CLARINESS

Digital patient recruitment for asthma clinical trials

Why digital outreach can reach undiagnosed asthma patients and improve the representation in asthma studies

Abstract

This whitepaper on patient recruitment for asthma studies explores challenges for sites and sponsors, and presents proven approaches to reaching, recruiting and retaining asthma patients. Our 16 years of experience have given us a qualitative understanding of global and local asthma populations that has allowed us to support patient recruitment campaigns for more than 30 international and national studies, from phase I to phase III.

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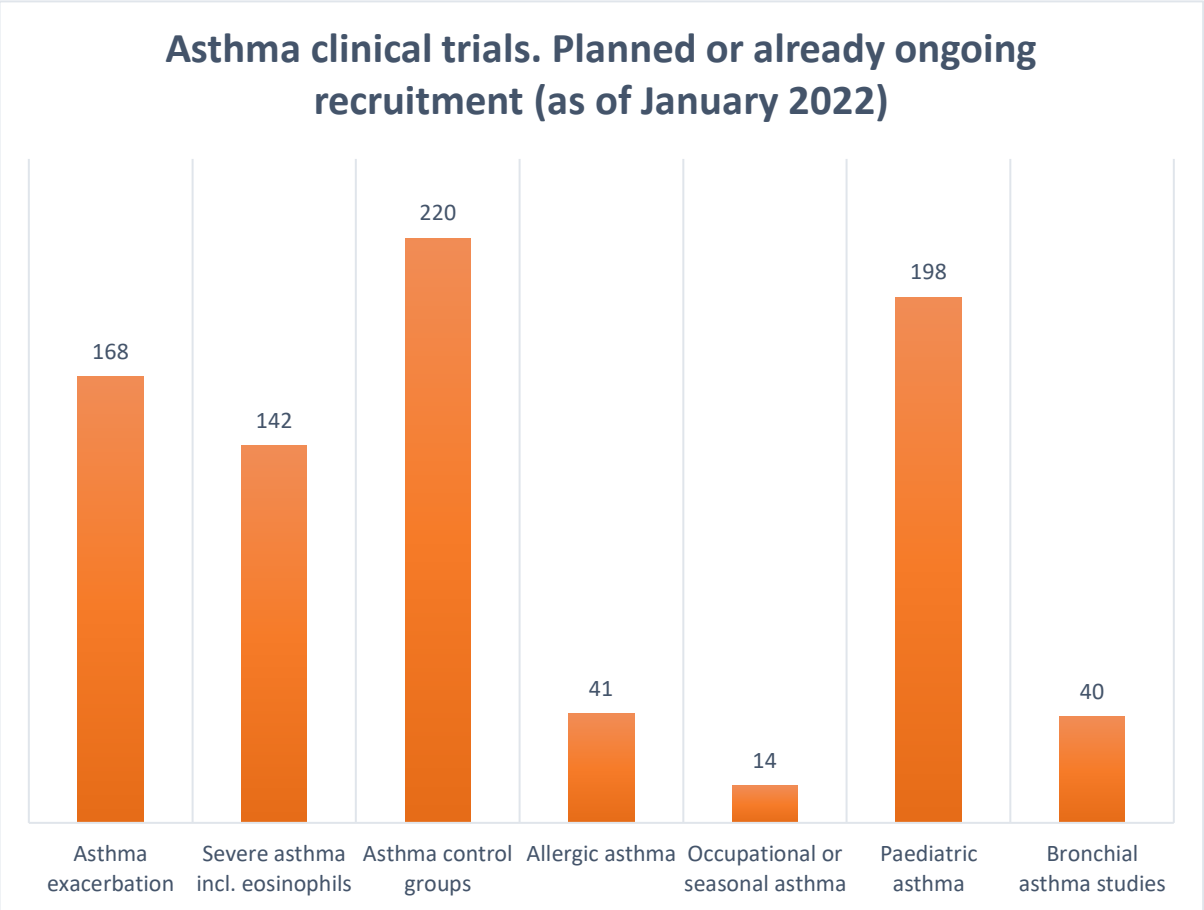
1. Asthma clinical trials: hurdles in recruiting asthma patients

Approximately 300 million people worldwide currently have asthma, and its prevalence increases by 50% every decade. In North America, 10% of the population have asthma. Asthma is structurally underdiagnosed and undertreated as studies repeatedly have shown. These numbers are impressive when you consider the impact each one of these cases has on daily life. Psychologist Ines André-Korko describes this in an interview: "when we get the diagnosis of asthma, our self-image can also change".

