Figure S1 - NOMAD Survey Findings

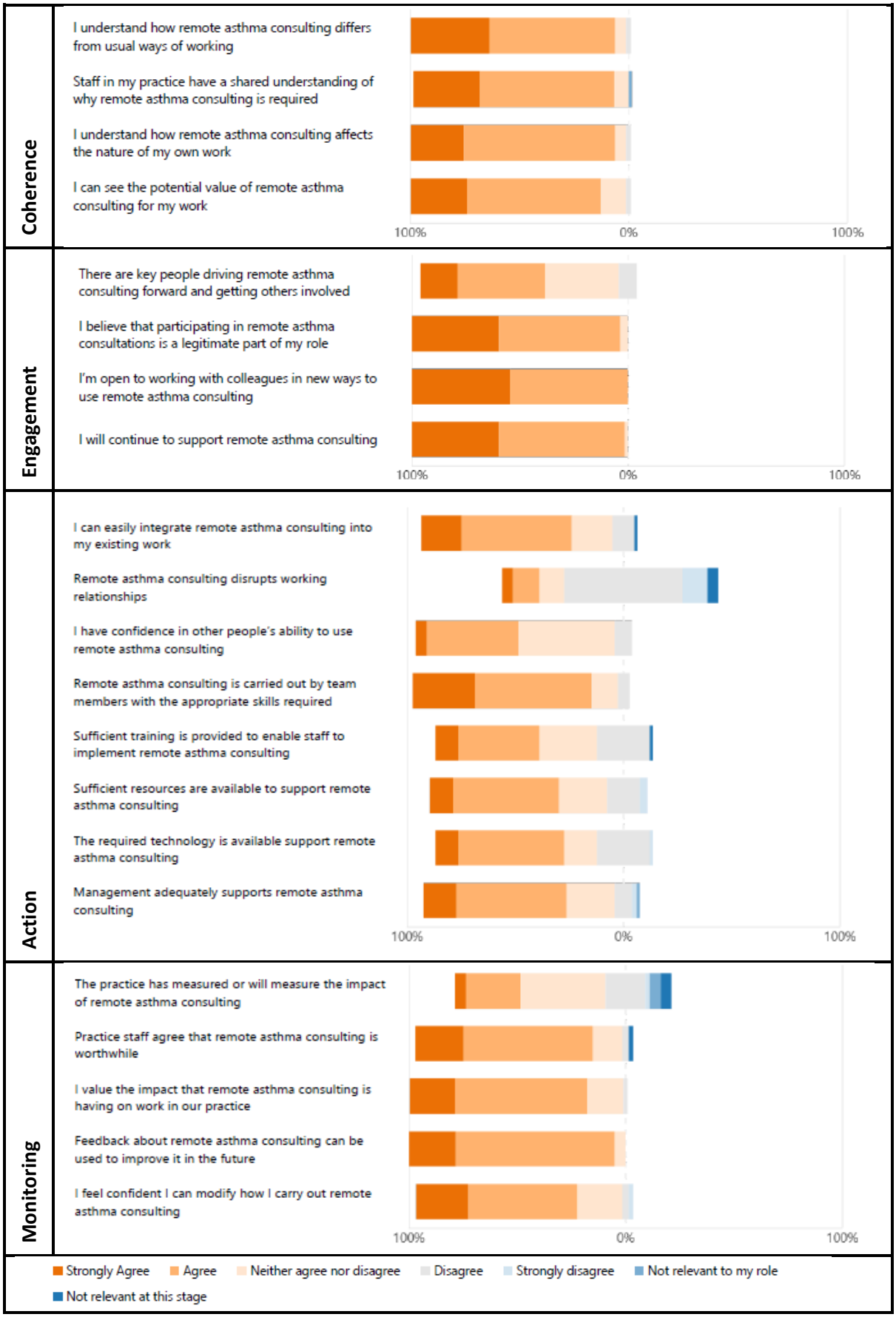

Table S1a - Contribution (sense making, engagement, action and monitoring)

