



Patient safety failures in asthma care:

the scale of unsafe prescribing in the UK

Complacency in asthma care can kill



Every ten seconds, someone is having a potentially life-threatening asthma attack,¹ and every year, over 1,200 of these people die.^{2,a} Yet despite asthma being one of the most common long-term conditions among adults, and *the* most common among children, many of the 1 in 11 people with asthma in England, Northern Ireland, Scotland and Wales fail to receive the right asthma medication they need to safely manage their condition.³

This complacency in asthma can kill.⁴

Failures in patient safety have been well documented in recent years in all parts of the UK, with serious incidents in secondary care leading to investigations such as the Francis Inquiry and the Berwick Review.^{5,6} However, such failures are not limited to hospital settings or speciality care. In 2014, the Care Quality Commission revealed their “biggest concern” about GP practices in England was safeguarding and safety,⁷ and we know that such fears are justified in asthma care.

Last year, the Royal College of Physicians published the National Review of Asthma Deaths,⁸ a UK wide investigation which found **alarming safety concerns in the cases of those who died from asthma attacks**. The Review identified prescribing errors in almost half of all asthma deaths in primary care and, overall, found that two-thirds of asthma deaths could be prevented with better routine care. This is an appalling statistic when three families lose someone to an asthma attack every day,² and when £1 billion of NHS money is spent on asthma care each year in England alone.⁹

As the National Review advised, asthma deaths can be prevented when system-wide measures are put in place to prevent unsafe medication errors. Yet one year after the report was published, Asthma UK has examined data which suggest that the National Review findings were the tip of the iceberg: shockingly, around 127,617 people with asthma in the UK may have been put at risk of a potentially life-threatening asthma attack by **unsafe prescribing that should never happen**.^{10,b} These failures endanger the lives of patients and must stop.

For the first time, this report reveals the scale of dangerous prescribing of asthma medication in England, Northern Ireland, Scotland and Wales, and indicates that there has been a failure to correct such unsafe practice when it does occur. We call for these immediate steps to be taken to address the **complacency and system failures** which allow these incidents to happen:

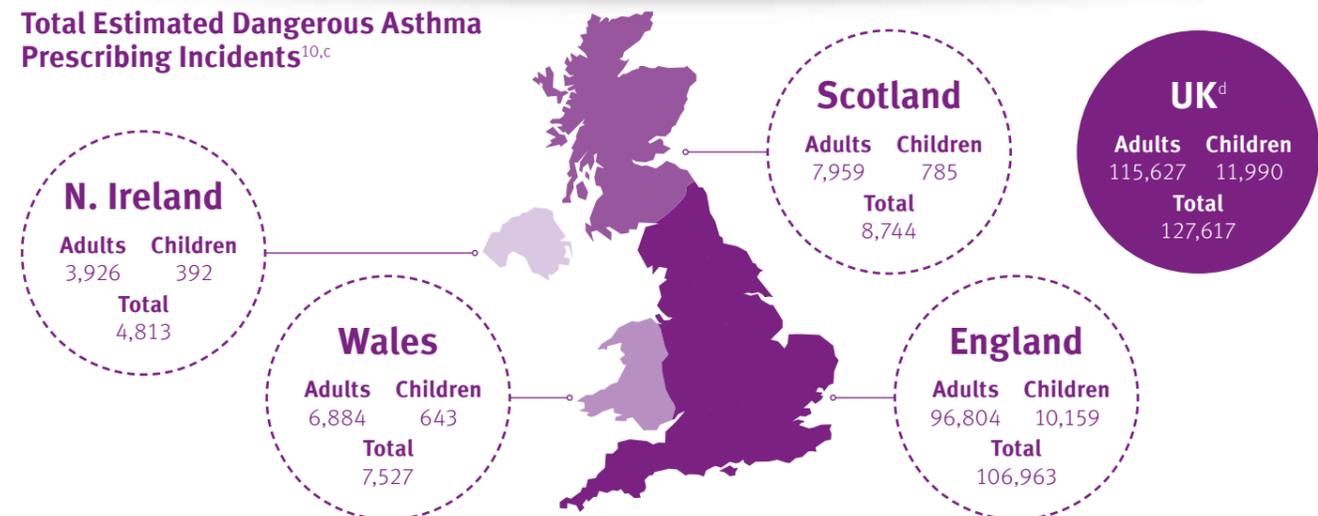
Over **120,000** people with asthma in the UK may have been put at risk of a life-threatening asthma attack by unsafe prescribing practices that should never happen