As of January 2022, over 550 asthma clinical trials are close to or in the recruitment phase (clinicaltrials.gov).



While this is a positive trend for patients as more specific trials become available and more treatments and therapies are explored, it also means that there is increasing, indirect competition between organisers to find suitable participants for trials.

The reality is however, that **few people with asthma actually participate in clinical trials**. While there are no specific numbers for asthma, researchers in oncology estimate that only 5-8% of cancer patients participate in trials, and the number is likely to be even lower for asthma patients because, as studies show, they often do not consider their condition serious enough to need improved treatment. About 80% of clinical trials are delayed because not enough suitable patients are found. This is also often the case with asthma trials.

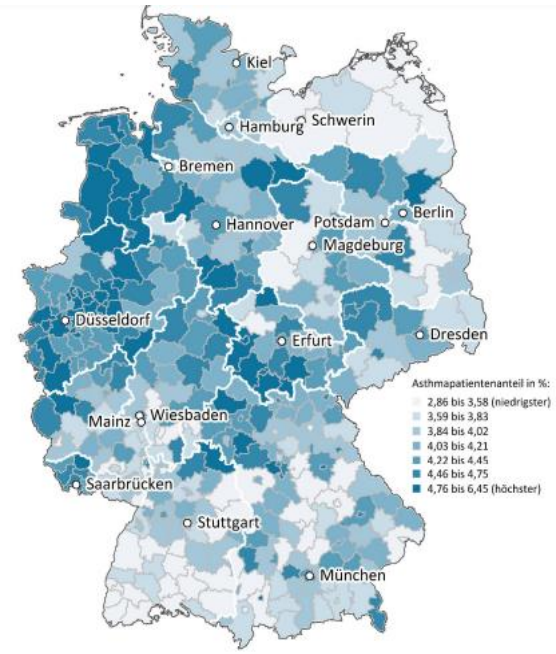
There is therefore enough potential for improvement. And 59.5% of the global population being active internet users, digital methods of patient recruitment are of absolute necessity.

Read here why social media is critical to any digital patient recruitment strategy.

2. Challenges for study sites in recruiting asthma patients

The challenge for research centres to find sufficient participants varies from asthma study to asthma study and depends on several factors. One of the main factors that is beyond the control of individual study sites, but is important for clinical trial sponsors to consider, is the regional and seasonal prevalence of asthma. In recent years, researchers have increasingly pointed to an uneven distribution of asthma in different regions.

For example, there are [big differences between the federal states in Germany](): in Mecklenburg-Western Pomerania the percentage is 3.4 %, in Baden-Württemberg 3.7 % and in Hamburg 3.8 %, while in North Rhine-Westphalia the percentage is 4.7 %, in Saarland 4.6 % and in Thuringia 4.6 %. At the district level, the differences are even greater, with Dahme-Sreewald 2.9 % compared to Saalfeld-Rudolstadt 6.2 % . The differences are often related to obesity (overweight), but also to allergies. At the same time, it must be pointed out that a considerable proportion of asthma patients are not diagnosed, although they often have symptoms.



Map from the German [AOK-Gesundheidsatlas]() 2020

2.1 Challenges for sites

1. **Specific eligibility criteria, which require, for example, that the participant:**
   a. Have lung functions in a certain range
   b. Are symptomatic at the start of the study
   c. Not taking inhaled steroids
   d. Are receiving a specific therapy combination or inhaler device
   e. Have recent symptoms or a history of respiratory infections
   f. Have a number of exacerbations in the last few years
   g. Have no comorbidities, such as major depression or other pulmonary diseases
2. Outreach: Reaching children, elderly asthma patients or caregivers and building confidence for participation.
3. distance: living close to the study centre.

To learn more about solutions to these specific challenges, request a demo.

