

SUPPLEMENTARY INFORMATION

Supplementary appendix

Areas covered during the interviews and focus groups

a) Experience of symptoms and their impact on daily life (including individuals' experience of symptoms and current impact on physical life, social life, emotional wellbeing, and hobbies, etc.)

- Symptoms
 - frequency, severity, bothersomeness, timing of symptom
- Flare-ups/attacks
 - frequency, severity, outcome
 - triggers, impacts
- Worst aspect
 - description
- Impacts
 - area of life impacted, type of impact, symptom indicated, frequency, size of impact

b) Satisfaction with current treatment (how well their current treatment works: does it manage symptoms? Is there an unmet need? Does this vary between reliever/maintenance medication?)

- Effectiveness
 - preventer/reliever
 - speed of effectiveness, importance
 - length of relief, importance
 - things that impede effectiveness
 - getting a good night's sleep, importance
- Convenience
 - preventer/reliever
 - speed of administration
 - ease of use, importance
 - frequency of doses, importance
- Confidence in treatment
 - preventer/reliever
- Concerns about treatment
 - type of concern: tolerance, dependence, long-term use, medication not working
- Difficulties with treatment

- type of difficulty
- Side effects
- What would you change about your medication?
 - desired changes, reasons

c) Aspects of treatment that are considered important (which aspects of treatment are important? e.g., no side effects, frequency of dosage; would some aspects be more important than others?)

- Which aspects of treatment are important?
 - aspect of treatment, reasons, level of importance
- How long would you like your treatment to be effective?
 - length of time, reasons
- Would you prefer your symptoms to be stable or fluctuate?
 - stable/fluctuate, reasons
- How often would you prefer to take your treatment?
 - frequency, reasons
- What time of day would you prefer to take your treatment?
 - preference, reasons
- Would you prefer not to have to take a reliever?
 - preference, reasons
- Would you prefer to change the time of day when your symptoms are best controlled?
 - time better controlled, preference, reasons

d) Adherence to medication (are there obstacles for compliance and adherence?)

- Preventers: adherence
 - level of adherence
- Relievers: current use
 - frequency
- Impacts on adherence
 - reasons, explanation

e) Ideal treatment (what would be the best aspects of treatment in an ideal situation?)

- Area of treatment
 - effectiveness
 - suggested improvement, reasons
 - once-daily treatment

Table S1 Individual quotes relating to the experience of symptoms

Area	Asthma (n =20)	COPD (n =15)
Breathlessness	<p>"It's not something I can control when it's happening and it's quite hard to stop."^a</p> <p>"Well, shortness of breath...just general shortness of breath, sort of uncomfortable when I breathe..."^a</p> <p>"And the main symptoms for me are shortness of breath..."^a</p> <p>"Yeah, just breathlessness. Sometimes, in the evening I'll be sleeping and I'd sort of wake up...short of breath..."^a</p>	<p>"Now, when I'm lying in bed and I've been out of breath, all of a sudden, it's like your heartbeat, it goes quieter and quieter and you're thinking, now that's great, why do I have to keep panicking, fighting for me breath?"^b</p> <p>"They thought I had pleurisy in New York. I was that bad the minute I got there. Benidorm... I just couldn't breathe at all."^b</p> <p>"Well, just breathlessness if I'm, you know, getting ready, you know, for instance, getting dressed. At the moment I'm sitting in my dressing gown, but I'll – you know, once I start to get dressed I do get a bit breathless."^a</p>
Chest tightness	<p>"...it always feels like I'm trying to gasp for air...like someone's putting their arms round me and they're really holding my chest in really tight."^a</p> <p>"Really, just tight chestedness, the usual feeling of breathing through a straw."^a</p> <p>"And the main symptoms for me are...feeling that tightness in my chest."^a</p>	<p>"I would get a tightness across my chest, feeling like I just can't get enough air into my lungs and feels kind of scary when you can't pull air in."^a</p> <p>"The most frightening is it's like a feeling that you can't get any air. It's too, it's so tight you can't get anything – you can't get anything in. If I – I'm like oh, I can feel it coming on, oh, and I start to panic. ...But that, the tightest feeling, it's an horrible tight feeling and you think you're going to die, don't you?"^b</p> <p>"Well, I get quite worried with it because my breathing gets quite tight, you know, and my chest feels tight and my breathing gets hard."^a</p> <p>"Yeah, and my chest tightens up as well. I get, it tightens up in the night as well, yeah."^b</p>
Coughing	<p>"I do suffer from trouble with coughing, it just – more so in the winter, really."^a</p> <p>"Yeah, I won't be able to control the coughing and I go purple and think I'm going to die...I thought I was going – I almost fell on the floor in the middle of the snooker room, coughing uncontrollably 'cause it felt like it was stuck on my throat and I couldn't breathe or anything."^b</p> <p>"If it gets really, really bad, I do have to cough and I like sometimes end up coughing really bad..."^a</p> <p>"Well...quite often have a cough and things...and sometimes you sound like you smoke 60 a day, but I obviously don't."^a</p> <p>"Yes, I cough terrible... I choke a lot when I cough, you know, I go into coughing fits."^a</p> <p>"I have a cough like that... And it's so embarrassing, sometimes..."^b</p> <p>"It's the coughing... The coughing, usually in the morning maybe, you know, after I've been laying down quite a lot or if I'm poorly then I cough through the night."^a</p>	<p>"I'm coughing, all the time I've got phlegm on my chest, right."^b</p> <p>"...and er I get, sometimes I get this cough, and actually when I've been eating I choke on my food sometimes...you can eat and then you can take a coughing fit, you know it's like stuck in your throat."^a</p> <p>"And the coughing, all this coughing. Where have all these coughs come from, that's what I'd like to know? You're thinking, well, how long's it going to last? You keep coughing and coughing and coughing..."^b</p>
Mucus	<p>"I used to keep coughing it up, just, like, this lump."^a</p> <p>"helps to clear my mucus 'cause I gag...with mucus in my throat."^a</p>	<p>"Oh, well, just when I've got to spit into a hanky, that's embarrassing, you know, with the phlegm I've got. You know, and that's just, you know, when you've got a cold, I've got that every day."^a</p> <p>"I rarely spit, so I get violently sick, you see, and if I do cough, because I don't like the cough, it automatically brings the sickness on."^b</p>

