

## Chiesi Study Highlights Challenge of Incorrect Use of Inhalers in the UK

- A study published in the *BMJ Open Respiratory Research* highlights that over 50% of UK patients do not know when their inhaler is empty, with many continuing to use once empty.<sup>1</sup>
- Respiratory conditions affect one in five people in the UK,<sup>2</sup> with millions relying on inhalers every day. However, use of an inhaler beyond the number of doses stated on the device can compromise disease control, which is especially concerning in the event of an exacerbation.
- The UK has one of the highest asthma death rates in Europe - with two-thirds considered preventable.<sup>3</sup>

**Manchester, UK, 20<sup>th</sup> January 2025** – Chiesi UK & Ireland has published new research in the *BMJ Open Respiratory Research*, demonstrating that over 50% of UK patients do not know when their inhaler is empty, with many using their device beyond the number of doses available, leading to concerns over patient safety.<sup>1</sup>

The research involved a weighing study of returned, used inhalers to assess the number of doses remaining, complemented by a survey of almost 200 patients. It uncovered significant gaps in the understanding and practice of inhaler use and disposal among UK patients, signalling that patient education is needed to help people living with respiratory conditions understand when to request a replacement.<sup>1</sup> Of patients surveyed, 74.9% reported using a dose counter to understand when their inhaler was empty.<sup>1</sup> Other common indicators included when a dose of the medicine was no longer received (24.6%), when the pressurised metered-dose inhaler (pMDI) felt empty on shaking (22.6%), and when pMDIs stopped ‘puffing’ (19.1%).<sup>1</sup>

There are many ways patients can be supported to act at the appropriate time including taking note of the time period their inhaler doses are expected to cover, using inhalers with dose counters, or using charts.<sup>4</sup>

**Professor Anna Murphy, Consultant Respiratory Pharmacist and study co-author,** commented: *“This research shines a light on a concerning reality that patients lack the knowledge to know when to replace their inhaler device. Patients may therefore be at risk of serious exacerbations and, potentially, hospitalisation due to overuse of their inhalers. This is further concerning during the winter season when emergency services are already under significant strain. Tackling this challenge collectively, ensuring patients are educated, is crucial for improving outcomes.”*

Using inhalers incorrectly, or not in line with recommendations from healthcare teams, can lead to suboptimal disease management, posing a risk to overall disease control. Disease control in the UK for respiratory conditions such as asthma and chronic obstructive pulmonary disease (COPD) are lagging behind other countries;<sup>5</sup> the UK has one of the highest asthma death rates in Europe, many of which are preventable.<sup>3</sup>

**Dr Andy Whittamore, Clinical Lead at Asthma + Lung UK** said: *“Many people do not know when their inhaler is empty. This puts people at risk of harm if you are continuing to use your inhaler once it's finished and you are not getting the*

medication you need. An empty preventer means you may develop a build up of inflammation and develop symptoms or exacerbations. An empty reliever means you cannot treat life-threatening breathlessness. Some inhalers do have dose counters, with some being more accurate than others.

*“The most important thing someone with a lung condition can do to protect themselves, is to take your inhaler as prescribed with the correct inhaler technique, as well as attending your annual review. If further information is required there are useful resources on the Asthma + Lung UK website <https://www.asthmaandlung.org.uk/living-with/inhaler-videos>. And if you need advice or support about any breathing symptoms or your lung condition you can give our Helpline team a call on 0300 222 5800 (Monday-Friday, 9am-5pm).”*

The new study also highlights environmental concerns associated with inhaler disposal. It found that only 27.1% of people dispose of their inhaler appropriately at the pharmacy or as part of a local inhaler recycling scheme.<sup>1</sup>

**Dr Rachel Malone, Head of Medical at Chiesi UK and study author** adds: *“Respiratory conditions can deeply impact the lives of patients and their families. This research has revealed stark variability in inhaler use, and – in many cases – patients not using inhalers according to device guidance. Looking forward, we must raise awareness of the ways patients can be supported in understanding when their inhaler is running low, so that they can ensure they have the necessary medicine available to maintain disease control or in the event of an exacerbation. It is crucial that patients and care teams are equipped with fundamental knowledge on proper inhaler use and disposal to reduce the likelihood of exacerbations and decrease the carbon footprint associated with inhaler use.”*

### Join the Conversation

Healthcare professionals are invited to join a webinar on Thursday 27<sup>th</sup> January to further explore the results of the study and key priorities moving forward. Hosted by study authors Professor Anna Murphy, Consultant Respiratory Pharmacist and Professor Will Carroll, Clinical and Academic Lead in Paediatric Respiratory Medicine, this non-promotional event is organised and funded by Chiesi UK & Ireland. More details can be found on the [registration page](#) for the event.

Additional high-quality bite-size educational webinars and podcasts on a wide range of topics, intended for healthcare professionals, are also available on the [Chiesi UK Medical website](#).

### About Chiesi Group

Chiesi is a research-oriented international biopharmaceutical group that develops and markets innovative therapeutic solutions in respiratory health, rare diseases, and specialty care. The company’s mission is to improve people’s quality of life and act responsibly towards both the community and the environment.

By changing its legal status to a Benefit Corporation in Italy, the US, and France, Chiesi’s commitment to create shared value for society as a whole is legally binding and central to company-wide decision-making. As a certified B Corp since 2019, we’re part

of a global community of businesses that meet high standards of social and environmental impact. The company aims to reach Net-Zero greenhouse gases (GHG) emissions by 2035.

With over 85 years of experience, Chiesi is headquartered in Parma (Italy), with 31 affiliates worldwide, and counts more than 7,000 employees. The Group's research and development centre in Parma works alongside 6 other important R&D hubs in France, the US, Canada, China, the UK, and Sweden.

For further information please visit [www.chiesi.uk.com](http://www.chiesi.uk.com).

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### References

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<sup>1</sup> Murphy AC, Carroll W, Gotsell M, et al. (2024). How do patients determine when their inhaler is empty? Insights from an analysis of returned inhalers and a patient survey. *BMJ Open Respir Res*;11:e002579. doi:10.1136/bmjresp-2024-002579

<sup>2</sup> Public Health England (2019). The 2nd Atlas of variation in risk factors and healthcare for respiratory disease in England: Reducing unwarranted variation to improve health outcomes and value. Available at: <https://fingertips.phe.org.uk/profile/respiratory-disease>.

<sup>3</sup> NRAD (2014). Why asthma still kills. The National Review of Asthma Deaths (NRAD). Available at: <https://www.hqip.org.uk/wp-content/uploads/2018/04/NRAD-Annual-Report-2014.pdf>.

<sup>4</sup> Staffordshire and Stoke-on-Trent Integrated Care System (2025). Count it out. Available at: <https://staffsstokeics.org.uk/~documents/route%3A/download/1067/>

<sup>5</sup> Hall, I., Walker, S., & Holgate, S. T. (2022). Respiratory research in the UK: investing for the next 10 years. *Thorax*, 77(9), 851–853. doi:10.1136/thoraxjnl-2021-218459