

# BiGS – GuiaSalud Intelligent Library

## What is Guiasalud?

GuíaSalud is a Spanish National Health System (NHS) Organisation in which the 17 Autonomous Communities are participants. It was created in 2002 and endorsed by the Interterritorial Board, as an instrument to improve the quality of care in the NHS. In 2007 it transformed in Clinical Practice Guideline Library for the Spanish National Health System.



GuíaSaludmission is to encourage the supply of clinical practice guidelines (CPG), resources and other evidence based products to support professionals and patients' decision making in the NHS and to promote the creation of collaborating networks and cooperation among entities related to the CPG and Evidence-Based Medicine (EBM).

**Management Bodies** of GuíaSalud are the following:

- **Executive Council:** a management and administration body made up by representatives from the 17 Autonomous Communities, the Ministry of Health and a Scientific Committee.
- **Scientific Committee:** formed by 13 professionals of recognised prestige at national level by its scientific and technical work in relation to CPG and EBM.
- A **Secretariat**, placed in the Health Sciences Institute in Aragon (also is the Secretariat of the Executive Council and Scientific Committee).

From GuíaSalud there are various lines of action focused on the DBE, whose main services and products are:

- Clinical Practice Guidelines (CPG) belonging to the NHS Programme Framework.
- Clinical Practice Guidelines Catalogue offers CPG developed by Spanish Scientific Societies.
- Methodology handbooks.
- Other evidence-based products.
- “Do not do” Recommendations.
- Courses and workshops.
- Consultancy.
- Web site ([GuiaSalud.es](http://GuiaSalud.es)).

## Clinical Practice Guidelines within the CPG NHS Programme Framework

GuíaSalud coordinates, within the CPG NHS Programme Framework, the elaboration of evidence-based CPG. These CPG, an aid to clinical decision-making, are developed by Agencies of the Spanish HTA Network and NHS professionals, scientific societies/associations and patients' associations participate in their development.

CPG are presented in different versions (full version, summarised, information for patients, quick reference tools and methodological materials) that are available at GuíaSalud website and in different formats (HTML and PDF) in this section: "[Programa de Guías de Práctica Clínica en el SNS](#)". Moreover, it is available an application for mobile devices (iPhone and Android) with access to CPG recommendations as well as the ability to search on them and download PDF versions of these documents. In this same application it is possible to find the news of the GuíaSalud website, visit GuíaSalud profiles on social networks or access information about the application and its use.

### Examples:

[Key questions](#) and [Recommendations](#) in the CPG NHS Programme.

[CPG](#) within the CPG NHS Programme Framework.

The CPG NHS Programme aims to promote the development, adaptation / update of CPG, based on the best available scientific evidence with a homogeneous and proven methodology, and disseminating them in the NHS.

## Clinical Practice Guideline Catalogue in the NHS

The [Catalogue](#) offers guidelines developed or adapted in Spain and that have met [GuíaSalud's quality inclusion criteria](#). They are available in PDF version, metadata describing the content, including a summary, of the GPC in question is also accesible.

Catalogue inclusion criteria:

- Criterion 1: the document sent has to be a clinical practice guideline<sup>1</sup>.
- Criterion 2: the CPG must have been produced in Spain, in any of the official languages in the State; by public or private institutions, professional societies, panels of experts and even occupational

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<sup>1</sup>Definition of Clinical Practice Guideline: Clinical practice guidelines are statements that include recommendations intended to optimize patient care that are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.

groups; at the State, regional or local level. The GPC produced outside Spain are also accepted if they have been translated and supported by any of the institutions or groups mentioned previously.

- Criterion 3: the interval of time elapsed between the date of closure of the search for evidence and the timing of the inclusion of the CPG in the Catalogue, must be less than 5 years.
- Criterion 4: data of the authors, including name, degree (and specialty if applicable), institution and declaration of interest must appear in CPG.
- Criterion 5: the GPC has been developed, adapted or updated following a proven methodology. Bibliographic search methods used must be described, including the search terms included, the databases consulted, and date range covered, as well as the inclusion and exclusion criteria used and the quality of the studies.
- Criterion 6: the CPG recommendations must be explicit and bibliographic sources that support them must be identified in them. Likewise, the recommendations must be formulated taking into account the benefits and potential risks of the different options assessed.

These criteria, approved by the Executive Council and endorsed by the Scientific Committee of GuíaSalud, are intended to ensure the potential users of these CPG, a minimum of quality and scientific transparency.

### Examples:

[CPG](#) within the Catalogue in the NHS

### Methodology handbooks

There have been published various methodological manuals to provide instruments for developing clinical practice guidelines with a common and agreed upon methodology for the NHS.