		<p>"Well, coughing up sputum. I don't mind coughing, it's the horrible sputum, mucus, whatever."^a</p> <p>"And I'm coughing, all the time I've got phlegm on my chest, right. I get up in the morning, I'm in the bathroom half an hour just emptying me, you know, the sputum. Every day, more or less."^b</p> <p>"...you're coughing a heck of a lot, then it's worse, and you're producing a heck of a lot of nasty, horrible phlegm, and sometimes if you're coughing, it just comes out. So you can't do anything about that. That isn't very pleasant. You don't really want swallow it and it's horrible."^b</p>
Wheezing	<p>"Well, it'd be quite wheezy, especially in the morning... It sounded like the guy out of Star Wars."^a</p> <p>"The only time that I would experience wheezing and, like, kind of, asthma symptoms is in the wintertime. Especially on late nights, like I used to be out on the farm helping and if I was out late at night and the, kind of, frosty air would really bring on, like, a wheeze in my chest."^a</p> <p>"Yeah, but wheezing...it varies on degrees obviously, depending how bad I am and what I'm doing."^a</p> <p>"I only really get wheezing, these days, and that's not very often either."^b</p>	<p>"Well, I know I've a constant wheeze and I know that I breathe quite heavy at times, and sometimes I'm not aware that I'm breathing heavy, it's colleagues that say, 'You're actually breathing quite funny'. "^a</p> <p>"I get wheezing at night when I'm lying down. Oh, no, I do get wheezing in the day to be fair, but I notice it more at night."^a</p> <p>"Mine's the wheezing as well, I can hear it. I can hear it whistle."^b</p>
Tiredness/lack of energy	<p>"If I'm pre or post an attack, then I would feel quite weak and tired and out of breath and drained..."^a</p> <p>"Yes, I do feel tired quite often. Yeah, and it takes the energy out of you when – especially if you've had an attack..."^a</p> <p>"...during the day, I'm tired because I've not had a full, good night's sleep."^b</p> <p>"Exhausted. I'm wiped out. I've not been able to do anything all day, physically, because I'm just so tired."^a</p>	<p>"And it's because I'm a taxi driver and I'm tired. And if I don't get enough sleep I get really irritable."^a</p> <p>"You're always feeling a bit tired, yeah... I mean, I have to go to bed sometimes about half past nine... I'm tired, I've done nowt."^b</p> <p>"Yeah, and I get quite low energy. I can't really do anything..."^b</p>
Flare ups	<p>"So the last time...I started off I woke up in the morning and severe chest tightness, difficulty exhaling, feeling really weak and faint...having to go straight to hospital, basically."^a</p> <p>"So if we define an attack, as far as I'm concerned, as feeling short of breath, I would say, probably, five or six times a year, something like that."^a</p> <p>"I've had one asthma attack and I must've been a teenager."^a</p> <p>"When I was younger I used to have a lot of flare-ups."^a</p> <p>"Just tightness, shortness of breath, I feel like there's a weight on your chest and you couldn't pull it off...if it was really bad I'd end up in hospital."^a</p>	<p>"Because when you – when I get a flare, which is usually to do with either the air conditions or having a chest infection, it gets harder to make the inhalers work."^b</p>
Susceptibility to/poor recovery from infection	<p>"But, like I did have that one big problem where I just couldn't play for a month because of that lung infection because I didn't take the preventer inhaler."^b</p>	<p>"I'm just getting over about a month's worth of – sorry, yes, a month's worth of a really bad chest infection where I've had three lots of antibiotics and two lots of steroids."^a</p> <p>"Recurrent chest infections, more stubborn chest infections, takes longer for them to heal, needing, you know, the intravenous antibiotics."^a</p>

Multiple symptoms	<p>“And with me it’s like, shortness of breath on a day-to-day basis, but like the winter, during the winter, I have that sharp tightness in my chest and that wheeziness, so it’s first thing in the morning and at night. And I’ve got to get the kids off to school, that’s when the short of breath gets worse in the morning, and the school run... The wheezing at night, it wakes you up, you know, and you can feel the tightness in the chest.”^b</p> <p>“I get tightness and start wheezing, coughing, as well. I mainly get it like, in the early hours, well, early morning, so I can wake up coughing at like five o’clock in the morning, I need to go and have my inhaler and I can be wheezy and if my inhaler doesn’t work, then I’ll have a nebuliser, which tends to help me. I do get breathless, shortness of breath and if I walk like too far, I mean, from here to the car’s okay, but too far, then yeah, I can get breathless. And then it, the breathlessness, and you start coughing and then it starts restricting and tightening up my chest.”^b</p> <p>“Yeah, I mean, you get tight chested and wheeziness. I’d put that in the same category really, that.”^a</p>	<p>“Like it’s just you’re talking and then you’re out of breath and you get up and go to do anything, it’s an effort, no. Just that it changes your life completely, put it that way.”^a</p> <p>“Sometimes I used to think I was going to have a heart attack you know, ‘cause you get a pain especially where your lungs is...”^a</p> <p>“Like breathlessness, that sort of thing, and a lot of phlegm. I do wake up in the morning sometimes with a lot of phlegm and other times...”^a</p>
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^aIndividual interview

^bFocus group

Table S2 Individual quotes relating to the impact and consequences of symptoms

Area of impact	Asthma (n = 20)	COPD (n = 15)
<i>Physical</i>		
Functioning (walking/stairs)	<p>“Just whenever I do bit of...physical stuff where you would sort of find yourself holding back, maybe having to stop and having to take a breather... Just sort of – you just sort of get left behind in a way...”^a</p> <p>“I used to start to wheeze as I was doing – and I stopped walking because of that, which I think is, it’s my own fault, I think, I don’t – although I control it other ways, I don’t know how to do – get myself – I do use my Ventolin before I start walking, but it stops me from going because I’m nervous about it if – you know, I’m embarrassed ‘cause we do walking groups and I can’t. I don’t go anymore.”^b</p> <p>“Yeah, if it’s really cold outside and you go for a walk, then I get – the asthma starts... I can walk, but I can’t run. I get out of breath if I run.”^b</p> <p>“I can’t walk up and down the stairs of my house without being shortness of breath at the end of it.”^a</p> <p>“Going up and down the stairs is quite... I’d just have to get my breath back.”^a</p> <p>“...if I walk really fast, I get out of breath really quick and then I start panting...”^a</p>	<p>“So I’m aware of them all the time, from the time you get out of bed, you know, because the least thing you do you get out of breath. I mean, if you sit down all day you’d be alright, but you can’t. And then if you do anything that’s a bit quicker than normal or climbing up the stairs as opposed to walking on the flat, you get even more out of breath. So you have to wait until you get your breath back and, of course, that makes – the time goes by and then you get, sort of, fed up with yourself ‘cause you’re not doing as much as you wanted to... It’s not painful, it’s more depressing than anything, I think. It’s just as if you’ve slowed down, you know, and I can’t walk as far as I did and I can’t carry shopping and so I have to have it delivered online, and there’s things – you know, it just affects my life full stop.”^a</p> <p>“Eventually, I got up the hill. I was tight chested...I could hardly breathe and basically me head was pounding.”^b</p> <p>“I only saw the stairs like this here and I thought well, that looks alright. Little did I know they was about two mile high... I swear to God I was on me knees. I couldn’t breathe. I had spots in front of me eyes, the vomiting started. It was horrendous.”^b</p> <p>“Well, yes, you know, basically, I’ve got a disability card, you know, for my car so that I can park near, you know, in a car park and I don’t want to have to walk too far... Walking a long way is difficult.”^a</p> <p>“And how it affects me, if affects me going up hills, upstairs, downstairs.”^b</p> <p>“Well, how does it affect me? I’m not able to do anything, basically, nothing I used to be able to do. I go out very little and when I do go out I have to think about where I’m going... If it’s anywhere steep, I’m not able to walk it...I walk very little, to be honest. I mean, it’s restricted me quite a lot.”^a</p>
Exercise/ activities/sport	<p>“And yeah, like trying to play football and I start wheezing. It’s impossible like, you just, you start and then you just have to, yeah, go nuts and then just try and get through it. Yeah, it’s pretty much the same thing, it’s just the shortness of breath, the coughing. You just can’t get as much like air into your lungs.”^b</p> <p>“The problem I have, as well, is if I go a week or two without doing any exercise, which can happen, and then I decide to go for a run or play football, it gets on me chest. But then it takes a day, I’d say, to get – for it to go. No matter how much I take the blue inhaler, it takes about a day for me chest to kind of untighten...”^b</p> <p>“I take Ventolin, normally when during exercise or strenuous activity... I need to have my inhaler on me every time I do any kind of activity, just in case. If I go to the gym, more or less likely, I’ll probably use my inhaler. If I’m going to play</p>	<p>“I used to play golf up to three years... I was the handicap... But I had to give it up, give it up, ‘cause it’s not fair to the other people, ‘cause I, you know, can’t keep saying to them ‘Just hang on a bit’.”^b</p> <p>“But I’ve always been in denial that I’ve ever – there’s anything wrong me, ‘cause I go to the gym a lot... So I have got damaged lungs, you know, but I’m in denial I’ve got it, because I like to be on the move all the time.”^b</p> <p>“It’s a downward spiral, really, because you’re – I’ve got – I’ve put weight on, it’s not coming off and, you know, I mean, you can’t exercise because you can’t breathe long enough to do any of it. So it’s a bit of a – you’re in a catch 22.”^a</p> <p>“But I can’t walk up big hills. I can, and I’m starting again, and it’s hard and that really infuriates me... I’d like to be fitter. I’d like to be able to get up that hill</p>