- 1 Immediately recall all patients who have been prescribed long-acting relievers alone to reduce their risk of death.
- 2 Identify those people who may have received inappropriate asthma prescriptions which put them at higher risk of an asthma attack and contact them for an urgent review of their asthma medicines. This includes people who have been prescribed more than 12 reliever inhalers in the last 12 months.
- 3 Put audits and electronic alert systems in place to prevent poor practice from occurring.
- 4 Implement the full recommendations from the National Review of Asthma Deaths, including ensuring that every person with asthma has a written asthma action plan, and introducing a standardised review template across the UK.

It is vital that anyone with asthma who is concerned by our findings continues to take their medication as prescribed, and should not stop taking any of their asthma medications until they have spoken to a healthcare professional. For more information go to www.asthma.org.uk/patient-safety.

The UK currently has some of the worst asthma mortality rates in Western Europe, and our children are four times more likely to die from an asthma attack than children in Germany, Spain, Italy, Austria, Finland, Portugal or Sweden.¹¹ To prevent further avoidable asthma deaths, it is vital that more is done in England, Northern Ireland, Scotland and Wales to protect the 1.1 million children and 4.3 million adults with asthma from prescribing failures which lead to preventable deaths.³

Total Estimated Dangerous Asthma Prescribing Incidents^{10,c}



a On average, calculated from deaths arising in 2002-2013.

b Asthma UK thanks the Respiratory Effectiveness Group (www.effectivenessevaluation.org) and Optimum Patient Care (www.optimumpatientcare.org) for their collaborative efforts. This study is based in part on data from the Optimum Patient Care Research Database. The analysis was conducted by Asthma UK, in collaboration with Optimum Patient Care Ltd and the Respiratory Effectiveness Group. The OPCRDB is a quality controlled, voluntary GP Practice database and can therefore not be guaranteed to be representative of the UK population.

c Prescribing incidents included: people with asthma prescribed a long-acting reliever inhaler (LABA or LAMA) without inhaled steroids, and people with asthma prescribed more than 12 reliever inhalers without a review in the last 12 months. People who had both errors were only counted once. Data extracted during 2010-2013.

d Totals not exact due to rounding

Asthma prescribing

The National Review of Asthma Deaths was the first UK-wide enquiry of its kind. It investigated the deaths of 195 people who died from asthma between 2012 and 2013 and found alarming safety concerns in the care they received, highlighting two high-risk prescribing errors in particular.

In collaboration with the Respiratory Effectiveness Group (www.effectivenessevaluation.org) and Optimum Patient Care (www.optimumpatientcare.org), Asthma UK has analysed routinely collected data on 94,955 asthma patients (sourced from GP practice systems in England, Northern Ireland, Scotland and Wales during 2010-2013). The aim of the analysis was to identify how often the prescribing errors outlined in the 195 cases in the National Review occur in the routine care of the general asthma population.¹⁰

Using long-acting reliever medicines alone puts people with asthma at risk of severe asthma attacks and death



Long-acting reliever medicines must be prescribed correctly for asthma – in combination with inhaled steroids - either as a combination inhaler (which includes inhaled steroids), or when taken with a separate steroid inhaler - and patients should be supported by a healthcare professional to fully understand the importance of taking them together. Clinical guidelines recommend that people with asthma are prescribed combination inhalers as the preferred option to reduce the chance of long-acting reliever medicines being taken alone.¹⁵

Long-acting reliever inhalers are prescribed to some patients in addition to their usual asthma medication to help prevent asthma symptoms from developing, and to reduce the severity of symptoms when they do. Taken twice a day, every day, long-acting relievers open up the airways so that people are less likely to experience an asthma attack if they are exposed to asthma triggers.

