

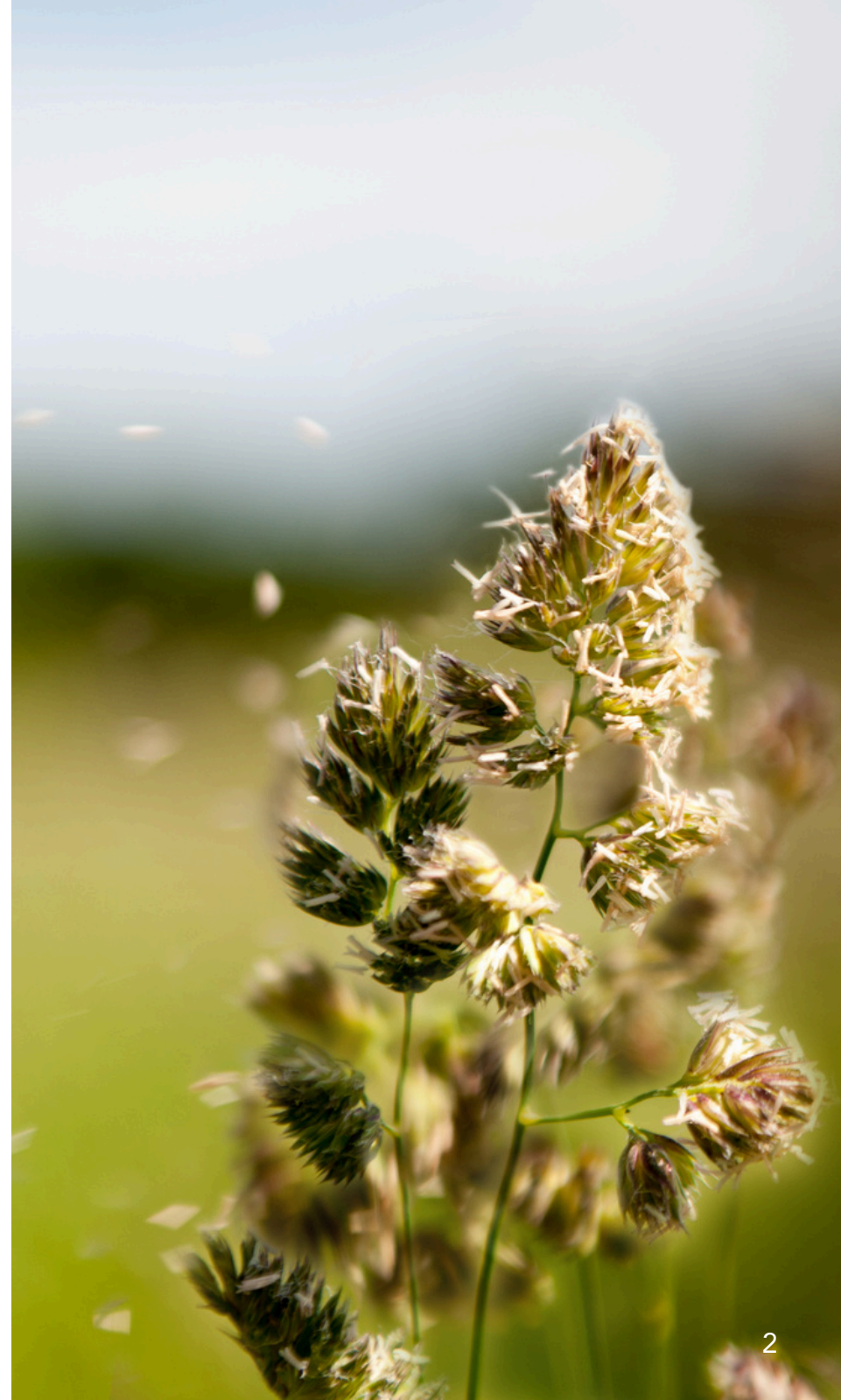
Beyond a Mobile App: Building Continuous Patient Engagement and Real-World Evidence in Allergic Rhinitis



Clinical trials remain the foundation of evidence generation. Registries, claims databases, electronic health records and patient-reported outcomes have transformed our understanding of disease, treatment effectiveness and healthcare utilization. Yet one important dimension remains difficult to capture: the everyday patient experience. Question continues to arise for pharmaceutical industries such as:

- What happens between physician visits?
- Which symptoms continue to affect daily life despite treatment?
- How do consumers choose between the different allergy medications available?
- Which factors influence their decisions?
- When do individuals choose to self-medicate, or what prompts them to seek advice from a healthcare professional?
- What drives them to switch medications, combine therapies, move from an OTC product to a prescription treatment, or discontinue treatment altogether?
- How do seasonal changes and pollen variations influence symptom burden, product selection, and treatment behavior?