	<p>football in the park, in the summer and especially if it's hot, if I'm on holiday and I'm on the beach, in my beach bag, I've got my inhaler, no swimming and stuff. So, it's, for me, I know that I need to definitely have it."^b</p> <p>"It makes you look at your limits, though, 'cause I played rounders with work last year and I've got one coming up this year, so I make sure I've got me blue inhaler and there's plenty of it in, so if I'm running round and I get a bit tight, I'll know when to kind of curb it down a little bit, before I just kind of run on. But, recently I did a tri-dive scuba diving thing, really enjoyed it, and I'm thinking, yeah, well, I fancy doing that, but at the back of my mind I'm just thinking, well, if I get into it and I go down to a depth, and I get short of breath, you can't just get your blue inhaler out and pump, pump, pump, so..."^b</p> <p>"...my breathing dictates my life, because if I didn't have asthma, I'd run every day, if I didn't have asthma, I would do my sport every day."^a</p> <p>"I used to be really quite active. I played in netball teams and I went canoeing quite a lot and all these things I can't do anymore."^a</p> <p>"Well, things I can't do...running, with me anything like that really tightens my lungs...it's harder to swim... I'd be able to swim further if my asthma symptoms weren't troubling me."^a</p> <p>"No, I can't do any sports or anything 'cause it could trigger off and yeah..."^b</p>	<p>because it is a lot to do."^b</p>
Housework/ gardening	<p>"...where you'd run after the bus and not think anything of it, I have to assess how far away the bus is...simple tasks, going to the shops, helping tidy up, do the Hoovering and things, quite difficult..."^a</p> <p>"If it's really playing up, it's the ability to do my housework...you can't do if you're having one of them days."^a</p>	<p>"I think that the thing that I find hard now is doing housework, because I get out of breath ever so easy. I used to go through the house and it didn't bother me, now I have to split it up into bits and then I get out of breath a lot and especially if I'm using detergents, that'll take my breath away."^a</p> <p>"But it affects my gardening, I used to love gardening, absolutely loved it, so definitely, you know, I can't manage to fill – you know, dig, or fill the tubs or – you know, but I can manage a little bit."^a</p> <p>"It's only when housework, yeah... Stop and have a rest."^b</p> <p>"If you're going to do any housework you have to stop halfway."^b</p> <p>"I can't really do anything and, you know, I get my partner to sometimes wash up, cooking, and stuff around the house, sometimes take the children to school."^b</p> <p>"And shortage of breath mainly and not able to walk any distance or do anything strenuous. Things like getting a bucket of coal in, I mean, I've got solid fuel heating, if I get a bucket of coal in, I have to sit down for a breather afterwards."^a</p>
Sleep	<p>"I think my asthma only really bothers me sleeping. I do sometimes have it really bad in the morning, but when I'm sleeping, it's like I'm half-awake sometimes. When I'm like I'm half-awake I don't get a good night's sleep, really, because it just bothers me."^b</p> <p>"I've had a shit sleep the last few weeks, just because of that, like... Can't believe it, this year's the worst it's affected me, like literally, in the last couple of weeks, like I've had awful sleep, like the last week and I think it's just... 'Cause you just</p>	<p>"Well it's just like having a permanent cold, really. It's annoying at night. My wife and I sleep separately now because it keeps her awake, so, I tend to sleep in the one bedroom, she sleeps in the other, so it affects us in that respect."^a</p> <p>"I wake up about three or four times a night gasping for breath, coughing. I was that tired during the day 'cause I wasn't sleeping with me chest being so bad, I was – I couldn't get through the day, I kept napping."^b</p> <p>"I mean, I could be alright at about 12 o'clock at night and then two in the</p>

	<p>wake up and I'm just knackered all the time, when I get to bed and I just like spend all day at work being like, oh, I could fall asleep right now, could fall sleep right now, get home, get to bed, just can't really breathe properly, so I'm awake. And like, when you're like half asleep, you're lying there because you know if you're awake for an hour, and you're like, well, I'm definitely not getting any sleep."^b</p> <p>"...the wheeziness, not being able to breathe properly...in the night time, it would keep you awake...obviously, if you don't get a good night's rest, you're not going to function properly the next day..."^a</p> <p>'Oh, my sleep's terrible because of it. Because my asthma is actually very, very bad during the night and it's at its worst during the night."^a</p> <p>"It really affected my sleep... I think just because I just wasn't in a good position to be able to breathe."^a</p> <p>"Yeah, asthma does affect your sleep...in the night I do prefer to lay down, so maybe that might wake me up slightly, three or four times a night if I'm poorly."^a</p> <p>"When I'm really bad, I can't sleep most of the time... I've not had a full night's sleep in years."^a</p> <p>"No, well, my sleep's not very good, no. I mean, I cough a lot... I hardly get any sleep at all."^a</p> <p>"But I think, personally, that it's the worst time, for me, it's sleep, when you get the pollution, I can't – just I think, I can't sleep, that makes it hard for me to. Because the next day, my energy levels are low and I can't function properly and do my everyday functions at work or working from home or whatever."^b</p> <p>"Especially during the summer period, which is approaching, I might get hot, a bit more stuffy, if you haven't got a window open or, for whatever reason, it's just really, really hot, it's just having trouble sleeping if you've got a tight chest. And it just makes it hard and you're constantly wheezing, so you just have to use your, you know what I mean, your inhaler..."^b</p>	<p>morning I'm up, I cannot breathe. It's a hell of a life."^a</p> <p>"...yes, and sleeping, I wake up coughing during the night I always have a bottle of water beside my bed cause I generally do drink the bottle you know through the night."^a</p> <p>"Can't lay on your back. If you fall asleep on your back, you wake up coughing. So the coughing wakes you up."^b</p> <p>"The sleepless nights and the sort of tightness of the chest as well."^b</p>
<i>Emotional</i>		
Sadness/ anxiety/ depression	<p>"I get very depressed about it...I hate the fact that it...draws attention to you... But it's worse when you can't breathe and you're being stared at."^a</p>	<p>"...there's one nurse I see and... I was down to 44%, and this, yeah, seriously, the spirometer test, 'No, don't expect it to get any better.' And it was pretty depressing and a bit scary."^b</p> <p>"You get – then you get depressed."^b</p> <p>"Yeah, I get stressed and quite anxious and stuff."^b</p> <p>"And the Doctor has given me some diazepam, as well, to help me relax because I get very sort of highly strung."^b</p> <p>"...and I suffer from anxiety and I take all them tablets..."^b</p>
Embarrassment/ stigma/identity/	<p>"...you're socialising with people, suddenly, you know, you just feel – well I do. I just feel that tightness in my chest, you know, you have to get your pump out and</p>	<p>"I can't go on the underground that much because I can't be enclosed in a space 'cause I keep coughing all the time and then I have to have water all the time. And</p>

