Asthma + Respiratory
FOUNDATION NZ

Asthma in New Zealand

2023 SURVEY FINDINGS

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Contents

This report has been externally peer reviewed by the Asthma and Respiratory Foundation NZ Scientific Advisory Board
www.asthmafoundation.org.nz/about-us/our-advisory-groups
The statistics were reviewed by Ceridwyn Jones, PhD Candidate, Te Herenga Waka Victoria University of Wellington.

Disclaimer: This report has been externally peer reviewed, however surveys of this nature include potential for sampling and response bias (see limitations section). If information from this report is being used by external parties, clear acknowledgment of the limitations in survey methodology which have been clearly outlined within this report should be cited.

Asthma in New Zealand Survey
Executive summary

The Asthma in NZ Survey was undertaken by the Asthma and Respiratory Foundation NZ between 20 March 2023 and 8 April 2023. The purpose was to gain insights into the experiences of New Zealanders living with asthma. We received 488 responses to this survey, out of an estimated 570,000 New Zealanders living with asthma. This was the first time that the Foundation has undertaken a survey of this type. The voluntary survey was completed by adults living with asthma, and parents on behalf of children with asthma. All responses were voluntary and anonymous.

The survey was circulated to audiences on the Foundation's database and to partner organisations and asthma societies across New Zealand. It was also shared on the Foundation's social media channels. It was a voluntary survey, with participation incentivised by five $50 Prezzy cards offered to randomly selected participants.*

As it was a voluntary survey, the responses come from a highly engaged audience; people who are already interacting with the Foundation or asthma societies about their asthma. There was a high proportion of responses from women and people identifying as European New Zealanders. A greater proportion of adults aged over 30 years were represented in the findings.

Consecutive reports commissioned by the Foundation on the impact of respiratory disease in New Zealand has found that the burden of asthma falls disproportionately on Māori and Pacific peoples, and those living in deprivation.[1-3] This survey did not gather adequate data to report on the experience of these groups.

This report should be read as revealing a snapshot of the lived experience of an engaged group of New Zealanders living with asthma. Further research is needed to understand the lived experiences of those facing barriers in accessing asthma care, information and treatments.

* Those wishing to win the Prezzy card, entered the draw by emailing the Foundation directly, ensuring that their responses stayed anonymous.

Key findings

Our asthma is worse than we think it is.

There was a significant gap between how people perceived their asthma control, and the reality. 74% of those surveyed believed their asthma was either always or mostly under control. However, further survey questions revealed that only 18% of those surveyed had well-controlled asthma as defined by the *Asthma and Respiratory Foundation NZ Adolescent and Adult Asthma Guidelines*[4], while 51% had poorly controlled asthma.

Asthma is getting in the way of our daily life.

One third of respondents (34%) reported that their asthma had stopped them participating in daily activities like sport, exercise, work, school or socialising, while 26% reported that asthma significantly reduced their quality of life.

Kiwis with poorly controlled asthma may not be receiving the care they need.

Of the respondents with poorly controlled asthma, 73% had not had their inhaler technique checked at their last appointment to discuss their asthma, 52% either did not have or did not know about asthma action plans and 35% had not received an asthma review in the last 12 months.

Over a quarter of respondents had never had an asthma review.

It is recommended that people with asthma have their condition reviewed at least annually or more often if their symptoms are worsening.[5] Our survey found that only 65% of children and 60% of adults are being reviewed at least annually. 26% of respondents reported never having had an asthma review.

Many asthma check-ups may be inadequate.

Our survey found that many respondents are not being asked basic management questions during asthma check-ups. Only half of those surveyed were asked about their asthma symptoms and how these were impacting their daily lives and only 22% had their inhaler technique checked. 16% of respondents reported they were asked no management questions at their last asthma check-up.

Kiwis with asthma are concerned about access and costs associated with asthma care.

55% of respondents were concerned about being able to get an appointment with a healthcare practitioner when needed, while 39% were worried about the costs of managing asthma (appointments and prescription costs). 12% had no current concerns about their asthma.

Salbutamol reliever inhalers being overused, putting users at risk.

The survey indicates that reliever inhalers containing salbutamol (e.g. Ventolin®, Respigen® and SalAir®), are being overused by some respondents. People prescribed salbutamol with well-controlled asthma should only need a maximum of three salbutamol reliever inhalers in a year.[4] Our survey found that 53% of respondents aged over 12 years, who were using a salbutamol inhlaler used four or more of these inhalers annually, and 33% used more than five of these reliever inhalers each year. Overuse of salbutamol reliever inhalers is associated with an increased risk of asthma attacks.

Recommendations

The findings in this report indicate that many New Zealanders are living with poorly controlled asthma. We also found that basic asthma management tools, like spacers and Asthma Action Plans, are not being widely used and in many cases, New Zealanders with asthma are not receiving adequate care to manage their condition. If New Zealand is serious about improving the health and wellbeing of the 570,000 Kiwis with asthma and reducing asthma-related hospitalisations and deaths, then urgent action is needed.

Te Hā Ora: Asthma and Respiratory Foundation New Zealand recommends the following actions:

1. Implement a National Respiratory Clinical Network to provide a co-ordinated approach to respiratory care, improve standards and access to care.

2. Targeted funding is provided to healthcare practitioners with the ability to prescribe medication (GPs, nurse practitioners and pharmacist prescribers) to offer standardised, Warrant of Fitness asthma checks to all people diagnosed with asthma. These asthma WOF checks would include an asthma control test, baseline peak flow measurement, updating or implementing an asthma action plan, inhaler technique checks and provision of spacers, if suitable for the inhaler device.

3. Investment into the training of healthcare practitioners and health professionals working with respiratory patients in New Zealand, on the *New Zealand Adolescent and Adult Asthma Guidelines* and the *New Zealand Child Asthma Guidelines* to ensure our workforce is up-to-date with recommended best practice treatment and management practices.