To answer these questions, it requires more than periodic data collection. It requires continuous patient engagement.



From Episodic Evidence to Continuous Engagement

Traditionally, pharmaceutical companies engage with patients at specific moments: during clinical trials, patient support programs or occasional market research initiatives. While these interactions generate valuable evidence, they often provide only snapshots of the patient journey. Today, digital health is enabling a different model.

Rather than engaging patients only when information is needed, digital companion apps support people throughout their everyday lives while simultaneously generating longitudinal real-world data. Every interaction creates value for the patient while improving our understanding of how allergic rhinitis is experienced and managed outside clinical settings. This shift moves beyond collecting isolated data points; it creates an ongoing relationship that helps reveal treatment behaviors, symptom evolution, and unmet needs over time.

Learning from Continuous Engagement

At Aptar Digital Health, this is the approach behind Allergy Buddy, a digital companion app designed to support people living with allergic rhinitis and seasonal allergies.

The app helps users monitor symptoms, track medications, check pollen forecasts, and better understand how environmental conditions affect their health. Beyond the app itself, educational content and seasonal communications (on social media, newsletter, website, events) help maintain engagement throughout the year, creating an ongoing dialogue rather than isolated interactions. These touchpoints create something that is increasingly valuable for healthcare: an engaged, longitudinal and scalable community of patients actively managing their condition.

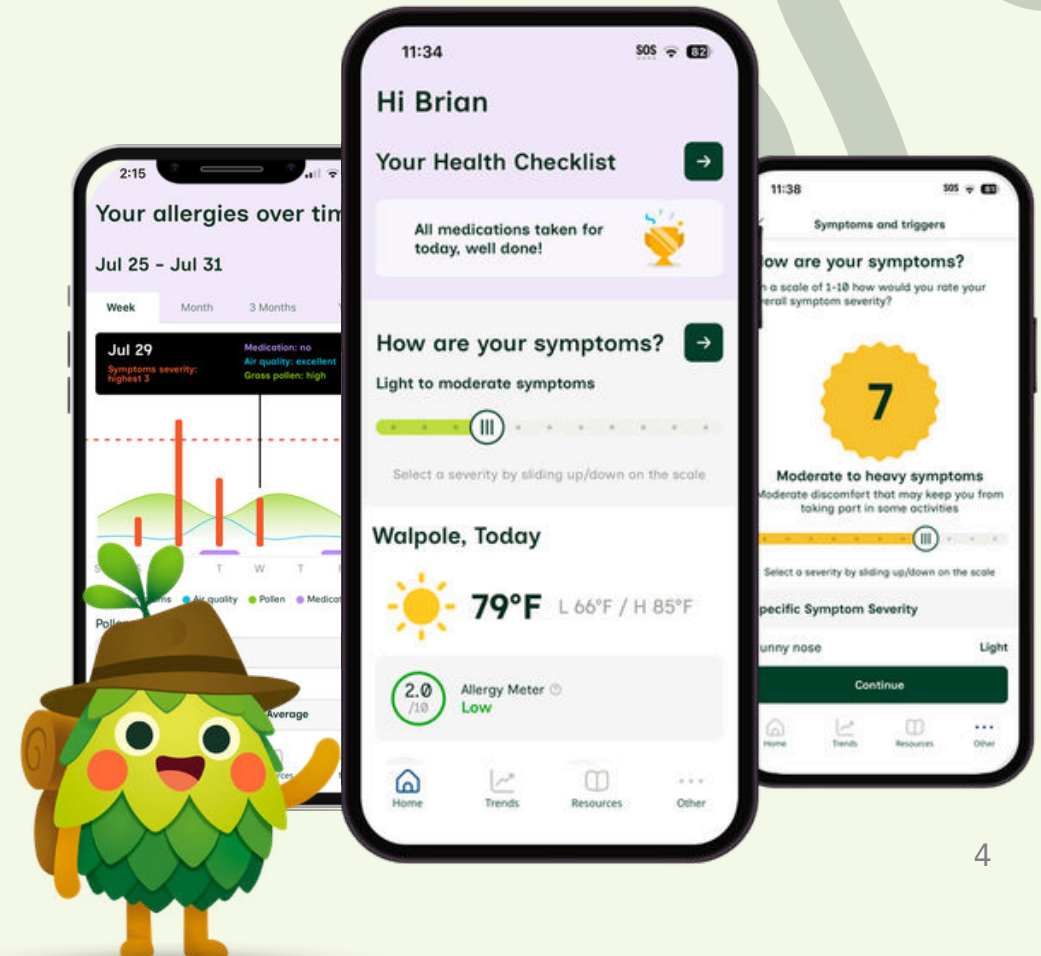
People do not open Allergy Buddy to share data, they use it because it helps them make better decisions every day such as: planning outdoor activities, changing their cleaning routine or understanding what information is worth sharing with their allergists. When digital solutions consistently provide value to the end-user, engagement becomes more sustainable, more representative and more meaningful for generating insights.