self-consciousness	<p>sometimes you have to move away... 'cause, you know, they still don't know... They're going to asking you questions, the people that you know, it is so tough. Sometimes it's okay, sometimes, personally, I do find it quite embarrassing, depending who you're with."^b</p> <p>"It's like if I have an asthma or something and I'm using my inhaler and I'm with all my friends, I won't really want to pull it out 'cause then they're going to end up taking the piss. They'll be like, 'Oh, look, he's got his inhaler'...say, like, you had at a meeting at work, or a sort of conference and, you know, you've got this in a corporate environment, it's going to be difficult to be in a position of power and you're out of breath one minute, you know, and you're sucking on your pump there, it's going to be – it could have a detrimental effect, emotionally, do you know what I mean?"^b</p> <p>"...there's people...they're the same kind of age...and they just get on as normal, where I'm struggling for a breath."^a</p> <p>"I'm quite shy about taking my inhaler in public. I feel as if it's got quite a stigma to it."^a</p> <p>"...if obviously I was to have to give, like, a presentation to a group of strangers...and I felt I'd need the reliever, I may feel a bit embarrassed then."^a</p> <p>"Stigma wise, that's all, taking it in social environments... I might actually get a tissue and just do it like that, sometimes."^b</p>	<p>sometimes I've even had to get off the bus 'cause I felt so embarrassed, you know when you're coughing and your face is all red, and people keep staring at you, and you think, oh my God. Yeah, I just can't... It's horrible and they don't like it, as well, and trying to cough into a tissue, but they don't know you've got COPD. They think you've got the flu and don't want to sit beside you."^b</p> <p>"And I'm a builder an all, so, yeah, and I'm in a sort of dusty environment, things like that. I should really wear a facemask, but I'm too – it's like being the only one on the site, to be honest, like that stigma attached to it, you know?"^b</p> <p>"I think it's a personal thing, your illness, isn't it, you know, and it's not something I feel I want to broadcast to everybody."^a</p> <p>"You know I feel embarrassed...if I'm coughing you know they have come over to me and ask me if I was all right like, you know. It's embarrassing at times."^a</p> <p>"It's like you say, you are in denial... It's embarrassing... I feel as if I'm 46 and I think I shouldn't have this at 46. And that's how it makes me feel. I feel as though I shouldn't have it. If I'm a lot older, yeah, that's how I feel about it."^b</p> <p>"It's quite embarrassing, the coughing is... Yeah, it is to me... I'm fed up of people saying, 'Oh, that cough does sound bad'."^b</p> <p>"I think that maybe the most important thing for me is, because I'm, you know, quite young and I think it can be quite embarrassing sometimes when I'm having a coughing fit and stuff like that."^b</p>
Fear/panic	<p>"...and sometimes it might make you panic because if you can't breathe or you haven't got the Ventolin to be that accessible, it's not accessible. Yeah, when your heart starts pumping as well. You start thinking things."^b</p> <p>"It is a scary experience sometimes...and I feel quite anxious at times 'cause I, kind of, panic in case I can't get my inhaler and I can't breathe."^a</p>	<p>"I think it's certainly, it's pretty obviously fear for the future, and if there's no cure and it's still decreasing lung function really, and how long the drugs that you're on are going to work."^b</p> <p>"I think confidence and nervousness, you can be very nervous. If it's not – if you're not breathing right it can make you very apprehensive and it can make you quite nervous about where you're going and what you're doing."^a</p>
<i>Social</i>		
Social life	<p>"It also affects you choosing to go to people's homes that have dogs, 'cause that's one of my allergies that sets me – I have some friends with dogs where I can start wheezing within 20 minutes of being there and other dogs don't affect me at all. So it's a strange one, 'cause you don't know how you're going to be. And even if they take the dog out of the room, it can affect me 'cause probably something, whether it's the dander off the dog, I don't know, that affects you."^a</p> <p>"...you become aware that you can't string a sentence together without having to stop and breathe. So you then start...just saying smaller sentences. You don't get involved in conversations. You don't laugh."^a</p> <p>"I think it's worse in the winter because if I catch a cold, then that's it... In the cold, when it's like icy out or whatever, then it'll catch my breath... I support a football team, and, you know, my family are season ticket holders, go to the football a lot, but I can't go from like end of October, until beginning of May. So I</p>	<p>"I loved going round the shops and even if I didn't buy anything you know. Now it's just go to the shop, get what I want. By the time I come home I lie on the settee and I generally fall asleep."^a</p> <p>"I used to love walking, I can't do that, so that's – so you feel, sort of, isolated. Like, a couple of my friends, they belong, like, to a walking club, you know, and I would love, love to do that, but I can't."^a</p> <p>"I've probably shut myself off a wee bit from friends that I would've socialised with, but I don't see them as much, yeah. Because I just feel like they're still, like, fit and healthy and I feel like I look unhealthy and walk like an unhealthy person and yeah, it's probably made me withdraw a wee bit. In fact, quite a bit."^a</p> <p>"Oh aye, I hardly go out now, dear. I only go down to a wee bingo night. _____, my daughter, takes me down and it's – she helps me and then brings me home. But I used to...life, you know, to the weekend to the clubs. Nah, I couldn't do that</p>

	<p>go September to October and then, yeah, after that...I might be able to go until the end of the season, but there's not long left. And I can't go to the football match and sit there in the cold, damp air, so it does prevent me. And also, my son plays football and my daughter plays football, so, I can't always go and watch them."^b</p> <p>"...it's probably quite shallow, but the outfit that you wear... But also, I would always be aware where I'm going, and not to get drunk so much now...some of my friends wouldn't like it, don't really like to go drinking with me because they know that I have asthma..."^a</p> <p>"I need to be really careful about what I'm doing...is quite hard... Can't go out with friends, unless I plan if I have an attack... I suppose I can't go out on a night out...or, I can't go abroad or away with friends...unless I know I've got my inhalers on me. So it affects everything."^a</p> <p>"I have to say, you know, when my allergies kick in and my hay fever kicks in, I struggle 'cause I can have a perfectly normal conversation and all of a sudden I'll be like – and I'll be sitting there and I'm trying to cough, I'm gasping, I'm trying to get a bit of air."^b</p> <p>"But I just – if I smoke a cigarette, I'm wheezy for the rest of like week. I just can't. That night I'm going to be spluttering away at home. And it's just so different to other people when they go, I'm on 20 a day, and their lungs work fine and they're just – I don't understand it. So, perhaps that would be something different, socially, I'd probably be more of a smoker."^b</p>	<p>now."^a</p> <p>"'Cause you are tired and you think – 'cause, like, say your partner or your friends say, 'Fancy coming...?' 'What time does it start?' 'Oh, nine o'clock, oh no, no.' Yeah, you say you don't want to go out and they think you're a miserable..."^b</p>
Lifestyle	<p>"I guess really because, as one of my jobs... I do events, so I'm always frantically rushing around trying to get things done...if I've got an important event, at night time, even in the summer, winter, whatever, the venues are often hot, there's not that much air-conditioning. So, while I'm trying to get things done, I feel myself getting overheated, so I'm like, oh, my gosh, like, it's kind of getting to me. At first I feel like I don't know what's affecting me. I'm thinking, oh, maybe I'm just tired or whatever, but most of the time it's my asthma affecting me."^b</p> <p>"It's affected work... I had four weeks off for it in the end... I had an interest in forensic science and psychology and all the forensic stuff, but you'd have to carry a lot of equipment around and I couldn't... I've gone down the accountancy route."^a</p> <p>"I must have about ten inhalers, ten of my Ventolin inhalers, so that I've got them in my drawer, in every bag, in my car, on the bedside cabinet, the bathroom cabinet, at my mum's house, at my daughter's house."^a</p> <p>"I look at things that I might not be able to do, like bonfires, swimming's another trigger for me, you know, just general things like park, even if it's cold, and, you know, just the general things that I might struggle to do with her. And, I would love to get her a pet, but I look and I think, well, you know, if I get her a pet, how</p>	<p>"I don't feel confident, really, but everyone's got energy. Like, come on, let's do this, do that, shop, and I don't feel like I can cope with all that, 'cause it takes a lot of energy and I don't have it, and I'm tired. Or if they're like, do you want to go somewhere in the daytime? And I want to try and catch up on a little bit of sleep I didn't have like, you know, like, during the night."^b</p> <p>"I had a dog and I had to get rid of the dog because of the hairs and stuff like that, it was killing me all the time."^b</p> <p>"Yeah, I loved my work. I've always loved work, you know? I'm not one of these people that like to live on benefits... I'd love to carry on working, love to do. I can't do them things no more."^a</p> <p>"I was a really heavy smoker, so I had to stop smoking, so it was that. That's a part of it as well, it's not being able to smoke."^b</p> <p>"I packed up smoking almost exactly three years ago and part of the reasons why I was packing up smoking, I was diagnosed with COPD and it got significantly worse."^b</p> <p>"Being around my children when I'm not poor – when I'm poorly, I can't see my family."^a</p>