3. Undiagnosed asthma patients - a large potential study population

A large benchmark study (Borna et al. 2008 - 2016 in Sweden), shows that both asthma diagnoses and the prevalence of reported respiratory symptoms have increased between 2008 and 2016. As Lacin Cevhertas et al. note, this suggests that asthma cases are still not fully diagnosed. This is remarkable as the attention of health authorities on asthma has increased. It highlights the need for clinical trial organisers to try to reach undiagnosed people with asthma in the recruitment phase.

There is no recognised diagnostic standard for asthma. There is also increasing evidence that asthma is often not diagnosed or not diagnosed correctly, and doctors often make asthma diagnoses based on complaints only. As studies show, this makes it especially difficult with children. While Spirometry is considered a relatively safe and simple diagnostic method, critics have noted that this test only gives a correct test result if all the instructions are followed exactly. In young children, this method therefore often leads to false results, as a large-scale Dutch study by Ingrid Looijmans-van den Akker with 652 children diagnosed with asthma showed.

It is difficult to estimate how many asthma patients are actually undiagnosed. Estimations of underdiagnosis rates of asthma vary widely, from 19% to 73%. Although researchers have advocated for more field studies in recent decades to determine the prevalence of undiagnosed asthma patients, as Joanne Kavanagh notes (Breathe, 2019), a 2000 study by Nolte et al. in Copenhagen, Denmark, is still the reference. Comparable studies in Italy, Germany and the United States were conducted at the same time, yet in the recent years there has not been any widescale study on possible undiagnosed rates.

As Aaron et al. summarised in one of the few recent review studies (2018):

> "Recent studies in adults and children suggest that the prevalence of undiagnosed asthma varies widely depending on the population studied. In general, population-based studies suggest that 7-10% of the adult and paediatric population have current asthma, and among those with current asthma, between 20% and 73% remain undiagnosed."

In Joanne Kavanagh et al's study, questionnaires were sent to over 10 000 randomised people aged 14 to 44. Those who reported symptoms suggestive of asthma were then invited for testing. In total, 493 people were diagnosed with "definite asthma", with 50% of these people having not been previously diagnosed. As Kavanagh notes, "the underdiagnosis rate may well be different in older people, although less data is available".

> "Underdiagnosis may be due to medical professionals not recognising the disease and perhaps attributing the symptoms to obesity, deconditioning, heart disease or other causes. Although this may account for some of the underdiagnosis, it appears that a significant proportion of patients simply never report their symptoms to a doctor." - Kavanagh et al, "Over- and under-diagnosis in asthma", in: *Breathe* (2019).

4. Patient recruitment for asthma studies: digital vs. traditional methods

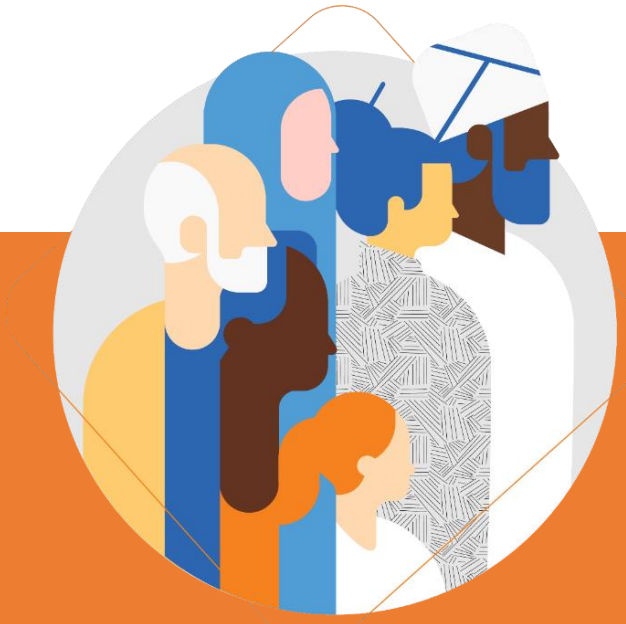
There are two interrelated challenges in recruiting asthma patients for clinical trials:

1. Finding, reaching and recruiting asthma patients
2. Solving barriers to participation

An easy first step for sites is to address common barriers to participation such as travel distances and costs, compensation for participation, and lay-friendly study materials. Traditionally, study centres have relied heavily on physicians to find potential participants - with both advantages and disadvantages. One advantage is that they know the specific severity of the asthma disease, the medications taken, and the incidence of asthma attacks and comorbidities because they have direct patient contact and a relationship of trust.