Around **2,000** children may have been prescribed unlicensed medicine which puts them at a higher risk of dying from asthma

However, the National Review highlighted the range of published evidence that shows that using long-acting reliever medicines *alone* puts people with asthma at higher risk of severe asthma attacks and even death.^{12,13} **These types of medicines are not licensed to be used in this way for asthma.** The risks of doing so even initiated a ‘black box warning’ by the Food and Drug Administration in the USA, to caution healthcare professionals of the risks associated with prescribing one of these medicines alone for asthma.¹⁴

The National Review identified that at least 5 out of 195 people who died from an asthma attack (3%) were being prescribed long-acting reliever medicines without inhaled steroids.

When looking at a routinely collected sample of data on 94,955 people with asthma, as many as 402 people were revealed to have been prescribed long-acting reliever medicines without inhaled steroids. Applied across the population, this suggests that **around 22,840 people with asthma, including 1,903 children, may have been prescribed unlicensed medicine which puts them at a higher risk of death.**

There is no reason why someone with asthma should be prescribed long-acting reliever medicines without inhaled steroids and systems should be put in place to prevent this from occurring: this prescribing is unsafe, unlicensed and puts the lives of patients at risk. If someone is found to be taking long-acting reliever medicines alone, they should be contacted immediately for an asthma medication review at their GP practice to address this error and prevent avoidable harm to the patient. However, **it is vital that anyone with asthma who is concerned by our findings continues to take their medication as prescribed, and should not stop taking any of their asthma medications until they have spoken to a healthcare professional.**

Around **23,000** people with asthma, including **2,000** children, may have been prescribed unlicensed medicine which puts them at a higher risk of death

There has been a failure to recognise that more than 100,000 people were put at risk of a potentially life-threatening asthma attack from excessive reliever inhaler prescribing

 Reliever inhalers are used as 'rescue' medication, to quickly relieve asthma symptoms when someone feels that their asthma is getting worse. These medicines are important to treat asthma attacks in the short-term, but they do nothing to stop the next attack from happening in the long-term. Good asthma management is about prevention of attacks, so when asthma is well managed, most people should have little or no need for their reliever inhaler because they will have very few - if any - asthma symptoms.

A maximum of 12 reliever inhalers should be prescribed per person per year, with more than 6 being a clear warning sign of poor asthma control. Most people shouldn't need to use more than one reliever inhaler a month unless they are having serious problems with their asthma. **If taken more frequently than this, their risk of asthma death "escalates drastically".**¹⁶ These patients should be identified and monitored as a matter of urgency, until their symptoms have improved.

In 2014, the National Review of Asthma Deaths highlighted the fact that excessive reliever prescribing was widespread in the cases investigated. After reviewing prescribing data on reliever inhalers for 165 people who died, it revealed that 40% had been prescribed more than 12 reliever inhalers in the year before they died. Incredibly, 4% had been prescribed more than 50.

Anyone who has been prescribed more than 12 reliever inhalers in the last year should be contacted for an asthma review as a matter of urgency as it is likely they have poor asthma control. They will need to work in partnership with their healthcare professional to reduce their risk of attack by discussing their

Around **90,000** people in England, **6,000** in Wales, **7,000** in Scotland and **3,500** in Northern Ireland could have uncontrolled asthma that is not being monitored by health-care professionals

reliever inhaler use, assessing their level of control, and considering having a preventer inhaler prescribed to reduce overall symptoms. They may even need a specialist referral.