	<p>bad am I going to suffer? And I don't want to get her a pet, to let her fall in love with it, for me to take it away. So it's just, I look and I think, well, now, the most important aspect is how she kind of gets the like, the blunt end of it, kind of thing. So, yeah, that's the most important thing for me."^b</p> <p>"It's hard to eat and...hard to talk and have it at the same time. It affects everything... I can't go to college without having to plan if I have an attack...so it affects my everyday life."^a</p> <p>"I've always, kind of, got to watch what I'm doing... It just, kind of, affected everything."^a</p> <p>"...they would affect your everyday life... I will be more conscious of doing things... It would always be there in the background."^a</p> <p>"I, kind of, know my limitations and I know certain factors that will aggravate symptoms, so I tend to adjust my lifestyle just to suit."^a</p> <p>"...the wheezing and coughing...they have to make you stop doing things."^a</p> <p>"It's just shortness of breath and I have to sit down... It's just annoying and, like I say, I can't breathe and I have to rest all the time."^a</p> <p>"...and also affects me with the kids. Say if we go out on a day out and it affects me, it's like silly things, going to Sutton Park, you know, and it's – I don't know. Just sometimes it's because I know that it's a bit more pressure on the day, and then I feel sorry for them then, 'cause they'll be worrying about me, rather than enjoying it 'cause I'm struggling breathing, so, yeah."^b</p> <p>"When I was younger I couldn't visit my one nan 'cause she had a little hairy dog and that...affected my chest really bad... The same with cats."^a</p> <p>"...once the kitten was brought into the house my asthma really flared up so we had to get rid of the kitten again."^a</p> <p>"My main issue, personally, is with dogs. I've got a dog allergy and that does affect me if I go into a house that's got a lot of dogs in it, then I become tight chested."^a</p>	
Inability to plan	<p>"It's not being able to plan...making arrangements is very difficult, and sometimes fulfilling the whole day of an arrangement is very difficult."^a</p> <p>"You know, if we're planning to do something and I'm not well, my asthma's bad, then we wouldn't go."^a</p> <p>"Well, it would just be a different kind of life; you could plan. You could plan everything."^a</p> <p>"You can't be around people...you can't just say yes to something. So, it does really affect you."^a</p>	<p>"It's really annoying really because certain times I want to go out to work and I can't go out to work."^b</p> <p>"I just plan more now than what I did do before I was diagnosed, you know? In the last three years I had to plan a lot more, leave earlier, just, yeah, drive more and more."^b</p>

^aIndividual interview

^bFocus group

Table S3 Clinical expert quotes relating to their experience of treating individuals with asthma or COPD

Area	<i>Asthma</i> (n = 2)	<i>COPD</i> (n = 2)
Symptoms and impacts	<p>“Okay, well, a lot of the symptoms people get is – and night time disturbance is a big thing, and I think people underestimate sometimes the impact of sleep disturbance on people’s day-to-day function. So, nocturnal cough and breathlessness, I think, are one of the, probably, the key symptoms ‘cause it has such a knock-on effect on people’s lives, whether they’re working or studying.”</p> <p>“...and also particularly if you’ve got a cough, I think people tend to be more self-conscious, so I think there’s sometimes issues with sort of self-esteem and feeling conscious. And, you know, and we get a lot of people, especially sort of younger people, who don’t like to use their reliever in public. You know, and there’s a bit of a stigma to actually being seen using it, and especially, you know, people at school or peer pressure. So it’s something that we take – you know, oh, just take your inhaler, but a lot of people feel quite self-conscious doing so.”</p> <p>“They will be having – some patients got very depressed as well, so depression and anxiety, both are common in asthmatics. They also have a problem in their family relationships because of this disease. And it has a great impact, as I already mentioned, with socialisation, so that changes their mood.”</p>	<p>“When they get to the severe end, they do know their social circle dwindles quite considerably and they become quite dependent on carers...sleep isn’t too badly affected with COPD, in mild, moderate, maybe at the severe end, but generally not too bad affected... It could be affected if you’ve got oxygen on at night, I suppose.”</p> <p>“Yes, and the most debilitating symptom, really, is breathlessness, which can usually occur at the more advanced stages of the disease. And more common and less debilitating symptoms but as frequent, tends to be cough and, sort of, bronchitis type symptoms, so of chestiness. And they tend to be the most common ones. Sometimes anxiety can go with it... They could be mild and be just bothersome, but tolerable, or they could be, you know, very debilitating, for example, at the most severe end of the disease where people are breathless all the time, and that can be extremely difficult to manage. I think that really is the most difficult symptom, I think.”</p>
Clinician Prescribing (individual treatment selection)	<p>“...in the guidelines, it is definitely there, before stepping up or stepping down, you have to redo things. One, is the patient compliance, if patient is really taking, and secondly, agree, even if patient is not taking right way, a patient won’t be knowing it. So these are the two very important things. To involvement of patient in the guidelines, any stepping up or stepping down, before you’re doing it, you have to check and make sure that patient is definitely taking that inhaler or if he’s not taking it, or if he is taking it, if he is taking it in the right way. Is this why the condition is not improving? So that is the question. And the patient will tell you, many of the time, my patient tells, ‘You gave me turbo inhaler and I can’t take dry powder because it’s irritating my throat, my taste changes.’ I say, ‘Okay, we’ll change it. We’re stopping this, I have something else for you.’ So, yes, patient – discussion with the patient involvement in their treatment is a primary thing in the guidelines.”</p> <p>“It’s very much about sort of putting a tailored regime for the individual patient. I mean, the days of all asthmatics are the same and they all get the same treatment, are well and truly over.”</p> <p>“...it’s all about working with the patient ‘cause ultimately, what you have to get to, is a regime that the patient is going to trust and use and they’ll be able to follow through in the self-management plan. So, you know, there’s no point me saying to a patient, say, “Hey, this inhaler’s really good,” if the patient looks at it and goes, “I ain’t using that. I feel no confidence in that.” An example, I would say,</p>	<p>“There’s a lot of choice in the market now, so the drivers are going to be primarily efficacy.”</p> <p>“They don’t really discuss [patient treatment preferences] to great detail, apart from advocating, you know, the inhaler choice device type of patients’ preference. But of course, patients need to have tried them to know what they prefer. So, I think patient preference only comes into it when they have tried a number of different treatments to try and see which one works best for them, and that’s not frequent.”</p> <p>“If it was a choice between a once daily versus twice daily treatment, then yes, if somebody is, you know, unlikely to be able to comply with twice daily, then that may be the case. But in terms of the patient compliance... I think patient compliance to me is depending on their symptom severity, and I think as a treatment, sort of, consequences of not having the treatment, the acidosis, then they may be less compliant with it. So I think that probably is a factor something more than anything else.”</p> <p>(“Effectiveness is important for patients, so, you know, they use them and they feel that benefits them, that’s primary... I suppose the most important reason people take medication is to make them feel better, or to make them feel better or live longer, or live healthier. So, you know, in that way, you know, if they don’t see a benefit or a treatment doesn’t seem to be making a difference, then I think people are less likely to continue with it.”)</p>

