# Aptar

## digital health

# A Successful Patient Journey for Subcutaneous Injections

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New drug delivery devices such as autoinjectors require patients to self-administer their medication. Each year, more individuals are exposed to injection treatment devices. Although auto-injection can save time and money, adherence rates are still under 50% after six months of therapy.

According to a study from 2019, the annual costs related to medication non-adherence are estimated to range from $100 to $290 billion USD in the United States and approximately 1.25 billion € in Europe. According to this same study, there are several strategies to improve adherence such as reminder programs (emails, phone calls, text messages, smartphone app…), setting up early follow-up visits, short-term treatment goals and patient education. Adherence is a multifaceted concept that can lead to treatment inconsistencies due to a variety of cognitive, emotional and environmental factors. The repercussions of nonadherence in the life science industry can cause consequences such as lower drug use, brand equity, sales, and efficacy expectations.

## Living in Terrance's shoes

Terrance is a 45-year-old graphic designer based in Denver, Colorado. In 2016, Terrance was diagnosed with moderate-to-severe atopic dermatitis, a disease which causes his skin to be dry, itchy, prone to edemas and painful. He experiences open sores that can get infected and flaking skin as well as unpredictable flare-ups, which keep him awake at night and impacts his social life. For instance, he is unable to practice sports when the weather is too wet or too dry, and struggles to find suitable skincare products.

His triggers include:
- stress,
- gluten-containing food,
- weather,
- pollen,
- and sometimes his atopic dermatitis flares up for no reason.

Recently, his doctor prescribed him a new therapy, and Terrance must now auto-inject once a week.

Today is Terrance's first injection. He is feeling stressed and tries to remember what his doctor explained to him. After reading the instructions, he tries to inject his treatment. But he questions himself:

«*Is it this way? Am I holding this auto-injector right? Oh wait, I should wash my hands first… Okay, let's try again. It's not going to be long, 30 seconds and it's over. Done? Is it done? Did I complete my injection? I don't know… Can someone confirm that I did this properly?*»

While Terrance is a fictitious example, this kind of first experience happens too often in the real-world. However, solutions exist to improve this situation. Allow us to explain.

Self-administration therapy can be broken down into three phases, each with specific end goals:

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| ENGAGE | INCREASE | MAINTAIN |
|--------|----------|----------|
| **Month 1 to 3** | **Month 4 to 6** | **Month 6 and beyond** |

| **Develop patients self-confidence to be active players in their treatment plan** | **Develop self-management habits by achieving concrete clinical / Quality of Life endpoints** | **Ensure long-term patient engagement with their treatment plan** |
|---|---|---|

To achieve patient adherence and engagement, it is essential to support them by providing services to maximize patient onboarding and increase their self-confidence.
Let's find out how Terrance's experience could have been enhanced thanks to digital health:

## Enhancing Terrance's Experience with Digital Support

**New Treatment Initiation**

**ENGAGE**

1. Training materials delivered at home
2. Customized educational material selected by the HCP
3. Training videos and device
4. Self-injection with the connected device

**INCREASE**

5. Tracking doses and reminders for next injections
6. Tracking symptoms and disease progress
7. Preparation for the next medical visit

**MAINTAIN**

8. Assistance in prioritizing events to report during the medical visit
9. Keep tracking conditions via the mobile app

**Adherence Achieved**

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**How does Aptar Digital Health support adherence for patients undergoing subcutaneous injections?**

Aptar Digital Health supports patients by developing solutions such as digital therapeutics, disease management programs and connected devices. To better embed self-administration, Aptar Digital Health developed an end-to-end platform composed of a mobile app connected to a medical device that detects injection events.