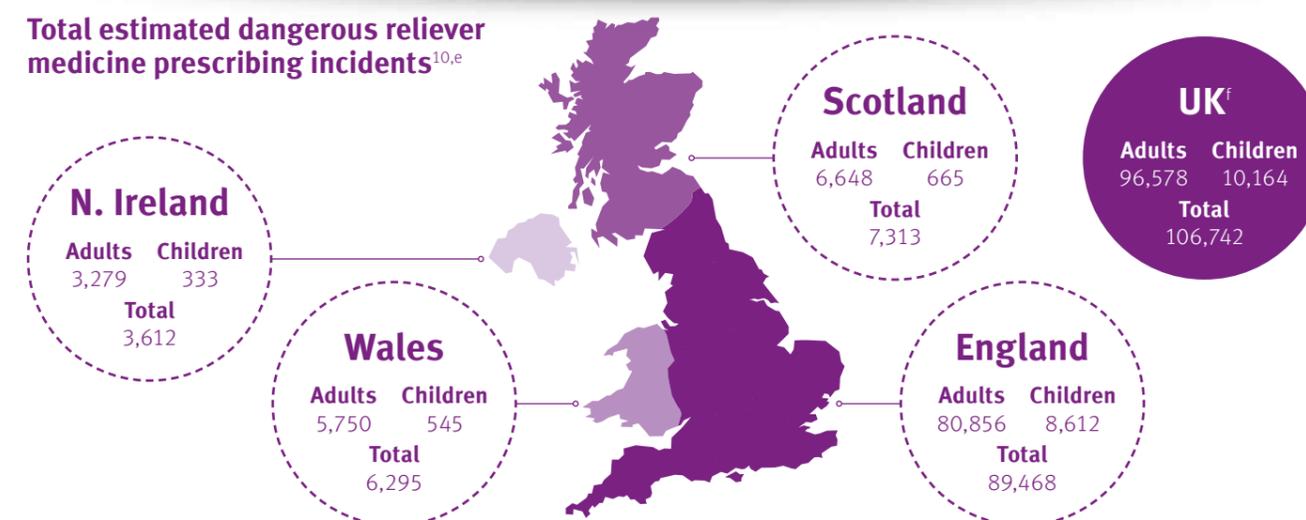
In our sample of 94,955 people with asthma, taken from a number of GP databases from across the UK, this prescribing error was revealed to be unacceptably common among the general asthma population.

A total of 5,032 people had been prescribed more than 12 reliever inhalers over a 12 month period, 1,965 of them without being reviewed - that's almost 40%. This includes 117 children not reviewed. For these people, the number of excessive reliever inhalers prescribed ranged from 13 up to 80 per person in 12 months. Given that 6 is a clear warning sign of poor asthma control, **that's up to almost 13 times more medicine than they should need.**

When applied to the UK population, this indicates that **around 106,742 people with asthma in the UK may have been prescribed excessive amounts of reliever medication without being reviewed**: this includes over 10,000 children under 15 who may not have had a review to monitor their medication, despite such prescribing putting them at higher risk of a potentially life-threatening asthma attack.

89,468 people in England, 6,295 in Wales, 7,313 in Scotland and 3,612 in Northern Ireland could have uncontrolled asthma that is not being monitored by health-care professionals. **There has been a failure to recognise that these**

Total estimated dangerous reliever medicine prescribing incidents^{10,e}



^e Prescribed more than 12 reliever inhalers in the previous 12 months without having their asthma reviewed. Data extracted during 2010-2013.

^f Totals not exact due to rounding

individuals could have been put at risk of a potentially life-threatening asthma attack and death, and were instead prescribed irresponsible amounts of reliever medication without addressing the underlying cause of their symptoms.