At the same time, the renowned German journal Ärzte Zeitung 2017 noted that about one in three people are misdiagnosed with asthma by their GPs, so it is likely that they would fail the first screening visit at a site conducting asthma studies. Recruiting only through sites own database is moreover usually not enough to find the required number of participants.

Digital outreach is therefore a great opportunity to find suitable asthma patients for clinical trials. This is especially true for undiagnosed asthma patients, as well as for members of minority groups and people who have little contact with the healthcare system.



Diversity in asthma studies

The prevalence of asthma is significantly higher in groups with lower socioeconomic status. This also means that ethnic minorities (both adults and children) are disproportionately affected in both the US and Europe and have higher hospitalisation and mortality rates in addition to higher prevalence, while they have lower participation in clinical trials. For people from minority and marginalised groups, there are group-specific barriers such as language, accessibility, but also trust. We will look at diversity measures in a detailed upcoming white paper.

Contact us here to find out how we improve the representativeness of your studies.

5. Patient recruitment for asthma studies: an example from the practice

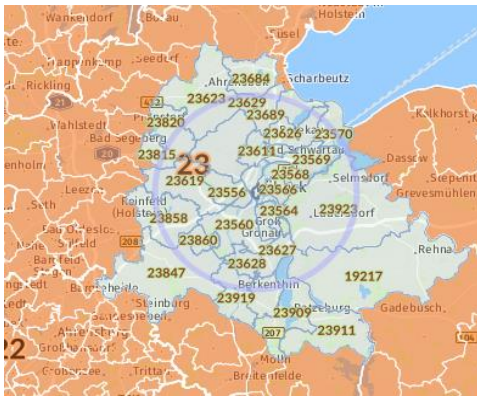
Digital patient recruitment can be conducted in two ways. Firstly, through data-driven 'direct' outreach to asthma patients, their families, carers and friends with advertisements for specific asthma studies. Second, "indirect" outreach through a platform that allows patients to proactively find studies through online searches, as well as collaboration with patient organisations and subscription-based databases.

> *"It is clear that no recruitment strategy is universally effective. Sponsors need to recognise that good recruitment requires heavy planning, assessment and review, and that time and money should be allocated to the recruitment phase of clinical trials",* - Robert A. Nathan "How Important Is Patient Recruitment In Performing Clinical Trials?", in: *Journal of Asthma*.

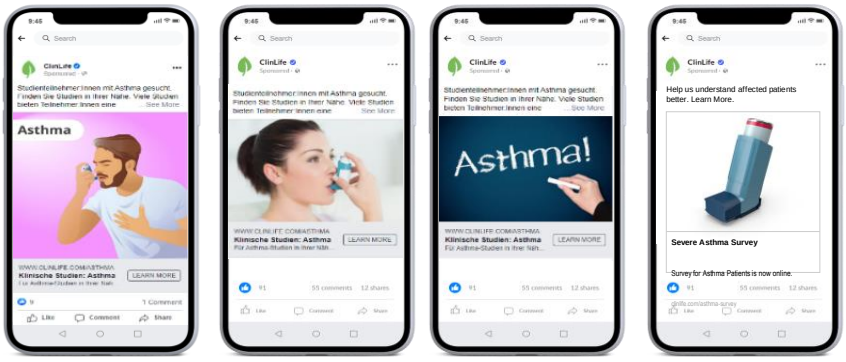
Below we show how digital recruitment for asthma can look in practice. Based on our experience with 30+ German and international asthma clinical trials from phase I to phase III, we arrived at the following approach for a study conducted in Germany in 2021.

1. **Customizing the patient profile based on specific criteria of the study centre:** For studies that focus on children or older people, we also look for ways to identify potential caregivers and other family members or contacts.

Through analysis of social media responses and questions, large-scale surveys and qualitative interviews, our **Patient's Insights team** forms an overview of the needs and wishes of the local patient group.



A fictitious example of digital public relations for a site in Lübeck that is only looking for patients who live a maximum of 15 km away for a time-intensive study.