	<p>would be an anxious patient with a Turbuhaler, Turbuhalers where you obviously don't get any feedback that it's gone down, although they're quite good drugs. They'll look at that and say, 'I don't think there's anything coming out, I'm not really sure that it's used.' So therefore, you know, that is one device which the patient doesn't want to use. So therefore, you select a drug from another device."</p> <p>"...a preventer has got to be something which, I guess, you're looking at something which is going to be ease of use, how often is it going to need to be used, what benefits is the patient going to get, is there any adverse events to that? Can they – again, do they find that the inhaled – the inhaler device itself that they use is one which they're going to use or not?"</p> <p>"...whether you can combine it and have one inhaler, which is maintenance and reliever that suits the patient very well, keeps it very simple. The issue of compliance, at least you know that they're taking one medication. So, it can make a difference whereas, you know, with a reliever, you want something that the patient's going to be using, going to be – feel happy to use, confident to use."</p>	
Individual treatment satisfaction	<p>"There are different ways and, i.e., when a patient comes in, that really you ask them and you take a history and ask them and they will tell you did they have any exacerbation or not, but there are different ways that you can use."</p> <p>"...the next step that we do and we generally do in clinic, is we do the asthma control test, you know, a score out of 25 and that's something which, if we're looking for measuring consistency of improvement, we find that quite useful, certainly in the outpatient clinic."</p> <p>"Well...you know, that they're confident in their regime. Their regime keeps them symptom free."</p>	<p>"I would ask them generally, broadly, if their treatment is working for them, and I would also look to see the impact on their disease... So it's more sort of qualitative and looking at efficacy in terms of other parameters... I'll be asking them about, you know, how they find their treatment and whether they feel the treatment's working correctly."</p>
Adherence	<p>"...I mean, I think every asthmatic patient, hand on heart, will say that they haven't taken their medication for a while. And I think one of the things, you know, we get with asthma, is yes, your reliever, if you use it, you get benefit. But a lot of the other asthma medications, particularly the inhaled steroid based medications, you know, people look at them, they look at the side effects, this could cause hoarse voice, they're concerned, am I going get steroid weight again."</p>	<p>"I think COPD have probably better adherence, just because the disease is chronic and the symptoms are chronic."</p>
Side effects	<p>"Everybody can't take Turbuhalers because it is a dry powder and they will take it, it just reach back of the throat and it causes thrush, it causes hoarseness, it causes a dryness of the mouth, and that is the problem with Symbicort."</p>	<p>"By the time they get onto treatment, COPD patients normally are generally quite symptomatic, you know, they are either breathless or frequently exacerbated. So often the side effects of treatment in COPD are less than the impact of the disease or the symptoms, so it doesn't tend to be a significant problem, in my experience."</p>
Ideal treatment	<p>"Ideally something that you don't have to use again during the daytime 'cause it keeps your asthma well controlled."</p>	<p>"None of the available treatments, stop disease progression... So they don't disease modify, they just give symptom relief."</p> <p>"The first thing you'd want to do is to improve lung function, so actually treat or cure. If you couldn't do that, you'd want a treatment that stops progression of the disease. I mean, you'd want something that controls the symptoms."</p>

<p>Once-daily treatment</p>	<p>“Currently I’m starting more now, Relvar, and a few patient came back with very good feedback because it’s once a day, very convenient, very easy to take...and this is the beauty. So, I’m also thinking that there will be more in pipeline from different drug companies with better devices, with new molecules, long acting. The long acting will definitely work 24 hours, and I think this is much better than the other inhalers.”</p> <p>“Maybe someone that’s had issues with compliance and they’ve struggled to take twice a day medication.”</p> <p>“I mean, I think, potentially, yes. I mean, certainly in people that have had issues and stuff, once a day, you know, you can just – if you can get it into your routine, you know, put it by your toothbrush, there’s my inhaler, there we go and it becomes more, you know, built in. So yeah, I think it can only help.”</p>	<p>“In the COPD population, I don’t think people mind taking drugs once or twice a day... They’re very used to taking their medications twice a day with COPD.”</p> <p>“If it’s taken less frequently, taking it at the same time every day, then it should be easier to take rather than remembering to take it morning and evening to have full efficacy... It may mean they don’t have to carry it out with them if they’re going to be out for dinner, which may mean that they don’t have to remember to take it at the same time twice.”</p> <p>“I think they’re a good progress. I haven’t seen all the data that I like to look at to really, sort of, make a judgment on, but certainly, they are a step in the right direction of treatment. Really, it would depend on the overall efficacy, though, has to be uptake in terms of cost versus what are the benefits. I suppose if there’s a risk of side effects, they could last longer if they’re taking it once daily, ‘cause it takes longer to wear off.”</p>
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Table S4 Individual quotes relating to current vs ideal treatment

Area	Asthma (n = 20)	COPD (n = 15)
Confidence in treatment	<p>"It depends how bad you are. If you're – it works if you're not too bad, but if you're really bad, it doesn't work... It depends how severe you are, how quick it works or that's how I think."^a</p> <p>"I don't know if it helps or not because, bearing in mind I take it every day, it doesn't prevent me getting bad, if you see what I mean? Although it's a preventer and I take it twice a day, it doesn't prevent me having an asthma attack or getting wheezy and coughing and short of breath. So, how much of a preventer it is, I'm not sure."^a</p> <p>"...I don't believe that it won't work, so, no, I'm pretty confident and it's never let me down in the past, and I think that in the future, hopefully."^b</p> <p>"The Ventolin is really effective, as long as I'm able to take it. As long as I can stay calm and as long as I'm doing the breathing exercises, it will help."^b</p> <p>"I do worry about my medication not working, yes. I worry about taking my inhaler and it not helping me and it getting worse. It's not a situation I really want to be in."^b</p> <p>"...nothing helps as much as you want it to, but it does help... There's no disputing it works, you know, and that it helps."^b</p> <p>"It doesn't like prevent environmental causes, though. Like, if I take my brown one twice a day, every day, and if I go and see like pets, immediately, I get an asthma attack. It doesn't prevent that."^a</p>	<p>"I can relax after I've taken it and I know that it works pretty quickly."^a</p> <p>"It helps you a little bit, but I don't think of it as doing much... It sorts you out when you're well, if you're just breathless, but if you're ill it doesn't touch you."^a</p> <p>"When you take it you can't see an immediate benefit and that tends to put you off."^a</p> <p>"I think the most important thing of any treatment is the fact that it works for you. Because if it's not having any affect, then there's no point, really."^a</p> <p>"It's as good as it can be, I think, at the moment."^a</p>
Speed of action	<p>"They work instant – pretty instantly, the relievers... when it's only a mild one, it will get into the lungs and relieve it pretty instantly."^a</p> <p>"Oh, seconds... I would inhale it and then breathe out and breathe in again. So it's just literally seconds, really."^b</p> <p>"I usually know when I'm going to need it and I do try not to panic. And I panic as well, so that makes it worse, when you start coughing...and I just get panicky... If I feel it's not working [inhaler], I panic, and I panic and I panic, and I keep coughing and coughing and keep panicking and panicking... I'm panicking because I – I think after the first puff and I feel it not working, I start panicking more because I know it's useless, it's a useless inhaler... So, the more I cough, it's not affecting me, it's not doing anything to me, the more I panic. The more I panic, the more I start coughing and then once that gets to a certain point, and it takes a lot to, and that's why I can't calm down and relax. That's why I need something that's instant and fast, before I get into a state where I'm going to end up in hospital."^a</p> <p>"That it works when you need it, 'cause it all comes down to that, really. If you can't</p>	<p>"That's very important, because if it didn't work quickly then I think you would be panicking... that did happen to me a couple of weeks ago. I was out shopping and I could feel my breath catching. And I thought well, I'm not going to wait until its worse, I – and I took the Ventolin straight away."^b</p> <p>"It's quite instant, really... In fact, I told you, I leave at friends' and I've got one in the car and one at my brothers, just in case I happen to go out without mine."^b</p> <p>"Well, probably relieve it straightaway, but I know that, you know, like antibiotics are pretty strong, something like that."^b</p>