NPT domain	Theme	Findings from data	Evidence from data
Coherence	**Consensus required on purpose and possibilities**	**Acute and/or chronic care** ✓ Valued for acute care with pandemic restrictions ✗ Lack of consensus on whether adequate assessment can be performed (e.g., physical examination, inhaler technique and spirometry)	*92% agreed/strongly agreed that their Practice had a shared understanding of why RAC was required* *''I think we should continue with telephone triage before face-to-face review...I don't think half of the people who come in for face-to-face review need to come in.'' INT4* *''In terms of acute asthmatics, it is very difficult to beat seeing them face to face.'' INT6* *''For chronic I think remote consulting is a good idea – I think most things you can cover over the phone.'' INT4* *''Inhaler use is important to me and that is something I do miss through the virtual arena. You can miss so much.'' INT2* *''For a new diagnosis, that can also be quite challenging as you don't have access to spirometry.'' INT1*
		All patient's or Patient subset ✗ Lack of consensus on patient selection for RAC	*''For certain people this will be the way to go.... For those patients where you're not actually sure if they are getting the full benefit of the review, I would much rather see them face to face.'' INT5*
Engagement	**Identification of a Practice 'Champion'**	✓ Motivated HCP needed to drive implementation ✗ Variability on whether key people were driving RAC forward	*''I am trying to lead on the changes.'' INT5* *''We find it is helpful to have a lead person for things. Because you get this concept of 'bystander atrophy' where nobody really takes responsibility.'' FG9* *57% agreed/strongly agreed that key people were driving RAC forward (NOMAD)*
	Engagement of the whole practice and wider Primary Care team	✓ Whole practice team engagement to support implementation ✗ Variable staff buy-in ✓ Wider Primary Care engagement helpful	*97% agreed/strongly agreed participating in RAC as a legitimate part of their role (NOMAD)* *"While some may have a more clinical role, everyone has a role to play" INT4* *''It is more about encouraging the late adopters in the practice to come on board. '' INT1* *''There have been times when I have not been sure if they have understood what I am saying and I have advised them to go to their community pharmacist to demonstrate technique to them.'' INT2*
Action	**Adaption of approach for remote care**	**History** ✓ IT templates adapted for remote consulting ✓ More detailed history	*''I then came up with the template which covered areas such as QOF, how it needed to be modified as it wasn't being done face to face.'' INT5* *''You probably take a more detailed history over the phone, because when consulting face to face you haven't got objective parameters you can check.'' INT4*
		Physical examination ✓ Video consulting provides visual cues	*''With video we can visualise the patient. You learn a lot from seeing the patient. Their colour, the way they are breathing.'' FG5* *''I can send out a 'sats' machine. I can get them to do exercise testing if I need to – if they tell me they are short of breath when they go up the stairs, I tell them to take them phone and off they go to show me.'' INT9*
		Inhaler technique ✓ Video consulting to support assessment of technique Alternative sources of support for technique	*''For technique I am signposting to videos.'' INT6* *''I also put the instructions on the prescription for them so they know when and how to take the medication. '' INT2* *''We can also link up with our community pharmacy colleagues for support, this can make things a bit more streamlined.'' INT2*
		Peak flow ✓ Readings prior to consulting ✓ Video can support	*''You can do peak flows, send them out their diaries and watch them. So, you can do this remotely.'' FG3* *''You would be able to assess the patient's inhaler technique using video.'' INT1* *''I can send out peak flow meters and they can do peak flow meters in front of me.'' INT9*
		Spirometry ✓ Collaborative approach for provision when required	*''What is being described is perfect, with 1 or 2 hubs for diagnostic spirometry per federation, where you can have a patient diagnosed and come back to you diagnosed accurately and optimally.'' FG3*
		Provision of written information ✓ Messaging software ✓ Practice website	*''I can also send them out… their personalised action plan, how to use their inhaler, and then instructions of how the access the videos on inhaler technique.'' INT9* *''We did the updates with the website thinking some might have a desktop at home even if they didn't have access to a smart phone.'' INT3*