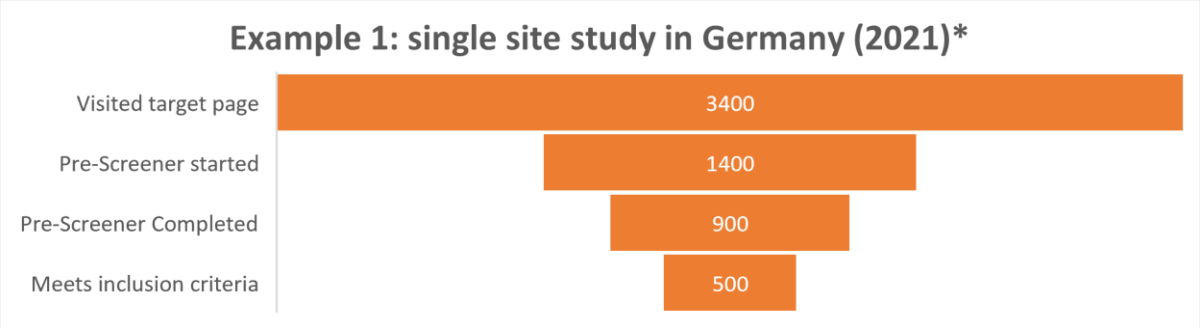
Examples of asthma ads: It is crucial to create representative ads and show this only to those who are eligible for the study.

2.1 Individualised targeting: Potential asthma patients receive an advertisement depending on the location and capacity of the site. We use a variety of channels to target patients, based on categories that we know from past experiences and annual surveys to be of interest to asthma patients. Examples include certain communities, social media groups and keywords that are (often very indirectly) related to possible symptoms and air quality.

3. Behavioural targeting: People with similar behaviour to those who have already registered for the study or people who visited the study site but did not register are identified. This allows for the specific targeting of only people who are likely to qualify.

4. Lay-friendly information and study material: We create study-specific patient-friendly information, e.g. on the importance of clinical trials for this specific patient community and larger society, as well as on the study process procedure and misconceptions on placebo usage, which leads to higher participation and lower drop-out rates.

Example 1: a large asthma study for 1 large German site



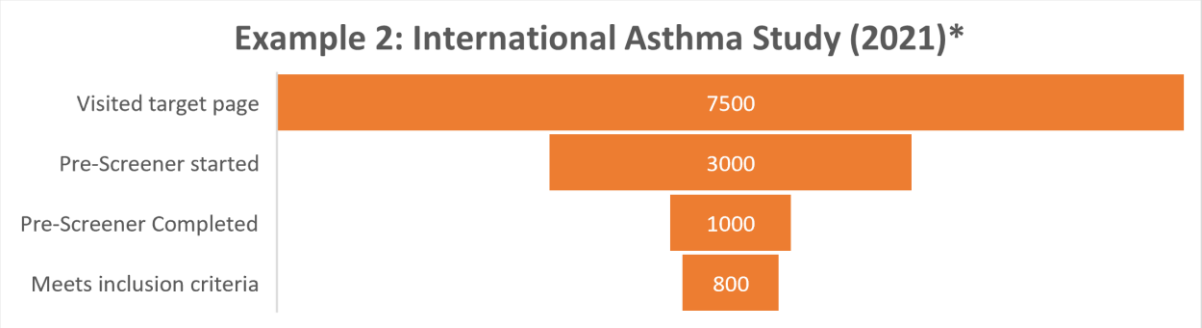
** The figures have been rounded down to protect the data for commercial purposes.*

In 2021, we supported patient recruitment for a Germany-wide asthma study, using a digital, targeted targeting strategy to bring a high number of interested parties to the study pre-screener.

As a large proportion of the interested persons likely do not meet the requirements for the study, we usually target an 8 - 10x larger group of patients.

For asthma studies, it is crucial to focus on high traffic. Therefore, it makes sense to enlarge the target groups instead of specifying them. At the same time, this means monitoring the costs for the different channels to ensure a reasonable return on investment (ROI).

