IMPROVING ADHERENCE TO TREATMENT IN CHRONIC, POLYMEDICATED AND NON-COMPLYING ELDERLY PATIENTS INCREASING THE HEALTHCARE SYSTEM’S SUSTAINABILITY THROUGH COMMUNITY PHARMACY
1. **Adherence to treatment, a public health problem**

Failure to adhere to treatment, particularly in chronic, polymedicated patients, has major clinical, economic, social and health implications. The OMS estimates that some 50% of all patients with chronic illnesses do not adequately comply with their prescribed treatment in developed countries. In addition, it has been estimated that this failure to adherence contributes to some 200,000 premature deaths every year in Europe, costing the healthcare system approximately 125 billion euros. In Spain, this failure to adhere generates costs approaching 11.25 billion euros annually and approximately 18,400 deaths can be related to this cause. This data highlights the magnitude of this health problem caused by the failure to adhere to treatment, a problem which pharmacies can potentially help resolve through care services.

2. **The community pharmacy’s response: The ADHIÉRETE Program**

In response to the current goal of improving adherence, the General Council of Spanish Pharmacists and the Pharmacists Chambers of Badajoz, Barcelona, Cáceres and Vizcaya, in collaboration with pharmaceutical manufacturer Esteve, have put in place the ADHIÉRETE Program, developed under the framework of the Community Pharmacy Research Network (RIFAC).

This initiative will assess therapeutic adherence in terms of economics and health, for chronic, polymedicated patients aged over 60 years who are non-adherent. It will also help assess the value of community pharmacy healthcare services, in order to improve the safety and effectiveness of medication, increase patient quality of life and contribute to the sustainability of the healthcare system.

Results obtained from a pilot study conducted between 2009 and 2010 in pharmacies in Azuaga (Badajoz) show that after pharmacist intervention, patient adherence improved from 41.2% to 70.6%.

---

3. **Chronic disease strategy of the National Health System and European Partnership**

The ADHIÉRETE Program is aligned with the objectives of the Plan on the Future of Community Pharmacy, led by the General Council of Pharmacists of Spain, in response to the goal of increasing access to healthcare services and contributing to the efficiency of the National Health System. In addition, it responds to the National Health System’s Chronic Disease Strategy developed by the Ministry of Health, Social Services and Equality.

In 2011, the European Commission presented the European Innovation Partnership on Active and Healthy Aging (EC-EIP-AHA), in an attempt to increase life expectancy for European citizens by 2020. The ADHIÉRETE Program was selected by the European Commission to enter this Partnership, a priority on the European Union’s political agenda, having the goal of increasing the prevention of chronic illnesses linked to ageing, improving patient quality of life and guaranteeing the viability of public health systems.

4. **Objectives: to improve therapeutic adherence and optimize costs**

- **Primary objective:** assess therapeutic adherence of patients in the program through care services provided by the pharmacist.

- **Secondary objectives:**
  - Assess the impact of the pharmacist interventions in terms of cost-benefit.
  - Analyze the impact of the pharmacist interventions on the patient’s quality of life.
  - Reduce problems related to medications and their associated negative effects.
  - Assess the value offered by supporting tools—Information and Communication Technologies and Personalized Dosage Systems (PDS)—in improving adherence.
  - Assess the impact of electronic prescriptions on improving adherence in terms of efficiency and effectiveness.
5. **Study design: participants and methodology**

This is a rigorous scientific study where the research protocol has been presented to the Spanish Agency on Medication and Healthcare Products (AEMPS) and the Clinical Research Ethics Committee (CEIC) of the Basque Country.

### Study Typology
- Naturalistic study of community intervention (pre-post), without a control group, prospective and multi-centered.

### Sample
- 60 volunteer community pharmacies (20 pharmacies in each participating community: Cataluña, Extremadura and Basque Country).
- 225 patients (5 patients per pharmacy, over the age of 60, chronically ill, polymedicated and non-adherent to their treatment).