4. Asthma is 'red flagged' within GPs' patient management systems as a chronic long-term condition to ensure regular review and updating of digital asthma action plans.

5. Spacers are clear plastic cylinders designed to be used with metered dose inhalers (puffers). They are an essential asthma management tool[7] and should be made freely available to all pharmacies and asthma societies, so that patients can more easily access these devices.

6. Funding for a survey to investigate the lived experiences of asthma of the populations we know are carrying the greatest burden of asthma: Māori, Pacific peoples and people living in areas of deprivation.

Asthma control perception vs reality

Asthma cannot be cured, but it can be controlled so that people with the condition can live full, active lives. In the survey we asked people to describe how well they thought their asthma was controlled: 74% of people surveyed thought that their asthma was either always under control or mostly under control, while 7% said their asthma was mostly not under control or never under control.

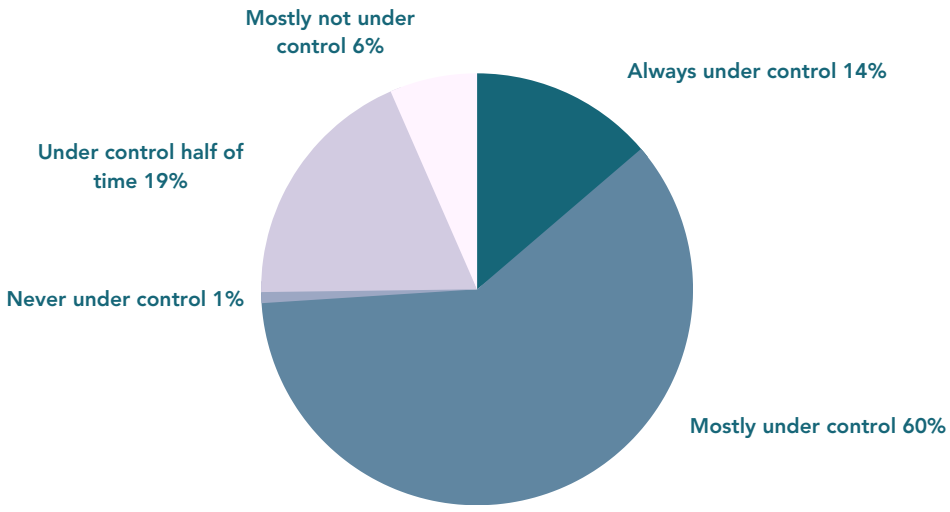
Well-controlled asthma, as defined by the *New Zealand Adolescent and Adult Asthma Guidelines 2020*[4] and the *New Zealand Child Asthma Guidelines 2020*[6], requires that over the preceding four weeks a person **does not**:

- experience daytime symptoms of asthma (coughing, breathlessness, chest tightness, wheeze) more than two times per week;
- need to use a reliever inhaler more than two times per week for symptom control
- experience limitations in their daily activities due to asthma
- experience asthma symptoms at night or on waking.

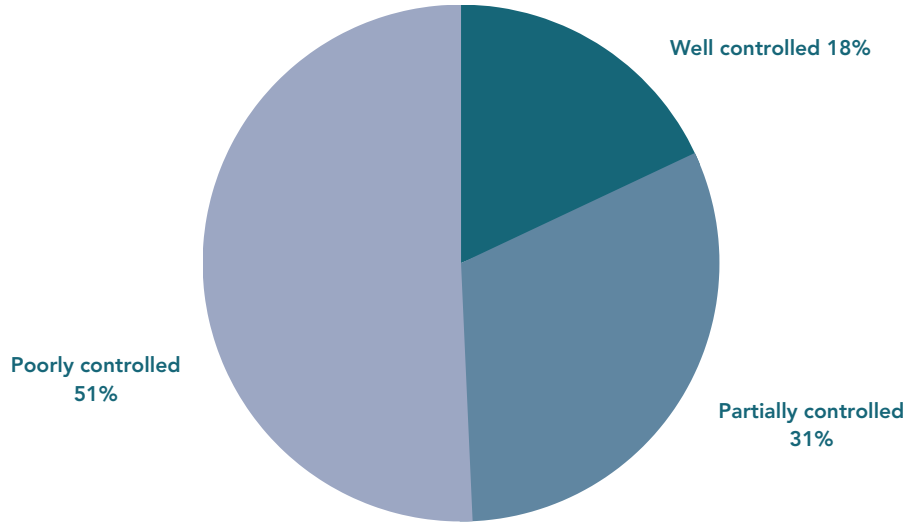
In the survey we asked further questions to determine the control level of respondents, based on the guidelines. When looking at the responses to these questions, we found only 18% had experienced what would be defined as well-controlled asthma over the preceding four weeks, while 51% had poorly controlled asthma in that period. Poorly controlled asthma is defined[4,6] as experiencing **three or four** of the following in the past month:

- daytime symptoms more than twice a week
- use of a reliever inhaler more than twice a week for symptom control
- asthma symptoms at night or on waking
- being limited in daily activities due to asthma

Percieved asthma control



Actual asthma control



A third of respondents (34%) reported that their asthma had stopped them participating in daily activities like sport, exercise, work, school or socialising, while 62% were experiencing asthma symptoms either at night or on waking.

These findings indicate that many New Zealanders may be overestimating their asthma control and may not understand what well-controlled asthma should feel like. It also suggests that many Kiwis are putting up with symptoms that could be addressed with changes to management or treatments.

Asthma care

People with asthma rely on ongoing care and oversight from healthcare practitioners to manage their condition. Regular asthma reviews, with checks on medication use, inhaler technique and action plan updates are essential to good asthma control.