Example 2: international asthma study with sites in several countries, incl. Germany



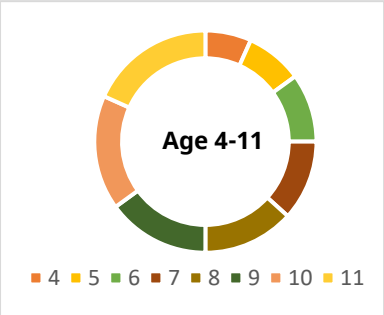
A successful global patient recruitment campaign is only possible with local knowledge and understanding.

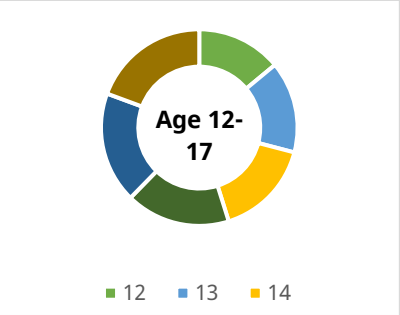
Recruitment strategy for asthma studies:

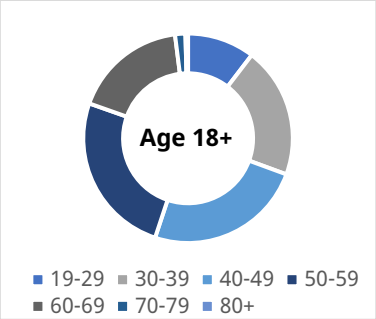
- Due to different epidemiological definitions of asthma, we developed an indication- and study-specific pre-screener questionnaire on eligibility requirements, including I/E criteria, diagnosis and symptoms.
- Advertisements in the local language and the ClinLife website were adapted for each country.

- - Advertisements were launched, redirected or stopped depending on the number of referrals for a study centre.

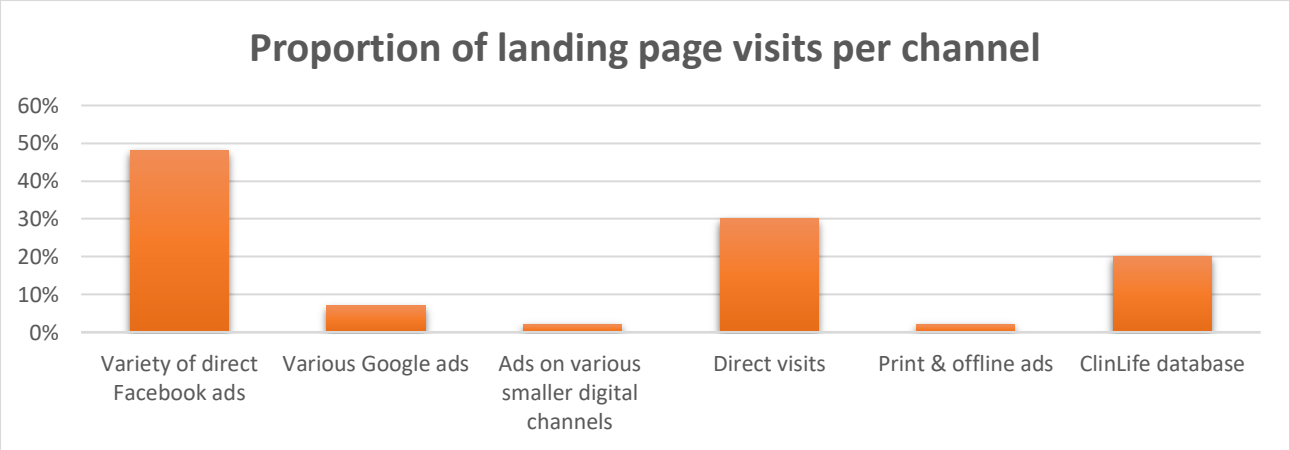
This is how we reached such a wide range of ages for the study. The youngest person participating was 4, the oldest 80 years old.