There may be some legitimate reasons as to why more than 12 reliever inhalers are prescribed: for example, some children may need spare inhalers to be kept in various locations, such as multiple homes and school, or people may lose inhalers over time and need replacements. However, **systems should be in place which alert doctors, nurses and pharmacists to these prescribing patterns**, to help them identify whether people are at high risk and need an urgent review, or whether their need for multiple inhalers is valid.

Poor prescribing practice indicates inefficiencies in how the £900million spent on asthma drugs is used

The list of prescribing errors noted in the National Review of Asthma Deaths is not exhaustive and other preventable prescribing errors can occur when providing asthma care which put patients at risk. Poor medication management also indicates inefficiencies in how the £900million of NHS money spent on asthma drugs each year in England alone is used in reality.⁹

Under use of preventer inhalers

Preventer inhalers should be taken as prescribed to provide enough medicine needed to help reduce underlying inflammation and swelling in the airways. This stops the airways from being so sensitive and reduces the risk of potentially life-threatening asthma attacks which can lead to A&E attendances, hospital admissions and ambulance call outs which could have otherwise been prevented.

People who have been prescribed preventer inhalers would normally need at least 12 of them a year for the treatment to work successfully. Of the 128 people for whom the National Review had full prescribing data on preventer inhalers, 80% were issued with fewer than 12. This means that there was no system in place to identify that they weren't taking enough medication and were at greater risk of a potentially life-threatening asthma attack.

There has been a failure to recognise that more than **100,000** people were put at risk of a potentially life-threatening asthma attack and death

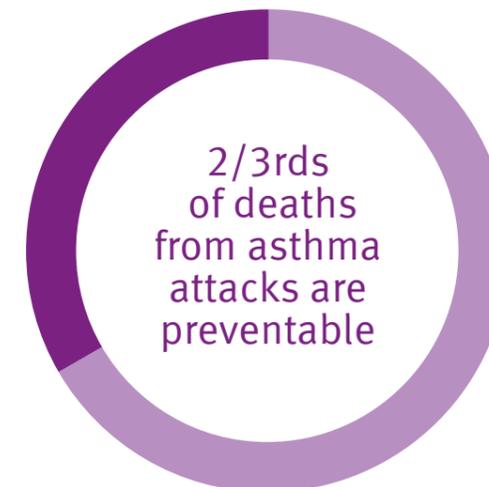
Inhaler technique

Inhalers can sometimes be difficult to use, and different types are used in various ways. It is vital that people with asthma are trained in good inhaler technique to ensure they are able to take their medicine correctly and receive the right dosage, as prescribed. Poor technique is a clear indicator of poor control, putting people with asthma at risk of a potentially life-threatening asthma attack. Training should be provided when someone is prescribed a new device, and reinforced when they have their annual asthma review as well as after an asthma attack.

Pharmacists, asthma nurses and GPs should be teaching and reinforcing good inhaler technique to people with asthma at every opportunity. Yet evidence suggests that up to one-third of people make mistakes with inhalers that can mean their treatment is less effective and,¹⁷ since the National Review was published, around one quarter of people told Asthma UK in a survey that they had not had their inhaler technique checked at any point in the last year.¹⁸

Spacers (plastic or metal containers that attach to the inhaler) and face masks can be used with aerosol inhalers to help deliver asthma medicine into the lungs more effectively. They can be vital for many children and very useful for others with inhaler technique challenges as they make inhalers easier to use and so more likely to deliver the full dosage prescribed.¹⁹ Yet despite their potential benefits, they are not always commonly prescribed: many people with asthma may find they are not provided with the right equipment to take their medicines effectively.

When up to 90% of NHS asthma budget is spent on medicines, more should be done to reduce inefficiencies in prescribing.⁹



It is **vital** that people with asthma are trained in good inhaler technique

Culture of complacency in asthma care

There are several reasons why dangerous medication prescribing may occur in asthma care.²⁰

Inadequate systems in place to identify and prevent human error

Clinical staff are human, and may make genuine mistakes in asthma prescribing. There may be inadequate alerts in place to prevent these errors from harming patients or poor surveillance to monitor their occurrence. Such systems could include using computer alerts, electronic surveillance or audit in both GP practices and community pharmacies, as recommended by the National Review.

