improve with the antibiotics for his ear. (...) If the breathing keeps being a problem, let me know: bring him back. (...) Because I don't think there's anything wrong with his chest, but if he keeps having breathing problems we should look at that again.</i></p>	<p><b>Clinician #203: GP, 5 years in Primary Care</b></p> <p>C: <i>I've given mixed signals there by saying it might well speed up the cough. So I've given quite a mixed message there.</i></p> <p>[...]</p> <p>C: <i>you don't want them to then be coming back when they have a cough 'cause they got given antibiotics last time when it would've sorted itself out anyway. (...) you know, unless it's getting worse or persisting (...) it's unlikely to be anything worrying that needs antibiotics, so...</i></p>	<p><b>Parent #06: Father, Black-African, SES 3</b></p> <p>R: <i>And why did you think antibiotic might be appropriate for him?</i></p> <p>P: <i>Because if he's got, he has not getting infection because I kept him at home for four days and that four days, if he's got cold or cough or even a virus it must go away within four days, you know that, if it's not going away within 4 days there is something wrong, he's got infection, on the chest, on the ear or on the throat.</i></p> <p>R: <i>And that infection needs antibiotics.</i></p> <p>P: <i>Yes, antibiotics, yeah that's what I know.</i></p>
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<b>Supplemental Table 2: Quotes for Parent's perceptions and beliefs around Antibiotic treatment</b>	
2.1	<p>P: <i>bronchiolitis for babies is quite bad, and they literally didn't even give him antibiotics, (...) because they turned round and said that he, antibiotics don't work on it. What am I meant to do?</i></p> <p>R: <i>And so you were expecting it to be treated with antibiotics.</i></p> <p>P: <i>Yeah.</i></p> <p><b>#15: Mother, WB, SES 3, 1 child: 9m</b></p>
2.2	<p>P: <i>It wasn't affecting me badly. But, yeah, I think um night time is quite a good judge of the health of your child, (...) they tend to only wake up if there's a reason – so, you know, if they're fine then they sleep through or, you know, they sleep alright. But if they wake up in the night (...) when you take everything else away, the distractions of the day and everything and whatever is going on, and it's just them, then that's when they notice their discomfort.</i></p> <p><b>#04: Mother, WB, SES 4, 2 children: 1, 4yrs</b></p>
2.3	<p>P: <i>I wanted to see the doctor or nurse (...) because one week he's no goin' school. (...) he's cough, bad cough, yeah, really bad cough and history my [son] is have chest infection and then I'm afraid that one.</i></p> <p><b>#59: Mother, WB, SES 1, 4 children: 11m - 11yrs</b></p>
2.4	<p>P: <i>'Cos you don't really know. (...) Trouble is, you don't know what's normal. You don't know how fast he's supposed to breathe or (...) But when you hear him kind of um breathing and he's all like chesty, you don't know what's going on. 'Cos obviously he sounded the same as what Aidan does [Aidan is sibling who received antibiotics last week]</i></p> <p><b>#35: Mother, WB, SES 3, 4 children: 1-12yrs</b></p>
2.5	<p>P: <i>I think more generally as well, there's lots about antibiotics, isn't there, that we're using too much? And, I don't know, there's a lot in the press now about that we're using too much and it's becoming less effective. I don't want to not have the option of antibiotics in 20 years' time just because everybody took half the bottle.</i></p> <p><b>#04: Mother, WB, SES 4, 2 children: 1, 4yrs</b></p>
2.6	<p>P: <i>I would rather we try to shift it [infection] ourselves and if we can't then you get antibiotics, but just to give them just like that I don't think that's very good because I don't think it's very good for your immune system.</i></p> <p><b>#10: Mother, WB, SES4, 2 children: 1 &amp; 6yrs</b></p>
2.7	<p>P: <i>When he checked and he said, "Everything is fine," then I felt he doesn't need antibiotic. Even if he said I'll give it or you want to wait come another day then I would feel "No, why does he need antibiotics?" Because I feel giving kids extra medicine doesn't really help, does it? (...) Like you don't want them to get into all these things. Where if your body can</i></p>

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	<p><i>fight it itself, I feel that's more better, 'cause then that means they're strong enough to fight their own sort of sickness, because they said human body is like that.</i></p> <p><b>Parent #30: Mother, British-Asian, SES 1, 3 children: 10, 8 &amp; 4 yrs</b></p>
2.8	<p>R: <i>do you think they could do something and they're not?</i></p> <p>P: <i>I don't know whether it's just because, do you know what I mean, they're trying to save money because they've given all their drugs out to the older people?(...) Because there are a lot of old people and there are a lot of old people on a lot of different drugs, so if everyone comes in and has to have the same amount of drugs as what, like, say, an older person does, that is a lot of drugs the NHS are giving out. (...) And they're already saying that they haven't got the money for budgets and all that crap.</i></p> <p><b>Parent #15: Mother, WB, SES 3, 1 child: 9m</b></p>
2.9	<p>P: <i>Sometimes I feel, there are times when I'm thinking, "Why didn't they do that? Is it too expensive? Are they saving money or is it that?" It's so many things that goes behind you back. And you feel you can't get no answers.</i></p> <p><b>Parent #30: Mother, British-Asian, SES 1, 3 children: 10, 8 &amp; 4 yrs</b></p>