AllergyBuddy™

The free allergy and pollen tracking app

**Know your triggers.
Plan your day.**

Allergy Buddy connects your symptoms, local pollen, and weather so you can know what today will feel like before you step outside.





What Can Continuous Patient Engagement Reveal?

Continuous engagement generates insights that are difficult to obtain through traditional research. Rather than relying on a single survey or study visit, longitudinal communities help illustrate how patients experience allergic rhinitis throughout an entire season. Within the Allergy Buddy community, several observations illustrate this potential. The community is predominantly composed of adults actively managing their allergies, with 74.3% of users aged between 25 and 64 years, while 60.6% identify as female.

Medication tracking provides insight into how patients manage allergic rhinitis in routine practice. Oral antihistamines account for 66% of recorded medications, while nasal sprays represent 31.1%, highlighting the variety of treatment approaches patients adopt outside the clinic.

The most frequently recorded medications include:

- Cetirizine hydrochloride (Zyrtec): 12%
- Fluticasone propionate (Flonase): 11%
- Fexofenadine hydrochloride (Allegra): 6%
- Fluticasone: 6%
- Loratadine (Claritin): 5%

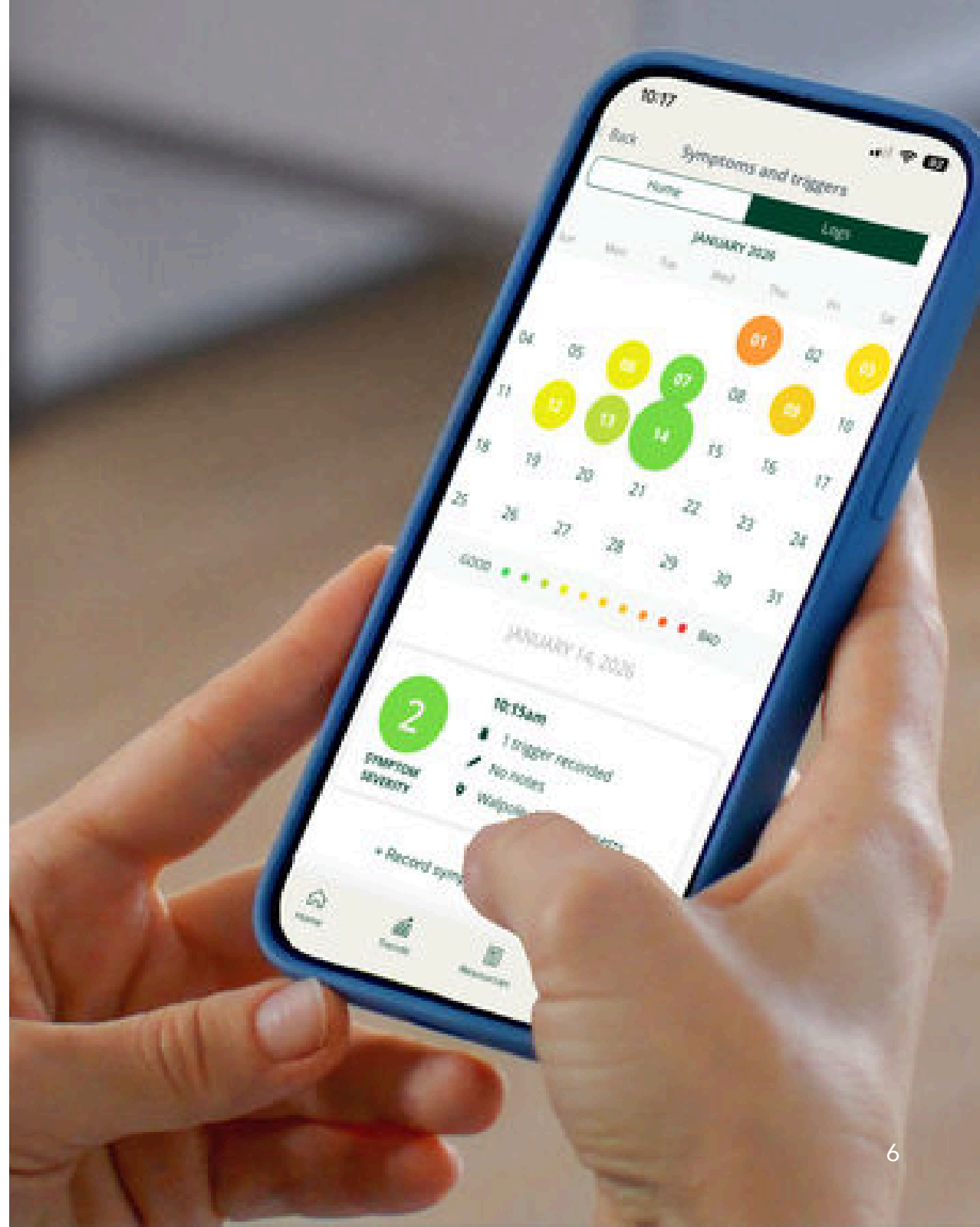
Perhaps most importantly, symptom tracking suggests that many individuals continue experiencing a substantial symptom burden despite treatment.