	Preparation with the patient prior to consulting	✓ Information gathering Sending required equipment	*''They speak to the patients first and explain this is going to be a virtual review and would they like to do a video review.'' INT5* *''We are making up our own little questionnaires which we send to patients to try and make things a bit more efficient.''FG9* *''You could make sure they had a peak flow meter at hand…if they had a few readings taken prior to the review.'' INT2*
	Integration of acute and chronic consulting	✓Streamlined follow-up following acute exacerbation ✓Staff supported to provide both chronic and acute care ✗ Lack of consensus on value of integration	*''The way it is working at the minute is they speak to someone who is having an acute exacerbation… they will ask me to follow up on it 2 weeks later.'' INT5* *''It started out as doing QOF and now it has changed and they are now using me for acute reviews.'' INT7* *''We are definitely keeping acute and chronic separate'' FG1* *''We tended to keep acute and chronic separate as we were really firefighting.'' FG6*
	Provision of training and resources	✓ Provision of training on remote asthma consulting	*''They have been very supportive. They encouraged me to do the training'' INT5* *''I did some training around how to conduct remote asthma consultations'' INT5*
	Personalisation of approach to needs	✓Choice of mode based on patients' needs and preferences	*''I consider it a three-tier approach. There is the telephone consultation, that might prompt a video consultation, and the video consultation might subsequently prompt a face-to-face consultation. It's about deciding what approach best fits that person.'' INT9* *''if you see the person virtually you can make a judgement on that and make a decision whether they need to be seen face to face.'' INT2*
Monitoring	**Informal appraisal of impact based on experience of implementation**	**Impact on Patient access** ✗Potential to inhibit access ✓Improved engagement with poor attenders	*''it has improved the accessibility enormously. I have spoken to asthmatics who felt they never needed to come into the surgery, who have awful DNA rate.'' INT7* *''I think there is a certain cohort who would rather see someone… who aren't technology savvy, older, have hearing impairment'' INT3*
		Impact on communication ✗ Absence of visual cues ✗ Inhibits establishing rapport ✗ Environment less predictable	*''I do think you miss some cues – body language and some visual things.'' INT5* *''The rapport you have is different.'' INT3* *''Interruptions – when they are in the consultation room, these can be minimised. When they are in their home this can be challenging e.g., children present.'' INT2*
		Impact on Clinical risk ✗ Greater clinical risk ✗ Medico-legal uncertainty	*''When you are speaking to them on the phone, I feel you are taking a bit of a risk, telling them if they don't feel any better to call you back.''INT4* *''I think there is definitely a medico-legal perspective to this as well. It may be ok to do a virtual clinic when there is no alternative.'' FG5*
		Impact on Efficiency ✓ More focused consulting ✗Missed opportunistic assessment ✗Greater HCP fatigue	*''The virtual asthma review is more focused, and takes around 10 minutes instead of 20 minutes. They aren't telling you about other problems.'' INT2* *''The older patients are those who I feel will lost out most as they miss out on the opportunistic opportunity to address their other health problems as well.'' INT1* *''I find if you are doing a few of those you get tired more quickly than if you are up and down seeing patients face to face.'' INT7*
	Formal appraisal of impact based on measurement	**Consensus required on measurement of impact** Patient outcomes vs Patient reviews	*30.5% agreed/strongly agreed that their Practice had measured or will measure the impact of RAC.* *''Initially when QOF came out I saw it as a massive leap forward in the management of chronic conditions like asthma…I would challenge anyone to tell me what outcomes are actually being measured, because I don't know of any. It's all about reviews.'' FG3* *''For me it is asthma control. You want your patients to be well.'' FG8*
		Consensus required on linking appraisal and adaption	*''We've evolved the working template. Identifying the patients – initially we saw as many patients as we could, now it's more looking at the high-risk patients. '' INT2* *''I am currently doing a QI project on asthma in the practice.'' FG1*