Lack of adequate training / education

Some staff may simply not have been trained in the most up to date best practice, or may not be following the relevant clinical guidelines which stipulate correct asthma prescribing. For example, research has found that 9 out of 10 health care professionals involved in teaching inhaler technique couldn't demonstrate the correct metered-dose inhaler technique.²¹ Teams may also be unaware of findings from investigations such as the National Review of Asthma Deaths because asthma may not be considered a life-threatening condition.

Culture

All of the above can be indicators of an overarching culture which does not acknowledge the seriousness of asthma, nor asthma prescribing errors. Patients may also not be made aware how important their asthma review is, so may not think it matters if they do not attend.

A poor safety culture also signals that inefficiencies exist: once addressed, improvements in prescribing practice have the potential to generate cost savings through improved health outcomes and more efficient medicines management.

Although there are many potential reasons for asthma medication errors, their cause is singular: complacency in asthma care. While some responsibility has to be taken by the prescriber and the dispenser for failing to stop individual errors, the overall system is at fault for failing to recognise the seriousness of asthma, and for failing to protect the 5.4 million people with asthma from avoidable harm.

Although there are many potential reasons for prescribing errors, their cause is singular: complacency in asthma care

“Complacency must end and care must change if we are to reduce the number of patients dying from asthma”⁴

One year after the National Review of Asthma Deaths published its findings on asthma prescribing, this report shows the scale of the problem for the first time in England, Northern Ireland, Scotland and Wales. Our data suggest that poor prescribing practice may have directly put an estimated 127,617 people with asthma at greater risk of a potentially life-threatening asthma attack, and that the NHS could be wasting millions of pounds spent on poorly prescribed asthma drugs each year.

Staff at every level of the health service across the UK must take steps to take asthma seriously, and address the failures in asthma prescribing which are putting the lives of thousands of people at risk.

National, regional and local teams must implement the recommendations from the National Review of Asthma Deaths as a matter of urgency to protect the 1 in 11 people with asthma in the UK from avoidable harm and preventable asthma deaths.³

Improvement case study: Cuan Family Practice, County Down

This GP practice, which runs a nurse-led respiratory clinic once a week and has practice pharmacist support, was motivated by the National Review of Asthma Deaths to review their asthma patients and improve the quality and safety of asthma prescribing.

The practice pharmacist identified 95 patients who were prescribed combination inhalers for their asthma and reviewed their notes. 80 were identified as needing a review for various reasons, the majority due to excess reliever inhalers or poor adherence to their preventer inhaler. These patients were contacted for an appointment with their asthma nurse.

The findings have been shared with other asthma nurses, practice pharmacists and GPs locally, in addition to local community pharmacists. They will now be working on ways to use IT solutions to help identify these patients, to improve the safety and quality of prescribing for people with asthma.

This initiative was shortlisted as a finalist for Asthma Project of the Year 2014, in the Northern Ireland Healthcare Awards.

Endnotes

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- 18 Asthma UK (2014) Time to Take Action on Asthma
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Every ten seconds someone in the UK has a potentially life-threatening asthma attack and three people die every day. Tragically many of these deaths could be prevented, whilst others still suffer with asthma so severe current treatments don't work.

This has to change. That's why Asthma UK exists.

We work to stop asthma attacks and, ultimately, cure asthma by funding world leading research and scientists, campaigning to improve the quality of care and supporting people with asthma to reduce their risk of a potentially life threatening asthma attack.

Stop asthma attacks. Cure asthma.

To find out more about Asthma UK's work, or get involved with the Healthcare Professionals' Community visit www.asthma.org.uk or call us on **0800 121 62 44**.



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