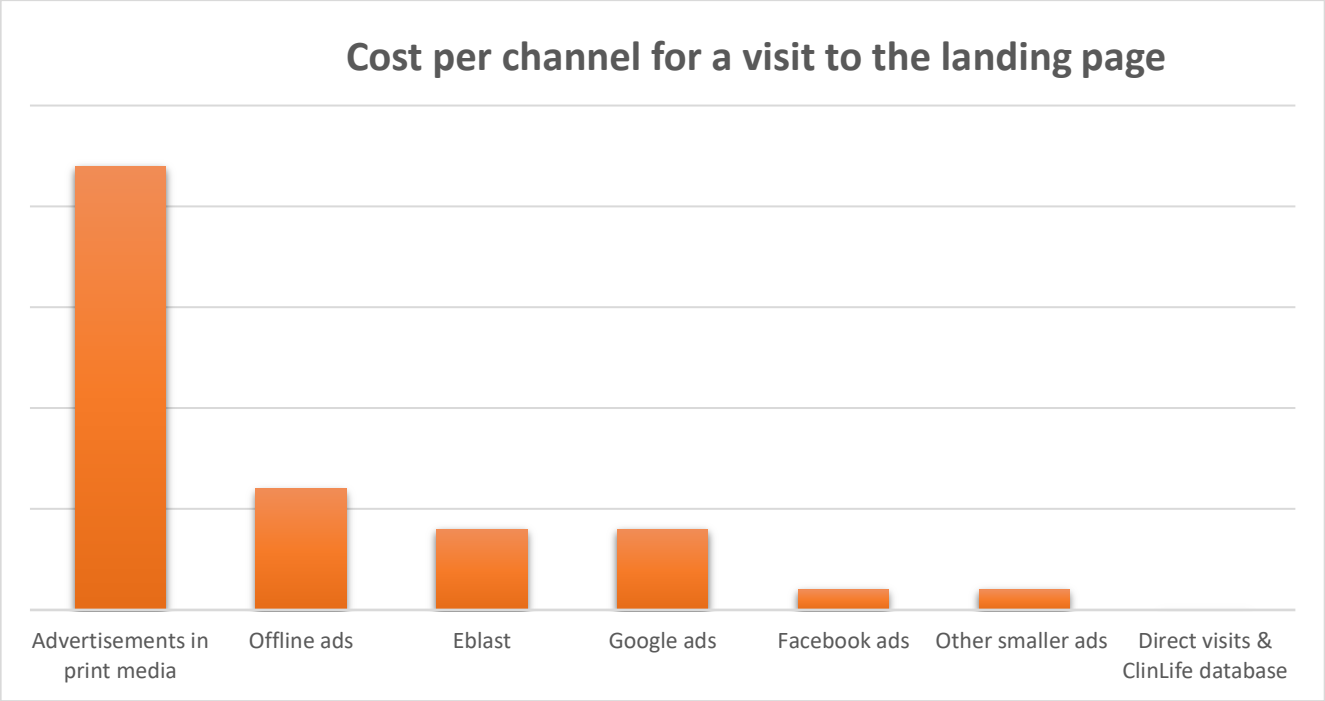


Channel selection and continuous adjustment



The choice of channels for outreach depends on the patient profile we have created with the help of our ***Patient's Insights team.***

During the recruitment phase, we analyse performance data on a daily to weekly basis to determine which channels are working best. Continuous evaluation is essential in this process. Through patient surveys, data analysis and other methods, we study user response to our ads and adjust the campaign accordingly, resulting in **cost-effective patient recruitment**.



Advertisements in print media or offline advertisements were the most expensive despite the lowest visitor and success figures. Direct visitors and our ClinLife database are also becoming increasingly important for us. As these do not involve direct costs, it is the most cost-effective way to reach asthma patients.

6. ClinLife: a neutral, patient-centric platform

After clicking on an advertisement, potentially interested persons are directed to ClinLife. ClinLife was developed in direct collaboration with patients and lists studies of different sponsors, CRO's, SMOs and single sites. The platform enables patients to learn more about clinical trials, test their eligibility for studies and apply to participate in them.

What sites say:

"We struggled to get the number of participants we wanted and spent a lot of time and effort recruiting participants. Since we published our study on ClinLife we don't have to do anything and suddenly we have a list of interested people!"

- Dr Laura Blauth, FHWS (Germany)

What patients say:

"I usually never click on ads, but this ad about a clinical trial really appealed to me, so I applied right away. The research centre was only 2 km away, so the personal approach was optimal."

- 2021 Patient's Voice Participant

Read more about Patient's Voice:
https://www.patientsvoiceglobal.com/about-patients-voice/

Request a demo for a patient recruitment campaign for your asthma study here.