Table S1b - Capacity

Findings from data		Evidence from data
HCP	**Technology access** ✗ Variable access to required equipment / technology	*''They have been very supportive…they bought video camera for the computer, they set up me up with ACCUR-X.'' INT5* *''we are still waiting on head set; I don't have access to video software. I am having to use my own phone at times.'' INT7* *''My biggest frustrations is about how in EMIS practices you hear how good AccuRx is. When you haven't got the equivalent on Vision it is very frustrating.'' INT7*
	Workload ✗ Inhibits staff engagement in RAC ✗ Inhibits staff accessing training	*''We only have one practice nurse who would do a lot of the chronic disease management and they are currently caught up with delivering flu vaccines.'' INT1* *''The biggest challenge at times is finding the time to sit down and get the training because we are so busy.'' FG9*
Practice	**Technology access** ✗ Inconsistent access ✓ GP networks can support	*''I would love to provide that excellent service but I don't have access to the system to let me do that… we need to prioritise getting that level of IT functionality into all practices. It needs to be funded.'' FG9* *''Some practices in our Federation are on EMIS and use AccuRx. And AccuRx came out a started charging for it. So, the federation took a lead and got practices together. That approach works well.'' FG9*
	Workload ✗ Inhibits practice engagement ✓ Practices can adapt internal processes to support RAC	*''In my practice because we are under so much pressure because we are down admin staff, we are really prioritising the patients who are unwell.'' FG7* *''We didn't really have time to review our chronic asthma and COPD patients.'' FG6* *''We reorganised how the day is organised to support carrying out calls.'' INT6*
	Community resources / networks ✓ Support with provision of care ✓ Support with provision of training	*''There have been times when I have not been sure if they have understood what I am saying and I have advised them to go to their community pharmacist to demonstrate technique to them.'' INT5* *''If a federation offer training to all practice in an area is going to help…it is very difficult for one person or one practice to achieve everything on their own.'' FG9*
	Staffing ✗ Inconsistent practice staffing	*''In between times we have lost two of our nurses who would have done much of the asthma care.'' FG7* *''The practice now also has two dedicated nurses to remotely review patients with asthma.'' INT4*
Patient	**Technology access** ✗ Inconsistent access to required technology	*''One of the major challenges is the technology at the other end. We have a good computer, good internet connection. Patients may not have smart phones; they may not be able to access material if you want to send via email.'' INT2*
	Availability / Compatibility with ADLs ✓ More compatible with some patients ADLs ✗ Requires patients to answer call	*''They don't have to take time out of work.'' INT9* *''We focused on age 20-30 and who generally don't attend for review but who have access to smart phone and tablets. There were patients in this group who hadn't been seen in years and responded really well to it.'' INT5* *''Sometimes when a person phones up and has an appointment booked, when you call them back, they don't answer. That is a frustration, and a negative for remote consulting.'' INT8*

Table S1c - Capability

Findings from data		Evidence from data
HCP	**RAC capability** ✗ Inconsistent access to training	*47.5% agreed/strongly agreed that they had been provided with adequate training (NOMAD).* *''They have been very supportive. They encouraged me to do the training'' INT5* *''As for training, we didn't get any, we had to just get on with it and sort it out for ourselves.'' FG1*
	Technology capability ✗ Inconsistent access to training	*''You are self-taught. I'm sure there is much great functionality which we aren't using.'' FG3* *''There was training provided on how to use it.'' INT4* *''As a practice we had to get the video equipment up and running to do all that. All that was new. As for training, we didn't get any, we had to just get on with it and sort it out for ourselves.'' FG1* *''If a federation offer training to all practice in an area is going to help. So if someone else can take responsibility for organising that, it is our responsibility to avail of it when it offered.'' FG9*
	Continuity of care ✓ Continuity of care supports RAC	*''I know my patients here so well that I can get a sense of them. I can look back and see how they have been previously.'' INT3* *''When you've seen someone before and know that is exactly how they were the last time you assessed them, you can reassure yourself with that.'' INT6*
Practice	**Staff skillsets** ✗ Inconsistent between practices	*''If there is a gap in skill, maybe a new nurse has come in and they don't have the skill mix or the autonomy to take the lead.'' INT9*
	Training provision ✓ GP networks can support	*''if a federation offer training to all practice in an area is going to help… it is very difficult for one person or one practice to achieve everything on their own.'' FG9*
Patient	**Technology capability** ✗ Variable ability to use required technology ✗ Sensory deficits (e.g. poor hearing) may reduce ability to engage ✗ Poor literacy may reduce ability to engage with written information sent via messaging ✗ Disproportionate effect on elderly patients	*''I feel that there are some people who are better with the phone than others, and I feel this system definitely disadvantages people who are not great with technology.'' INT6* *''In particular older people who simply cannot send you pictures or do a video call.'' INT6* *''Elderly patients don't seem to get much benefit from a remote asthma review, unless maybe if there is a relative with them as well…Issues such as poor hearing, technology.'' INT5* *''There has also been a study in Belfast that showed that 25-30% of patients are illiterate. You will lose a lot just by sending information via text or technology…. That's where the technology lets the patient down. There will be a certain group of patients who won't be able to benefit from this type of technology.'' INT5*
	Asthma severity / complexity ✗ Asthma severity / complexity may reduce ability to engage ✗ Disproportionate effect on elderly patients	*''For people who are more complex you spend much longer arranging the review, bringing them down. For those patients where you're not actually sure if they are getting the full benefit of the review, I would much rather see them face to face.'' INT5* *''For the more complex, more high risk we will need to continue to see them face to face when possible.'' INT2* *''For the complex and the elderly, I don't think either of us get what we want from the consultation.'' INT7*