Worryingly, our survey found that 26% of those surveyed had never had their asthma reviewed by a healthcare practitioner. Asthma reviews are recommended at least once a year, and more frequently for people experiencing worsening symptoms.[5] A third (32%) of respondents reported that their asthma was reviewed annually and another 29% were reviewed every six months.

We also asked respondents about what happened at their last appointment with their healthcare practitioner to discuss asthma. Asthma check-ups should include essential control and management questions so that health practitioners can get a clear picture of an individual's current asthma control and adjust treatments if needed.

The responses revealed that for many, these check-ups did not include essential management questions. Our respondents revealed that:

58% were asked how often they were using their reliever inhaler,

56% were asked if they were using a preventer inhaler daily,

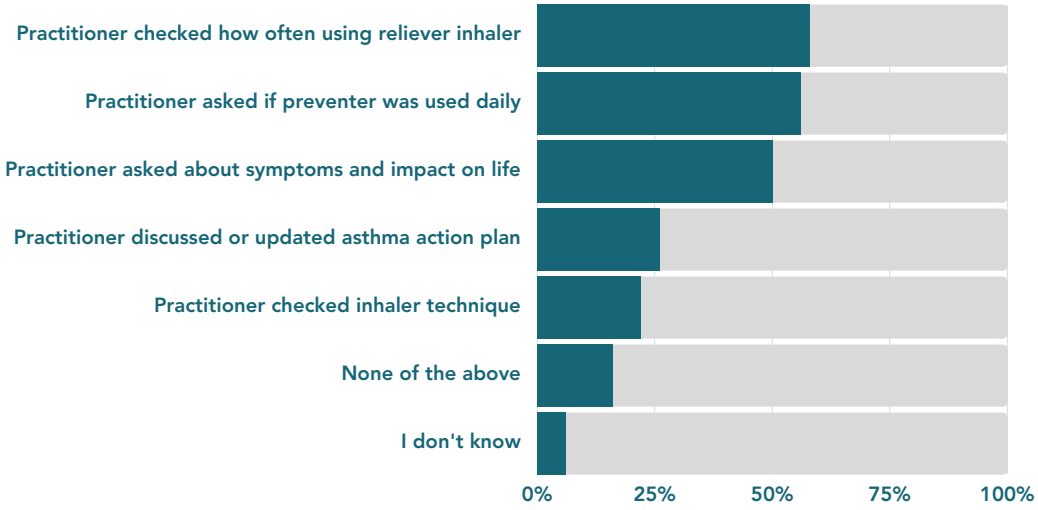
50% were asked about their asthma symptoms and how these were impacting daily life,

26% had their asthma action plan reviewed, discussed or updated,

22% had their inhaler technique checked.

16% of respondents reported they were asked no management questions at their last asthma check-up.

What happened at your last asthma check-up?



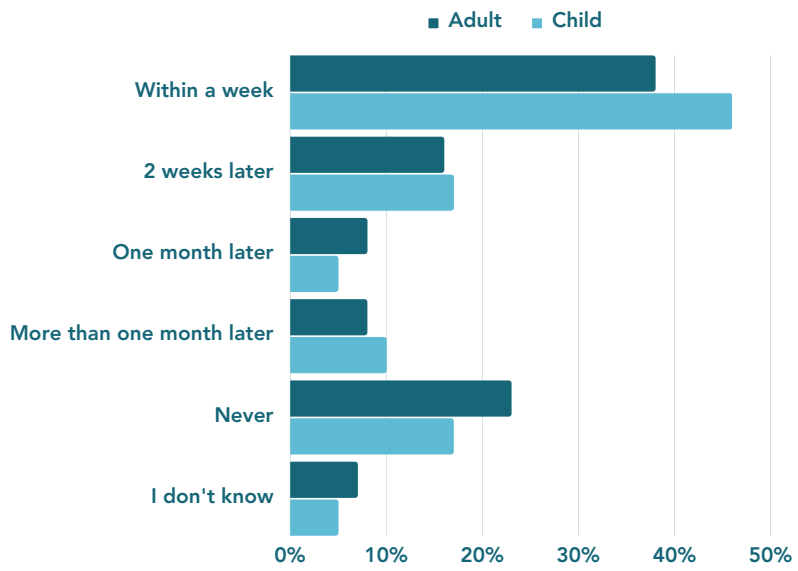
Further questions revealed that 21% of respondents had never received instructions on how to use their inhaler.

Following an asthma emergency which requires a visit to After Hours or a hospital emergency department, it is recommended in the *NZ Child Asthma Guidelines 2020*[6] that children are seen by their regular healthcare practitioner within at least a week for a check-up. The *NZ Adolescent and Adult Asthma Guidelines 2020*[4] recommend that anyone aged 12 years and over should have an 'early' follow-up appointment. Ideally this would be within a two-week period.

Of the 41 respondents aged 12 years and under who needed emergency care at either After Hours or the hospital for asthma, 46% were seen within a week by their regular healthcare practitioner and 68% within a month.

Of the 71 adult respondents who needed emergency care at either After Hours or the hospital for asthma, 54% received a follow up appointment with their healthcare practitioner within two weeks, while 23% did not receive any follow-up appointment.

If you visited After Hours or the Emergency department in the last year, when did you have a follow-up appointment with your practitioner?



The survey asked the respondents to identify their main sources of asthma advice and information. 92% of respondents identified their GP/Specialist as one of the main sources of advice, with 54% listing GP/Specialists as their only source of advice.