	breathe, you want something to help you breathe.” ^a	
Adherence	<p>“I am taking them. I take it twice a day, every day. When I’m in hospital, they’ll give me additional things...but other than that, I always take it twice a day.”^a</p> <p>“It’s just something I’ll have to do. It’s not, obviously, something I want to do, but it’s something I like have to do, basically.”^b</p> <p>“So I found it hard to be able to juggle my life when I was high and low, so it’s really important for me to be able to control my asthma at least, so that I’m able to go to uni and see friends...and work.”^b</p> <p>“I worry that I’ll become intolerant to it...so then you worry about why all of a sudden am I well controlled on it and then all of a sudden it doesn’t work for me... So that’s a concern... I don’t like that I’m having to rely on an inhaler to breathe... Well, I am dependent on my medication... I did once...wean myself off it. And I probably managed about three days without it and then I was really bad, so I know that I’m dependent on it.”^b</p>	<p>“I couldn’t go without...it’s like my brace.”^a</p> <p>“I’ve had a few attacks when I thought I was going to die and it frightened me. So basically I’ll just do as they – I do as it says, simple.”^a</p> <p>“I think about my daughter and stuff and housework, do stuff with her and so, you know, I want to be able to do stuff with her, so I make sure I take my medication.”^a</p> <p>“I don’t take it regularly. ‘Cause I don’t see any benefit from it. It’s – ‘cause it’s not immediate. Or I don’t think it stops it.”^a</p>
Demonstration of use	<p>“But, it’s the way we take it, you know, it’s so funny they check you out and your GP, once a year, and then my local pharmacy does it, but they show you how to do Ventolin, but just recently, my last check-up, they’re were telling me, after you shake it, you’re supposed to let it stand for about ten seconds and then take the puff. And after all these years, I’ve not been told about that.”^a</p>	<p>“When they first prescribe them, they say, “Oh, we’ll give you an inhaler for this.” Never said, and you put it in your mouth for ten seconds, take that, do this, do that, do the other and breath out...they expected me to know what to do when I first had this inhaler.”^a</p>
Missed doses	<p>“But you can tell, when you’ve not been taking the brown one. Say if you forget to take it on holiday, the brown one, it would show by halfway through the week.”^a</p> <p>“Yeah, well, as I said, some mornings if I don’t know where I’ve left it, and when I’m busy trying to get to work, I’ll not take it... If I’m wheezy I’ll just, sort of, keep going and try to get to work and get my blue one.”^b</p>	<p>“Well, I just took it religious, and then I forgot to take it with me and then I was up. Bloody hell, I’m back to where I was when I was first diagnosed. Then I was back down, at a debilitating level, in two days.”^a</p> <p>“It doesn’t tell you that you’ve taken it all, inhaled it all, you know, and I haven’t got a device that says, like, gives you a reading or anything like that that tells me that you’ve taken. So, sometimes I don’t know if I’ve taken half a dose.”^a</p>
Inconvenience/ costs	<p>“I’m supposed to take it when – once in a morning and once at night. I only take it once at a night and the main reason for that is to make it last twice as long so I don’t have to spend more on the prescriptions.”^a</p> <p>“The other thing about inhalers...it doesn’t have a number. All that happens is like a little cog turns and eventually a red mark appears, but you can kind of see the red mark as you’re turning the corner, so I never 100% know when it’s totally done, when I need to start using a new one, which is annoying.”^a</p> <p>“To let me know whenever they’re sort of, going to run out before, would be handy.”^b</p> <p>“That would be good, but I don’t think it would have a massive impact on my everyday life, because...they’re quite small and they’re quite easy to take. It’s not like you’re having to carry like a big oxygen tank around with you, do you know what I mean? ...They’re not very intrusive into your everyday life, so yeah, so although it would be really good, it wouldn’t really be a massive deal breaker, for us.”^b</p>	<p>“When I get a flare...it gets harder to make the inhalers work because you’re coughing, because you can’t breathe as well. They give you this spacer, which means that you can breathe several times so that the medication, instead of coughing it out, you get it all in eventually by doing it five or six times. But, that doesn’t always work very well. I’m not very good with a spacer, to be honest. But if there’s a tablet that you can just pop, once a day, once a week, even.”^a</p> <p>“And I think it’s big enough in your...hand for you not to forget it as well. If it’s any smaller then I could forget it. So I think it’s ideal the way it is.”^a</p>