Table S1d - Potential

Findings from data		Evidence from data
HCP	**Personal motivation** ✓ **COVID:** Suspension of QOF demonstrated importance	*''I was very conscious not to down tools, it would have bene very easy to say 'we're not being measured against QOF'' FG5* *''I felt that reaching out to them was important before they needed to reach out to us.'' INT2*
	Perceived opportunities & Risks Links to personal appraisal **COVID**: Clinical risk impacts individual intention	*''There will be a certain group of patients who won't be able to benefit from this type of technology. I don't think it's a reason not to utilize it where we can.'' INT2* *''I think there is definitely a medico-legal perspective to this as well. It may be ok to do a virtual clinic when there is no alternative. You need to have lung function done to allow you to prescribe. You are writing that prescription because it is the most appropriate treatment at that particular time. How can you continue to do that when you don't have anything to inform that decision making?'' FG5*
Practice	**Practice Funding & Workload priorities** **COVID**: Funding impacts Practice commitment / motivation	*''No-one is really paying too much attention to it at the minute as QOF has been suspended for this year. The expectation for this year is that you are meeting patient care and understanding we won't be able to review everybody.'' INT5* *''You could take it from one practice that they are really engaged right through to 'there's no QOF so we're not doing it'. It is a post-code lottery.'' INT9*
	Practice norms ✗ Inconsistent commitment to adoption of video consulting	*''You treated the patient on the phone or using a video consultation, and the video was definitely better than the telephone, but we had to use what we had'' FG1* *''We don't do very much video consulting in the practice, there is maybe only one every few weeks. The practice has made the decision that they would like to keep it to telephone where possible.'' INT1*
Patient	**Perceived susceptibility** **COVID**: Increased susceptibility as driver for patient engagement	*''I was quite aware of the worry amongst patients, and we had a real upsurge in the number of requests for inhalers.'' FG5* *''We had patients phoning in who would never have made contact in 3-4 years looking for inhalers. '' FG1*
	Compatibility with ADLs ✓ Impacts patient engagement	*''We focused on age 20-30 and who generally don't attend for review but who have access to smart phone and tablets. There were patients in this group who hadn't been seen in years and responded really well to it…they didn't have to take time out of their day to come down.'' INT5*
	Patient Norms ✗ Challenges overcoming norm of F2F consulting ✗ Resistance by some to use video consulting	*''Elderly patients don't seem to get much benefit from a remote asthma review…They just don't like it and they will tell you that. From the get-go they were not buying into it and were not enthusiastic about it. They feel you are ticking a box doing it that way.'' INT5* *''When I speak to people they say 'Can I not just speak to you on the phone, I can't be bothered messing about with a video consultation'.'' FG9*