The mobile app includes the following features:

- **Reminders & Calendar**: Dosing reminders are sent by push notifications to remind patients when to take their medicine, and a calendar is provided to show an overview of all doses taken.
- **Symptom Recommendations:** Tracks the symptoms experienced and gives medical recommendations on how to manage them according to the data entered by the patient. The medical recommendations follow scientific guidelines and are clinically approved. For example, when experiencing diarrhea, patients are recommended to follow a specific diet to relieve their gastric symptoms.
- **Education**: Analyzes trends from patient inputs and sends information and meaningful advice on multiple subjects such as skincare routine, relaxation techniques, physical exercises and triggers avoidance.
- **Quality of life and disease progression**: Measures the quality of life based on scientific indicators such as stress scale, mood and sleep quality, and helps patients to observe disease progress with pictures and graphs.
- **Patient/healthcare provider relations**: Shares one-page reports with the healthcare provider to support the decision-making process and provides an overview of patient history and symptom trends.
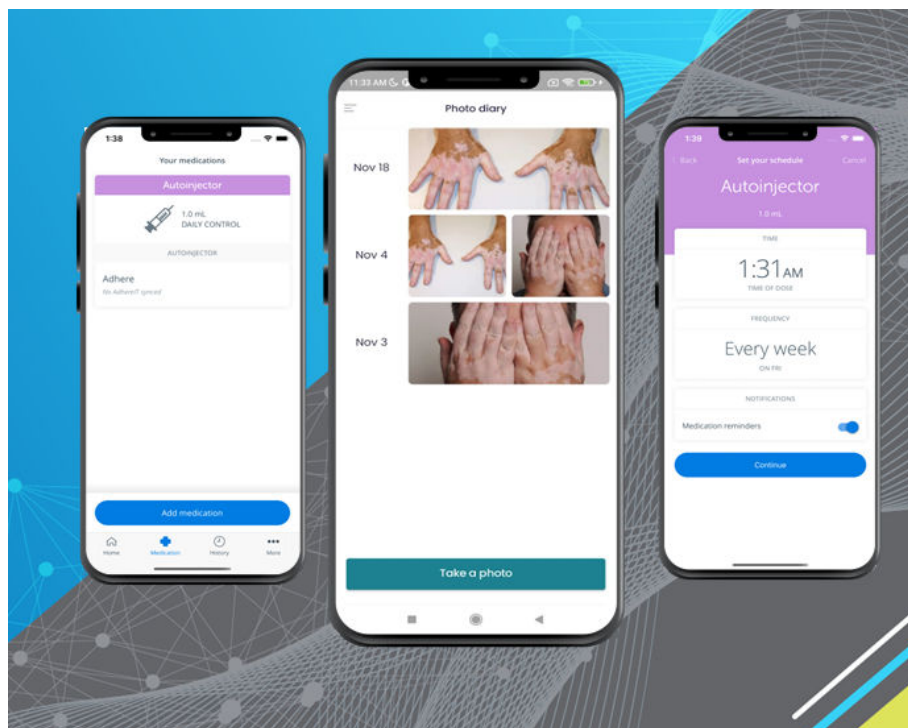
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Embedded with the mobile app, **AdhereIT®** is connected auto-injector that precisely detects an injection event and provides real-time visual and audio feedback about whether the injection was performed correctly. AdhereIT® allows patients to start right and stay connected throughout their injection journey. The injection process is entirely recorded through the mobile app described above.

Digital health can provide meaningful data on patient outcomes such as:
- Measuring patient adherence to treatment
- Providing support to ease onboarding and ensure ongoing adherence
- Measuring patient satisfaction and quality of life
- Measuring disease progress and treatment efficiency

Leveraging a company nurse program that provides valuable information on dosing, symptoms and flare-ups to assist patients with staying on their therapy. Leveraging real-world data to publish post-marketing studies.

## About Aptar Digital Health

**Aptar Digital Health** is a leader in integrated health solutions and services with a mission to elevate patient experiences at every stage of their treatment journey. Our suite of end-to-end, patient-centric digital solutions leverages our unmatched expertise and diverse, industry-leading product portfolio to deliver differentiating experiences and more positive outcomes.

Aptar Digital Health is a division of **Aptar Pharma**, which is part of AptarGroup, Inc., a leading provider of the design and manufacturing of a broad range of drug delivery, consumer product dispensing and active material science solutions and services.

To learn more about our approach
in immunology, visit:
**www.aptardigitalhealth.com**

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