Asthma management

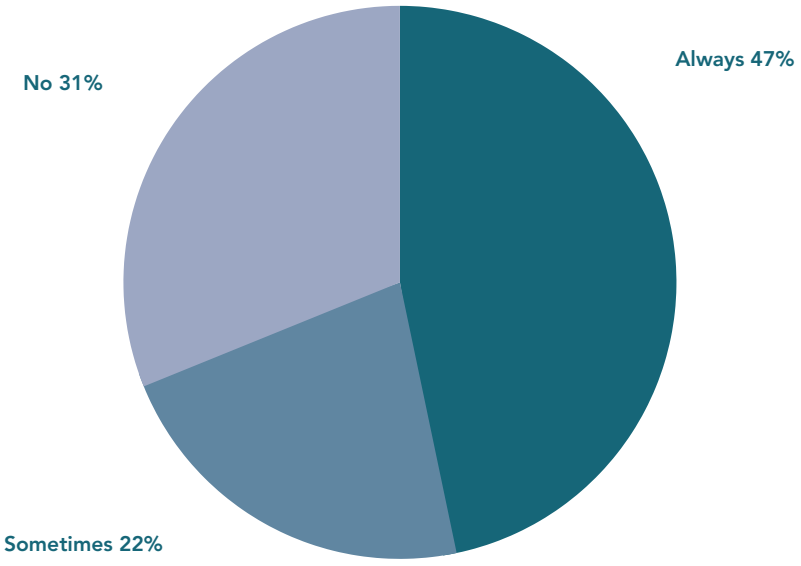
Good asthma management ensures that asthma is well-controlled and doesn't impact on daily life. Management includes using medications as prescribed, using the correct inhaler technique for the device prescribed, using a spacer (for metered dose inhalers), following an asthma action plan and being aware of and avoiding, where possible, asthma triggers.

Our survey reveals that many New Zealanders are not practising optimal asthma management.

Spacers

Spacers are recommended for use by everyone (children and adults) using metered dose inhalers (MDIs), otherwise known as "puffers". Spacers improve the clinical effectiveness of inhaled medications by increasing the deposition of medicine into the lungs, rather than in the mouth and throat.[7] Almost half of those surveyed who were using MDI inhalers (47%) always used a spacer with their inhaler. However, 36% of adults do not use spacers with MDIs. A further 20% of all respondents reported being embarrassed to use their spacer in public.

Spacer use

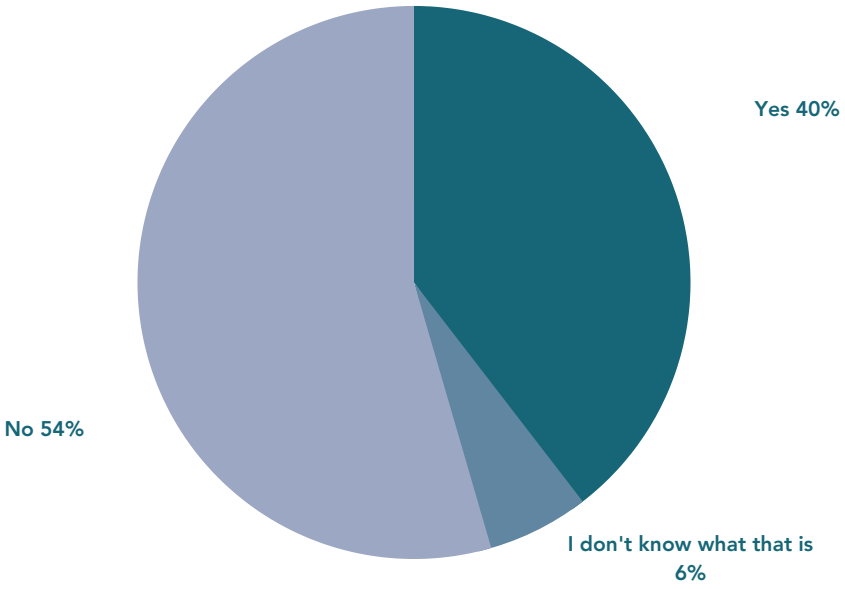


Asthma action plans

Asthma action plans are written or digital self-management plans which outline how to recognise and treat worsening asthma symptoms. They are a powerful and effective tool in asthma management and can help by allowing users to respond quickly and effectively to deteriorating symptoms, thereby reducing after hours and emergency visits.

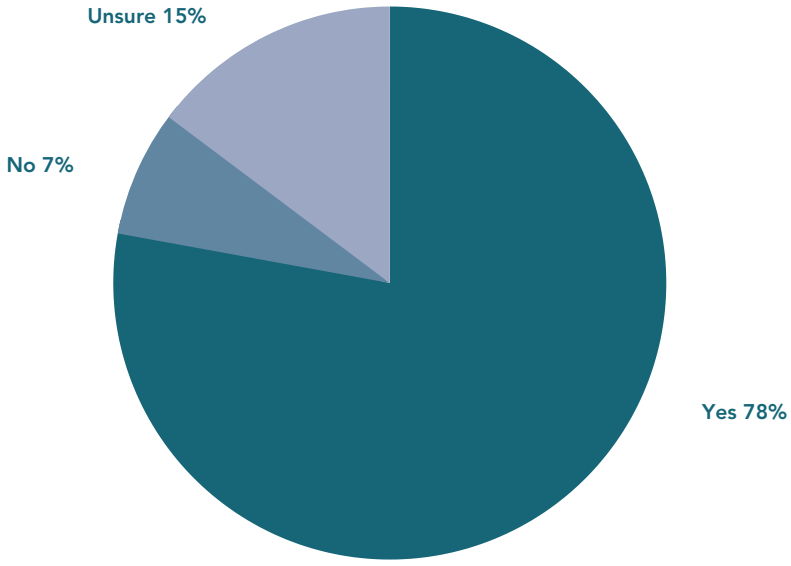
We found that 54% of respondents did not use an asthma action plan, and a further 6% did not know what an asthma action plan was. 57% of children surveyed used asthma plans, compared to 36% of adult respondents.