### Fieldwork
- 6 months.

### Study methodology:
- Each pharmacist will sign the research commitment form.
- Five patients will be recruited from each pharmacy, based on compliance with recruitment criteria. Out of the five patients included in the study, two will receive the Personalised Dosage Systems (PDS) service, two will receive telepharmacy services and one patient will receive PDS combined with a remote alert system.
- Patients will make at least six visits.
- Data will be collected in an electronic Data Collection Notebook. Recorded information will be periodically reviewed by the study monitor.
- Communication between pharmacists and physicians will be preferentially carried out via the electronic prescription system.

6. **Innovation in Pharmaceutical Care and adherence supporting services**

The ADHIÉRETE Program encompasses the use of Pharmaceutical Care standardized Services, as well as an assessment of the patient’s quality of life. Supporting tools will be used to reinforce adherence such as Personalized Dosage Systems (PDS). Every pharmacy will offer PDS devices, as well as an associated management and alert system will be in place.
A web-based platform will be also used to allow medication management and monitoring, sending notifications, reminders, and ad hoc messages by the pharmacist. The application will allow the patient or caregiver, via a cell phone application to be alerted of any non-compliance with medication adherence, registering such incidences, thus offering a greater control of adherence, and facilitate communication with the pharmacist from the patient home.
8. Variables for analysis in the study

Upon completion of the research stage, the following variables will be analyzed:

• **Descriptive analysis** of the socio-demographic and clinical characteristics of the study population (age, gender, economic status, etc.) and their possible links with level of adherence to treatment.

• **Evaluation of therapeutic results** obtained, prior and after the pharmacist intervention.

• **Program impact study in terms of cost-benefit**, considering the direct costs of setting up and implementing the program as well as costs associated with prescribed treatments and all healthcare resources used.

• **Analysis of problem detection** in relation to medications (PRM), prevention and evaluation of negative results associated with the medications (RNM).

• **Evaluation of the efficiency and effectiveness of the program**, comparing degree of therapeutic compliance, number of problems related with the medications (PRM) and negative results associated with medications (RNM) detected, corrected and/or prevented, considering the situation prior and after the intervention.
9. The value of the Community Pharmacies Network

Pharmacists provide access to medicines, which are necessary products for the health and well-being of all citizens. The current Pharmacy model in Spain, having a primarily health and social mission, guarantees healthcare and access to healthcare professionals to all citizens.

A network of pharmacies, built upon an independent pharmacist owner-and holder of the administrative authorization, that provides for 99% of the Spanish population to have access to pharmacy services where they live. This network, consisting of some 21,458 healthcare premises working in direct collaboration with the National Health System, ensures the proximity and availability of pharmacist services, guaranteeing accessibility to medicines for all citizens in equal conditions of safety and quality, 365 days of the year, 24 hours a day.

Thanks to this pharmacies network, 2 million citizens visit pharmacies on a daily basis, where nearly 182 million of healthcare interventions are carried out per year apart from the dispensing of medicines. This network of pharmacies allows for the development of user centered healthcare services to promote good health, prevent illness, detect hidden illnesses, conduct follow-up of pharmaceutical treatments and adherence to such treatments, among others.

The Spanish Pharmacy model is effective for patients in terms of health outcomes, and efficient for the healthcare system, as it contributes to its sustainability.

Participating institutions and organizations:

CONSEJO GENERAL DE COLEGIOS OFICIALES DE FARMACÉUTICOS

C O L · E G I D E F A R M A C É U T I C S D E B A R C E L O N A

ILUSTRE COLEGIO OFICIAL DE FARMACÉUTICOS DE LA PROVINCIA DE BADAJOZ

Colegio Oficial de Farmacéuticos de Cáceres

Cátedra Oficial de Farmacéuticos de Bizkaia
Bizkaiko Farmazinarren Etorbidea

PGEU GPUE
Pharmaceutical Group of the European Union
Groupement Pharmaceutique de l'Union Européenne

With the collaboration of:

ESTEVE

Program support:

ANOTA ortopedia farmacéutica
www.anota.es

Fundación Vodafone España