

# “Asthma is under-diagnosed and under-treated...”<sup>1</sup>

## 450M by 2025

300 million asthmatics worldwide and the number is increasing, by 2025 450 million asthma patients are expected.<sup>2</sup>

## Higher Prevalence in ‘Developed’ Countries

Asthma comes with the development process of a country and a western lifestyle. The prevalence of asthma is highest in ‘developed’ countries and lowest in developing and emerging countries.<sup>3</sup>

## 20B€

In Europe the annual asthma-related costs amount to some 20 billion.<sup>2</sup>

## 40%

... of asthmatics have bad controlled asthma. Just 60 % have good lung function and can do whatever they want.<sup>4</sup>

<sup>1</sup> WHO World Health Organization

<sup>2</sup> European Respiratory Society

<sup>3</sup> SSMJ Medical Journal

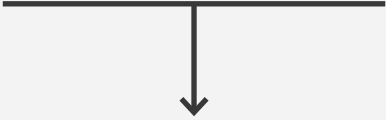
<sup>4</sup> Allergy and Immunologist, Lung Clinic Umeå

# The Brief: A Need for a Distinct Asthma Medication Dosing and Monitoring System



Problem

To Data Focused Monitoring Can Cause Anxiety and Medication Dosing Failure



Need

**A Less Number Oriented Monitoring System**



Problem

A Lack of Education About Medication Dosing Can Cause Overdosing or Under-dosing of Medication



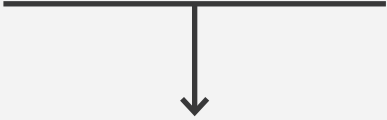
Need

**Medication Dosing Support that Comes With the Inhaler Purchase**



Problem

Bad Condition Gets the Norm and Causes Unawareness of Symptoms



Need

**A Conscious Monitoring Solution Based on Symptoms**

# A Medication Kit Focused on Symptom Awareness and Conscious Medication Dosing



**Preventive Medication:**  
Translating Objective Parameters<sup>1</sup>  
Directly into 'Puffs' of Corticosteroids



**Rescue Medication:**  
The Usage of  $\beta_2$ -Agonist Gives  
Indication about Symptom Control

# Supporting a Mindful Medication- Intake with Caring and Friendly Products



## Dosing Preventive Medication

Asthmatics often rely on their rescue medication instead of adjusting their preventive medication to prevent attacks. Aeo encourages the user to adjust the medication dose to match their current condition. Users' understanding of their medication, has the potential to improve asthma symptom control.



## Correct Inhalation

User research indicated that dry powder inhaler don't give enough reassurance about correct inhalation. Still, DPI's have good accuracy when it comes to inhaling compared to meter dose inhaler. The Aeo preventive medication inhaler shows every correct inhaled puff by releasing the loading button.



## Symptom Control

According to expert feedback during the design process, recording when and how often the patient uses the rescue medication is a very good marker for asthma control. Each rescue medication puff is recorded and preventive medication is adjusted according to the level of symptom control.

# Gradually Increased Understanding and Self-Perception Through Education and Biofeedback



## Individual Interpretation of FEV<sub>1</sub> Level

The daily FEV<sub>1</sub> level is recorded and converted into the patient specific level of asthma control.



## Level of Symptom Control is Focused on Improvement

The app gives feedback about the improvement of the asthma condition by using the recorded data of the rescue inhaler usage.



## Identifying Individual Triggers

Comparing the level of asthma control to possible asthma causes like air temperature and humidity, allergens in the air and individual exercise level helps the user to identify patient specific triggers and learn about them.

\*Volume that has been exhaled at the end of the first second of forced expiration