Asthma action plan use



Our survey revealed that 78% of respondents had a good understanding of what triggers their asthma symptoms.

I know what triggers my asthma



The survey highlights the need for more education around good asthma management and greater promotion of the importance of spacers and asthma action plans.

Medication

Good asthma management also depends on being prescribed appropriate medication and using this medication as directed.

Background

Historically asthma has been treated by using separate preventer and reliever inhalers. Preventer inhalers treat the underlying cause of asthma (airways inflammation), while reliever inhalers are taken as needed for immediate relief of asthma symptoms (cough, wheeze, shortness of breath, chest tightness).

In 2019, the Global Initiative for Asthma (GINA) released a landmark report[8], based on extensive international research (including research by the Medical Research Institute of NZ) which found that the combination 2-in-1 inhaler containing both the preventer medicine budesonide and reliever medicine formoterol, was far more effective as a reliever treatment than standard reliever inhalers containing salbutamol. This is because it offered a top-up of the preventer to treat the underlying inflammation, as well as relieving short-term symptoms.

This inhaler is now the recommended treatment for asthma for those aged 12 years and over.[4] It is available in New Zealand as the brands Symbicort® and DuoResp Spiromax®. This inhaler can be used either as a reliever-only treatment for mild asthma, or as a reliever and regularly scheduled preventer treatment for moderate to severe asthma.[4]

Many adolescents and adults still use separate reliever and preventer inhalers to manage asthma, which in many cases may be the appropriate treatment if their asthma is well-controlled.[4] When prescribed a separate reliever and preventer, it is very important that the preventer is taken daily to address the underlying airways inflammation which causes asthma. The reliever should only be used as needed, to address asthma symptoms.

For children aged five to 11 years with asthma, the recommended first step for treatment is a separate reliever inhaler, with a preventer inhaler and sometimes oral medication added when needed.[6] A spacer is recommended to be used at all times by children using a metered dose inhaler (puffer). In some children with more severe asthma, a specialist may prescribe the low dose combination 2-in-1 inhaler Symbicort®.[6]

Findings

In the survey, respondents were asked to list the names of any inhalers they used. 8% of respondents either did not answer this question or answered with "I don't know."

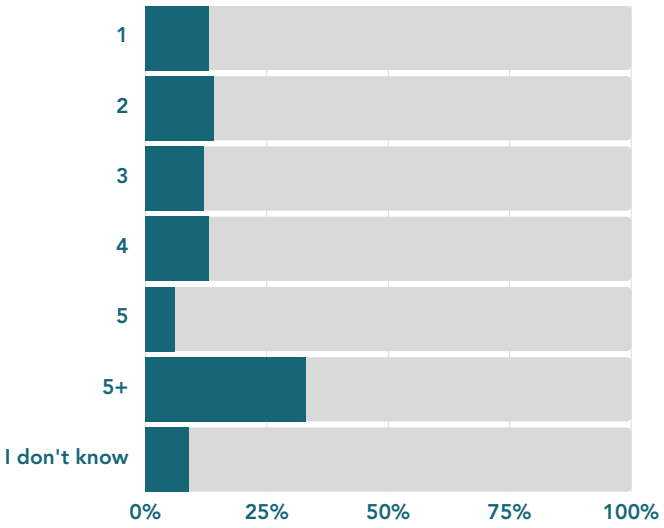
19% of those aged 12 years and over reported only using the recommended combination 2-in-1 treatment of either Symbicort® or DuoResp Spiromax®.

The most commonly used medication across all ages was salbutamol (the medication in the reliever inhalers Ventolin®, Respigen® and SalAir®). 56% of all respondents reporting using this medication. The majority of these respondents were using a salbutamol-containing reliever inhaler with a separate preventer inhaler. However, we found that 7% of all respondents over 12 years old reported using a salbutamol-containing inhaler alone to treat their asthma, which is no longer a recommended treatment.

If asthma is well-controlled, people using separate reliever and preventer inhalers should only need to use a maximum of three reliever inhalers in one year.[4]

Our survey found that of the respondents over 12 years old, who reported using the reliever inhalers Ventolin®, Respigen® and SalAir®, 53% used four or more inhalers in the last year, indicating overuse. Overuse of these reliever inhalers is associated with worsening asthma and an increased risk of asthma attacks.

No. of reliever inhalers used annually by respondents over 12 years using salbutamol-containing inhalers



Salbutamol inhalers are reliever inhalers which include the brand names: Respigen®, SalAir® and Ventolin®.

People using the separate preventer and relievers, need to use their preventer inhaler every day for it to have the optimal impact on asthma control.

Of the respondents over 12 years old who listed using a separate preventer inhaler (Seretide®, Breo®, Flixotide®, Pulmicort®, Beclazone® or Qvar®) 60% reported using these inhalers every day.

Poorly controlled asthma

Poorly controlled asthma gets in the way of everyday life. It means people are experiencing asthma symptoms like coughing, wheeziness, breathlessness and chest tightness more than necessary. People with poorly controlled asthma are more likely to be hospitalised and to experience flare-ups when faced with triggers.

It is of real concern that 51% of respondents were revealed to have experienced poorly controlled asthma over the preceding four weeks. Breaking this down further, 64% of children 12 years and under surveyed had poorly controlled asthma and 49% of those over 12 years had poorly controlled asthma.

With the correct medication, good management and ongoing care, it should be possible for the majority of New Zealanders with asthma to have their condition well-controlled. When poorly controlled asthma is identified, healthcare practitioners should check management practices like correct inhaler technique and use of asthma action plans, as well as adherence to currently prescribed medications.

Our survey revealed that many people with poorly controlled asthma were not receiving adequate asthma care:

73% had not had their inhaler technique checked at the last appointment with a healthcare practitioner to discuss their asthma. This is of significant concern as it is estimated that up to 80% of people with asthma do not know how to use their inhalers correctly to receive the optimal dose.