The most reported symptoms include:

- Runny nose: 54%
- Itchy symptoms: 47%
- Stuffy nose: 46%
- Watery or red eyes: 39%
- Sneezing: 35%

While these observations are not intended to replace clinical evidence, they demonstrate the type of real-world insights that continuous digital engagement can generate.

Understanding symptom persistence, treatment behavior, and patient decision-making can help identify unmet needs, generate new research questions, and inform future patient support initiatives.





Why it Matters for Pharmaceutical Companies?

Continuous patient engagement has the potential to support multiple functions across the organization:

- Medical Affairs teams can better understand real-world treatment experiences and identify evidence gaps worthy of further investigation.
- Clinical Development teams can gain a deeper understanding of patient populations while exploring opportunities for decentralized and hybrid research models.
- Commercial and Brand teams can design initiatives grounded in patients' everyday experiences rather than assumptions.
- Patient Engagement teams can deliver timely, relevant support that fits naturally into people's daily routines.

Rather than replacing traditional evidence generation, digital engagement complements it by adding a richer layer of knowledge of how people live with their condition.

Building Relationships Before Asking Questions

One of the biggest shifts in digital health is that meaningful insight follows meaningful engagement. Patients are more likely to share valuable information when digital solutions first provide ongoing support. By helping individuals manage their condition every day, trust develops naturally, creating richer and more sustainable real-world evidence over time. The future of patient engagement is therefore not simply about collecting more data, but about building stronger relationships with patients before asking them to contribute to their experiences.

Looking Ahead

As digital health continues to evolve, one opportunity might be in creating continuous relationships that improve both patient experience and the understanding of a disease.

Organizations that deliver meaningful value throughout the patient journey will be better positioned to generate high-quality real-world evidence, strengthen patient support programs, inform future research and ultimately contribute to more patient-centered healthcare. Continuous engagement is a key complement that helps bridge the gap between controlled studies and everyday life.



About Aptar Digital Health

Aptar Digital Health creates end-to-end solutions to enhance patient experiences every day, leveraging a holistic ecosystem of digital interventions. Amplified by an industry-leading portfolio of products and solutions, Aptar Digital Health's offering combines mobile and web apps, Software-as-Medical-Device, connected drug delivery systems, advanced data analysis services and patient onboarding and training solutions to actively empower patients and create a positive treatment journey.

Aptar Pharma's Digital Health division is part of AptarGroup, Inc., a global leader in drug and consumer product dosing, dispensing and protection technologies. Aptar is headquartered in Crystal Lake, Illinois and has more than 14,000 dedicated employees in 20 countries.

For more information, visit aptardigitalhealth.com

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