Sleep	<p>"I think, for me...if it does keep you awake, 'cause sleep's important."^a</p> <p>"Well, ideally, all day and all night. Well, especially at night time, I'd like to be able to sleep all night without having – you know, being woken up coughing."^b</p>	<p>"For me, sleep disturbance and symptom time free. Sleep disturbance is worst 'cause like the whole day and then the next day then I'm ratty and you're fatigued and tired."^a</p> <p>"It's dreadful, because you have to catnap in the day to make up for it. You just can't cope if you don't get, you know, sleep. If you're still awake at three and four in the morning, it's a long night. And when you live on your own there's no-one to assist you, of course."^b</p>
Side effects	<p>"I just don't like the preventers... Feels like it was dry and I didn't like the dryness on my throat, which sort of made me want to start coughing."^a</p> <p>"I always have a drink at the side of the bed, 'cause my mouth's always dry. I've not thought about it, but it probably is the inhalers."^a</p> <p>"After using it, you won't feel the taste until a few seconds after. It'll make you feel – it'll make you cringe a bit, like. I wouldn't want that taste in my mouth. So then I have to rinse out my mouth, even if to, like, I still have that taste in my mouth, so I don't like using the inhaler 'cause of that taste."^a</p> <p>"You know, when I'd wake up and it's – my mouth's like a carpet. It's not just dry, it's not very nice. You have to scrape your tongue every morning...it leaves a sort of coating in my mouth."^a</p> <p>"I really struggled to get used to not catching it on my tongue. It felt, for ages it used to always get caught on my tongue because I wasn't used to it. But once I learned obviously to inhale it properly, so yeah."^b</p> <p>"...they're quite powdery... if you already feel like your chest's tight or you're out of breath and you're inhaling powder, it doesn't always feel that great."^b</p> <p>"They have bad side effects... I suffered from depression and anxiety...when I'm on high doses and it can be quite bad...anything from like dizziness, sore heads, aches and pains..."^b</p>	<p>"Dry mouth is awful... And if you wake up in the night, I mean, I've got to have a glass of water... I mean, it's not just a, like you say, I'm dry, it is, like, dry... Yeah, I think it's the medication."^a</p> <p>"It can give you mouth thrush if you don't swill your mouth out. So every time I use it, I go and wash my things. I usually take it before I clean my teeth and then I can rinse it out straight afterwards... And if I don't wash my mouth it, it feels funny... It feels like I've just eaten dirt or something."^a</p> <p>"There's no illness without side effects, is there, really?"^a</p> <p>"The steroid, I detest taking them because they make you bloated and make you put weight on. And even if you don't put weight on, you're always bloated with 'em. You always get this bloated feeling, so probably that. It hurts me throat. I have an awful lot of problems with me throat."^b</p> <p>"I'm thinking to myself, well, I'm pumping all this stuff into me body and sometimes I feel like I don't need it. And so until I'm getting breathless, I won't have 'em, to tell you the truth...if I can get through a day on me own, surely that's got to be better than keep putting all this stuff into me body?"^a</p> <p>"The only concerns I've got is you're taking all this medication and it's – you're needing it for your COPD, but it's obviously maybe doing other things to your body, even though it's trying to control the COPD. That's the only concern I've got."^b</p>
Frequency of dosing	<p>"Two/three times a day in the winter, maybe less in the summer. But it depends again, like I say, if I'm stressed and – or upset or the weather, the climate, things like that can obviously make my asthma inflamed."^b</p> <p>"Aye, it'd be good to take it less often, so I didn't have to worry about it as much... But if it was to make...it not happen as frequent, or keep on top of it to help my breathing become stronger, then I will take it more."^b</p> <p>"It's always quite good in the morning and the night is great with the preventer...morning and evening routine, brushing your teeth and things like that, so it fits in fine with all that, you know."^b</p> <p>"I might say one thing, so then I start taking this thing twice a day and then I sort of realise, hang on a second, no, and I was wrong, my answer was wrong for that question. I actually don't like – I don't prefer taking this twice a day. I want to go back to the old thing [previous medication]."^a</p>	<p>"I have three lots, three doses of two in a morning and one dose of two at night, that's what they've told me to do."^a</p> <p>"Well, it'd be less chance of forgetting. I suppose. And I'm taking enough tablets for other conditions, it's the less I can take the less I have to do about taking tablets the better. Tablets, inhalers, whatever."^b</p> <p>"If I'm out for the day, I've got to remember to take 'em as soon as – take one of 'em, as soon as I get home, quite often. That's if I've been out all day like, you know? But otherwise, you know, I'm in a routine with all my medications and as long as I stick to that routine."^b</p> <p>"I'd just love to be able to have something in the morning and you can be free then for the rest of the day to do the chores and maybe socialize a bit more."^b</p> <p>"Like, when I'm working, you know, and at the school, I've got to go and take my tablet in the morning and it's just ticks me off. I don't like tablets anyway."</p>

	<p>“...if I could just take one in the morning and one on a night, and then that would be it...it would be more like relaxing not having to worry about if I’ve got me inhaler on us...not having to take it out...”^b</p> <p>“I would have one preventer, if I could...so I’d take it maybe twice in the morning and then maybe even lunchtime and then again in the evening if I didn’t have to take the Ventolin as much, or not at all, would be great.”^b</p> <p>“It’s just more convenient to have to take it less often. You’ve got less chance of forgetting doses... I guess if I was taking it less frequently it [tolerance] would be less of a concern.”^b</p> <p>“Yeah. Probably less often. I just don’t like relying on things. I just, like, I do feel like I don’t want to just rely on something to make me feel better. I always, kind of, feel like a, kind of, mind over matter as well, but obviously that’s not working.”^b</p>	<p>But, tablets I take twice a day, and I’m probably more likely to get up and remember when they’re not. Obviously I’ve got to set my alarm so I remember to take them in the afternoon. But it’s too much.”^a</p> <p>“If there was a tablet...that could control it, that you only had to take...once a day. And it worked...that’s going forward, that is the answer for me. But it isn’t going to happen, is it?”^a</p>
Length of relief	<p>“Well, everyone would love to be 24 hours free, especially at night time...you don’t realise how different it is, you know, when you’re symptom free, how you can go about your everyday life, you know, things you take for granted...”^b</p> <p>“I would like to be like for the whole day and once I’ve took it, for the rest of the whole day...not have any symptoms at all and just get on. Like 24 hours, yeah.”^b</p> <p>“Oh, that would be heaven. Just to cut down all the treatments like that would just be – I don’t know, it just changes everything, doesn’t it? Even on well days – see, you’ve got to remember that people like me on well days, you’re still plagued with your routine and your regime.”^b</p> <p>“Yeah, well, it’d be better because obviously, like I worry about having me inhaler on us all the time...it would be good if I just had to take like the one.”^b</p> <p>“Really, really important [speed of effectiveness] ‘cause like it has to work fast, otherwise I think it doesn’t work at all, like, and then I start panicking that it hasn’t worked...the longer you could go without...it’d be nice to have a day. Nice to have a night...sometimes I can have a really good day, but I never have a really good 24 hours.”^b</p> <p>“If I’m, like, on, like, a walk somewhere or something and I get really tired, I would take it...if I’m doing some exercise or something I will always have it on me...when I’m more...ill I would need it more.”^b</p> <p>“So then, if you could take one in the morning and one in the evening you’re never going to have – need a reliever? Well, yeah, that would be, yeah, better because you would just...if I could like take it in the morning and never have any shortness breath, then yeah.”^a</p>	<p>“If I do something that exerts me a wee bit more and I know that I’m going to feel it, like walking up the stairs or pull out the Hoover to run it round, you know, stuff like that. But to feel reasonably good for a long period of time is important. ‘Cause you dread when you’re having – when you’re going through a bad spell and, you know, you’re very wheezy or, you know, you maybe take an infection in your lungs or something and you’re feeling really, really unwell. That’s your worst nightmare. You just don’t want to have to be dealing with that.”^b</p> <p>“It’s more comfortable to be more stable during the day because there’s more things you can do, because you can sit down and just rest up in the evening and night time. So you’re not doing an activity that’s going to bring on a possible attack or a cause for this. So, you know, you’d want your daytime to be, you know, the time that you would be most comfortable.”^b</p> <p>“Just 12 hours would be brilliant, wouldn’t it, you know? You could go about and do what you want to do, enjoy your day out somewhere or do something without the symptoms and then obviously cope with things when you got back home, no problem.”^b</p> <p>“So you mean like not ever needing to have a reliever? I think that’d be amazing... I’ve had asthma as a kid, so I’m so used to it, it’s just part of my life, it’s so normal for me. But, yeah, to never have to have it ever again would be cool, if I was guaranteed that I know that whatever I’m using is definitely going to work.”^a</p> <p>“You’ve got to carry it everywhere with you, just in case. So, I suppose that limits the things you can do and how long you can go out... I’d need all me medication. And I couldn’t possibly carry it all about and obviously me inhalers I’ve got in the car, I’ve got them everywhere in case I need them and I always carry them in me handbag.”^b</p>

Ease of use	<p>“...they are really quick to use, just pull the cap off the end of the reliever and push the button on the top, it delivers the dose.”^b</p> <p>“I think it’s definitely important if it’s easier to use, ‘cause if it’s a chore to use I do feel as if I probably wouldn’t use it.”^b</p> <p>“...it’s got to be easy... For any asthmatic having an attack, you’ve got to have something that’s easy because you can’t think straight and the panic sets in for a lot of people.”^b</p>	<p>“If I needed to use it straightaway and I can’t do it, I can’t work it out right, I should imagine that would make me panic, which would make me more breathless again. And, you know, I think that would be awful. All the other things are quite positive, you know when you take it, it’s going to work..and I think it’s important that I know how to use and take the inhaler.”^b</p>
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^aFocus group

^bIndividual interview