52% had no asthma action plan or did not know what an action plan was.

35% had not had their asthma reviewed in the last year.

67% of those with poorly controlled asthma had used more than the recommended three salbutamol reliever inhalers in the past year. A further 10% were unsure how many reliever inhalers they used in the last year.

Asthma concerns

The survey also asked respondents to identify their greatest concerns about living with asthma.

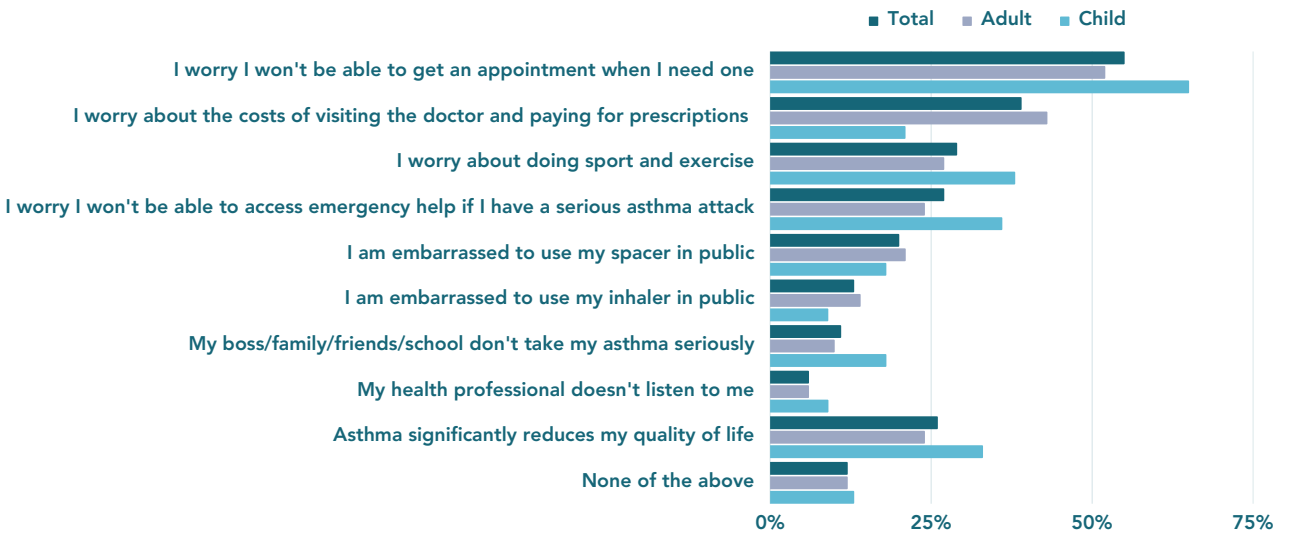
A quarter of respondents (26%) said that asthma significantly reduced their quality of life. However, 12% of respondents reported having no current concerns about their asthma.

The greatest area of concern for respondents was being able to get an appointment with a healthcare practitioner when required, with 55% worried about this. The next most common area of concern was the cost associated with managing asthma (doctor's appointments and prescription costs), at 39%.

The concerns of parents about their children's asthma were slightly different to the concerns of adults about their own asthma. Parents were proportionally more worried about getting an appointment when needed (65%), with the next greatest concern being whether their child could participate in sport or exercise (38%), this was followed by concerns about accessing help in an emergency (36%). Parents also reported greater impacts on their children's quality of life with 33% saying asthma had a significant impact, compared to 24% of adults.

Adults managing their own asthma were most concerned about accessing appointments (52%) and affording asthma care (43%), while other worries were less prominent.

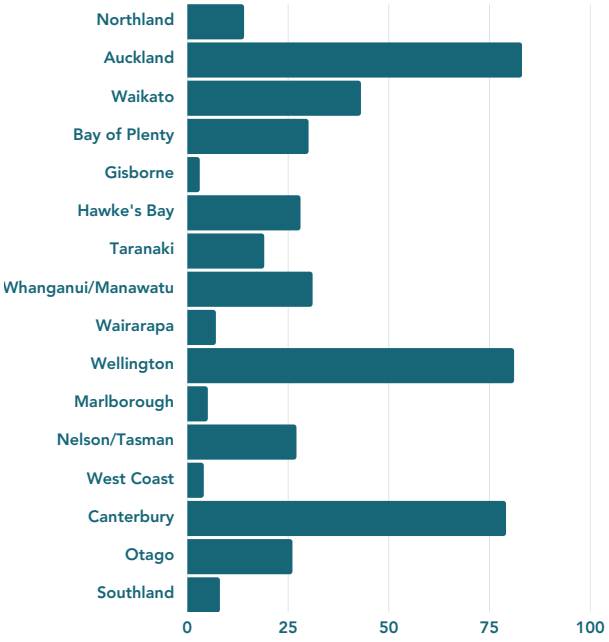
Concerns about asthma



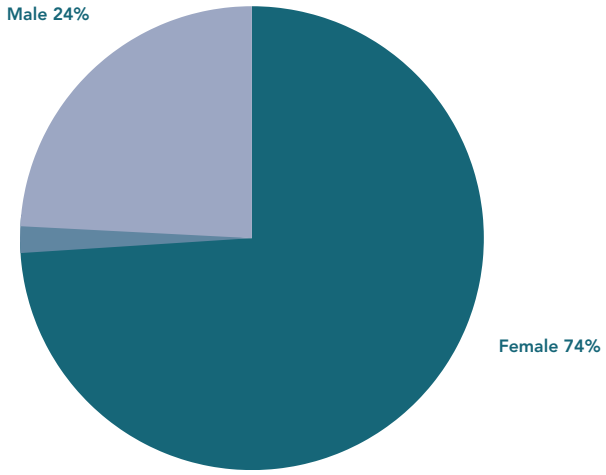
Who responded

The survey was shared on the Foundation's social media channels and distributed to our email database over a 20-day period (20 March to 8 April 2023). People could complete the survey either for themselves or on behalf of a child with asthma. Limitations for any survey of this nature include a potential for sampling and response bias. The survey was self-reported and as such data integrity is not guaranteed. There was a high proportion of responses from women and people identifying as European New Zealanders. A greater proportion of adults aged over 30 years were represented in the findings. 33 respondents reported using medications typically prescribed for the treatment of COPD. It is possible that these respondents have both COPD and asthma.

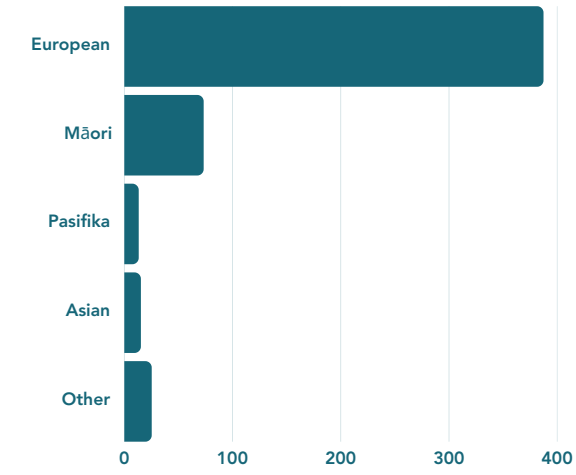
Respondents by region



Respondents by gender

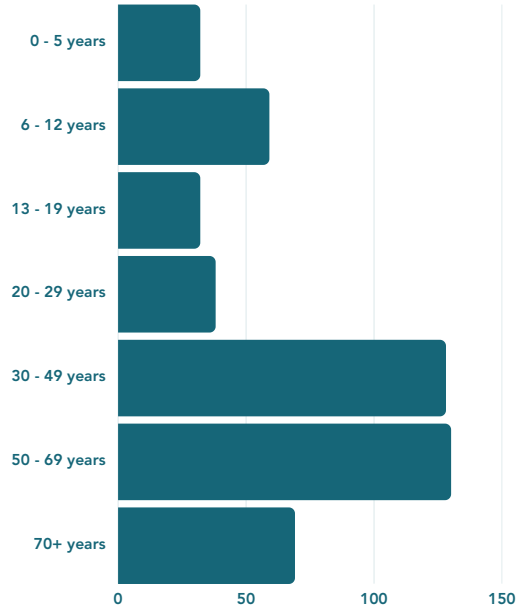


Respondents by ethnicity



Note: many people identified with more than one ethnicity, all answers were recorded and reported.

Respondents by age



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Some quotes

Asthma sucks. Of all the things in life to be bad at, I'm bad at breathing! Like really bad. When I say to people "I have asthma" a lot of people respond "me too", but they can still do everything, so they don't understand how much energy it takes to plan out a day based on energy and triggers and breathing breaks and allergy avoidance.

Our child is the first asthmatic in our family so we sometimes find it tricky to understand everything and to know what to ask. We are pleased we get support as I know our drs etc are very busy.

I feel like my asthma was more of a priority to my GP when I was a child. Now that I am an adult, it seems like they don't care anymore. I have been on the same inhalers for most of my life and know how to use them etc, however my doctor hasn't done an asthma checkup on me since well before Covid.

I would like teachers in schools to be made aware of the subtle signs of an asthma attack in the classroom.

My child has preschool asthma which is brought on via viral induced wheeze. It is incredibly stressful for us as parents and am grateful to have been prescribed Flixotide which has been a game changer for us.

As a previous smoker I have not smoked for over 45 years and gave up in my early 20's as my child had breathing difficulties, I did not want smoking to be the cause of her inability to lead a normal life.

They don't tell you to rinse your mouth out after each puff and you end up getting white yucky stuff building up that you have to cough up. Often makes you sick.

I feel well supported by the medical professionals I work with.

My child has not been assigned a regular GP – she just sees whoever is available at the practice - this has been a huge barrier for us in regards to continuity of care.

My asthma was serious in the past (several trips to ED and almost dying in the back of ambulance because I just couldn't breathe), however since discovering that pine and pollen are major triggers, I now take several hayfever medications, which has kept my asthma mostly under control.

I find it hard explaining myself to new people because they often have zero understanding or knowledge of asthma and the effects it can have on people.

There is very limited education for children in schools to reduce the stigma of using inhalers/ devices which therefore greatly reduces the likelihood of a child using it.

My asthma is under control most of the time, apart from weekly flareups due to either exercise induced asthma, air pollution, the odd flu experience, night asthma. I work very hard to stay fit, eat correctly, avoid the wrong stress, sleep as well as my asthma allows me.

Our doctor doesn't listen or do anything to help better control. Each appt is like groundhog day just upping her steroid inhaler which is not effective.

Well controlled since being on Symbicort.

Teenagers don't like to use spacers and they are a hassle to take to school (or difficult to take if doing cross country) so not needing a spacer is ideal.

I have had asthma for over 30 years and until about 8 years ago didn't know that adults should use a spacer. It has made a difference.

Appendix 1: Survey questions

The purpose of this questionnaire is to learn about the experiences of New Zealanders with asthma, including their feelings towards the condition and how it affects their daily lives. This survey is voluntary and confidential; we will not ask for your name or any details that could be used to identify you.

The anonymous data collected from this questionnaire may be presented on the ARFNZ website, in the ARFNZ Better Breathing magazine, included in ARFNZ social media posts or other ARFNZ-generated resources.

Q1. By ticking this box, you are stating that you understand the above information and give consent for your anonymous questionnaire answers to be used by ARFNZ. ☐ I consent.

Q2. Which region of New Zealand do you/your child live?

☐ Northland ☐ Auckland ☐ Waikato ☐ Bay of Plenty
☐ Gisborne ☐ Hawke's Bay ☐ Taranaki ☐ Whanganui/Manawatu
☐ Wairarapa ☐ Wellington ☐ Marlborough ☐ Nelson/Tasman
☐ West Coast ☐ Canterbury ☐ Otago ☐ Southland

Q3. What your/your child's gender?

☐ Male ☐ Female ☐ Prefer not to respond ☐ Other

Q4. What is your/your child's age?

☐ 0 – 5 years ☐ 6 – 12 years ☐ 13 – 19 years ☐ 20 – 29 years
☐ 30 – 49 years ☐ 50 – 69 years ☐ 70+ years

Q5. What is your/your child's ethnicity?

☐ European New Zealander ☐ Māori ☐ Pasifika ☐ Asian ☐ Other (please state)

Q6. How would you describe your/your child's asthma?

☐ Always under control ☐ Mostly under control ☐ Under control 50% of the time
☐ Mostly not under control ☐ Never under control

Q7. In the last month, have you/your child experienced daytime asthma symptoms more than twice a week?

☐ Yes ☐ No ☐ I don't know

Q8. In the last month, have you/your child experienced any asthma symptoms during the night or on waking?

☐ Yes ☐ No ☐ I don't know

Q9. In the last month, have you/your child used your reliever inhaler ('puffer') more than twice a week to relieve asthma symptoms? (this doesn't include using your reliever inhaler before exercise)

☐ Yes ☐ No ☐ I don't know

Q10. In the last month, has asthma stopped you/your child from taking part in any activity (e.g. sport, exercise, work/school, socialising)?

☐ Yes ☐ No ☐ I don't know

Q11. How many reliever inhalers ('puffers') do you/your child use in a year?

- ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5+
- ☐ I don't know (choose this answer if you are not sure which is your reliever inhaler).

Q12. How often do you/your child use your/their preventer inhaler?

- ☐ Every day ☐ Most days ☐ Once a month ☐ Never
- ☐ I don't know (choose this answer if you are not sure which is your preventer inhaler)
- ☐ Other, please specify:

Q13. If you know them, what are the names of the inhalers you/your child use?

Q14. Do you/your child use a spacer with your/their inhaler?

- ☐ Yes, always ☐ Sometimes ☐ No ☐ Not applicable

Q15. Do you/your child use an Asthma Action Plan to manage your/their asthma?

- ☐ Yes ☐ No ☐ I don't know what this is

Q16. I know what triggers my/my child's asthma (e.g. pollen, dust etc).

- ☐ Yes ☐ No ☐ I'm uncertain of what triggers my/my child's asthma

Q17. Who do you get asthma advice and information from? Tick all that apply.

- ☐ Nurse ☐ GP/Specialist ☐ Pharmacist ☐ Other health practitioner, please specify:

Q18. How often is your/your child's asthma reviewed by a healthcare practitioner (doctor, nurse, nurse practitioner, asthma nurse, pharmacist prescriber)?

- ☐ Every 6 months ☐ Once a year ☐ Every two years ☐ Never

Q19. Last time you/your child visited a healthcare practitioner to discuss your/their asthma, what happened at your appointment? Tick all that apply.

- ☐ The healthcare practitioner checked my/my child's inhaler technique
- ☐ The healthcare practitioner asked about how my/my child's asthma symptoms and how they were affecting my/my child's life
- ☐ The healthcare practitioner asked if I/my child was using my/their preventer daily
- ☐ The healthcare practitioner asked how often I/my child was using my/their reliever inhaler
- ☐ The healthcare practitioner checked, discussed or updated my/my child's asthma action plan with me
- ☐ None of the above
- ☐ I don't know

Q20. Did your health professional (doctor, nurse, pharmacist, asthma educator) teach you/your child how to use all your/your child's current inhalers before you/your child began using them?

- ☐ Yes ☐ No ☐ I don't know

Q21. In the past year, have you/your child ever needed emergency care at After Hours or hospital to treat your asthma?

- ☐ Yes ☐ No ☐ I don't know

Q22. In the past year, if you/your child needed emergency care at After Hours or hospital to treat your asthma, when did you have a follow-up appointment with your healthcare practitioner?

- ☐ 7 days later or less
- ☐ 2 weeks later
- ☐ 1 month later
- ☐ More than 1 month later
- ☐ Never
- ☐ I don't know
- ☐ I have/my child has never needed emergency care to treat my/their symptoms

Q23. Do you currently or have you ever smoked?

- ☐ I'm a current smoker
- ☐ I'm a former smoker
- ☐ I have never smoked
- ☐ Not applicable

Q24. Have you ever been offered support to quit smoking?

- ☐ Yes
- ☐ No
- ☐ Not applicable

Q25. Which of these statements is true for you? Tick all that apply.

- ☐ I worry that I won't be able to get an appointment with my healthcare practitioner (GP, nurse) when I need/my child needs one
- ☐ I worry that I won't be able to access emergency help if I have/my child has a serious asthma attack
- ☐ I worry about the costs of visiting the doctor and paying for prescriptions
- ☐ My health professional doesn't listen to me
- ☐ My boss/family/friends/school don't take my asthma/my child's asthma seriously
- ☐ Asthma significantly reduces my/my child's quality of life
- ☐ I am/my child is embarrassed to use my/their inhaler in public
- ☐ I am/my child is embarrassed to use a spacer with my/their inhaler in public
- ☐ None of the above

Q26. Do you have anything else you would like to tell us about your/your child's asthma?