The titles are:

- [Elaboración de Guías de Práctica Clínica en el Sistema Nacional de Salud. Actualización del Manual Metodológico.](#)
- [Implicación de pacientes en el Desarrollo de Guías de Práctica Clínica en el Sistema Nacional de Salud. Manual Metodológico.](#)
- [Actualización de Guías de Práctica Clínica en el Sistema Nacional de Salud. Manual Metodológico.](#) English version: [“Updating Clinical Practice Guidelines in the Spanish NHS: methodology manual”](#)
- [Implementación de Guías de Práctica Clínica en el Sistema Nacional de Salud. Manual Metodológico.](#)

All of the manuals have been prepared by a working group set up by NHS professionals with training and experience in the development of CPG.

These manuals are available in HTML and PDF formats on the GuíaSalud website.

## Other evidence-based products (OEBP)

GuíaSalud has a [line of work on Other evidence based products \(OEBP\)](#), which are products different of the CPG. Due to their characteristics complement to guidelines for decision-making in the health sector. They are available in PDF format.

The definition of different types of OEBP and their quality criteria, as well as follow-up and support to the dissemination, together with the SG of Quality and Innovation of the Spanish Ministry of Health, of the OEBP that are developed in the framework of the Spanish Network of HTA Agencies, can be noted within this line of work.

### Examples:

[Other evidence-based products \(OEBP\)](#)

## “Do not do” Recommendations

The project [“Commitment to quality of scientific societies”](#) has been developed by the Ministry of Health, Social Services and Equity at the initiative of the Spanish Society of Internal Medicine. This project aims to establish evidence “Do not do” recommendations, obtained from CPG and other sources of evidence-based medicine, working with scientific societies through consensus. The Secretariat of GuíaSalud is in charge of the methodology.

135 “Do not do” recommendations are currently defined, which are available on the website of the Ministry of Health, Social services and Equality. During 2017 is going to work to facilitate access to these recommendations through the creation of a new section in the GuíaSalud website.

### Example:

[“Do not do” Recommendations](#) of the Commitment for Quality of Scientific Societies

## Training activities:

Support for the decision-making of health care professionals in the NHS it is necessary that it is based on the best scientific evidence. For this reason, GuíaSalud works to promote training to publicize the CPG and OPBE, promote training for its development and thus strengthen the NHS evidence-based practice.

The training activities currently organized by GuíaSalud are divided into two areas

- Basic training in practice clinical guidelines (CPG), online, targeting professionals of the national health system (SNS) through the autonomous communities.
- Advanced training in methodology for the development of CPG, face-to-face and online, aimed at managers and technicians of agencies/units of the Spanish Network of HTA Agencies, which develop CPG in the framework of the CPG NHS Programme.

It is currently working on new training formulas based on gamification. During 2017 is expected to incorporate them in the GuíaSaludwebsite through the creation of a new module/space.

### **Consultancy**

This type of action is intended to provide guidance, suggestions, and the appropriate technical means, especially of methodological type, to support entities and groups interested in the development, adaptation, updating and implementation of CPG and other products based on scientific evidence.

## GuíaSaludwebsite



The [GuíaSalud website](#) is a key tool to provide access and dissemination of the GuíaSalud's activities. Since its launch in April 2005, it has evolved to offer new services and products of GuíaSalud-Library, improving its functionality and the quality of its contents.

### Main features in GuíaSaludwebsite:

The GuíaSaludwebsite is designed to present to healthcare professionals, patients and citizens in general, a number of products, services, and resources that can be accessed easily: CPG, evidence based products and information about the evidence based making-decisions.

In the [help section](#), tries to guide the user in the query of the website (navigation, display, search, use of tools, etc.), and in the [frequently asked questions or FAQs](#), which aims to synthetic respond to questions that users arise regularly on GuíaSalud, the website, its contents and services.

The user can access the contents of the website through options (main sections) listed in the main navigation menu, located to the left of the homepage of GuíaSalud. Clicking on any link of the main sections, menu is displayed showing the subsections and content offering.

**[CPG NHS Programme Framework](#):** This section offers the possibility of consulting the contents of the CPG Programme.

The main section of the program is: “**CPG and Versions**”, which provides the list of all the guidelines elaborated within the framework of the programme, as well as different versions and formats of them (full version, summarized, patient information, quick reference tools and methodology material).

The different formats that always aim to disseminate and make more accessible the recommendations of the program guides, importantly the [mobile application](#) that GuíaSalud launched in February 2012. The application is available for Android and iOS platforms.



Also the program offers access to **translations into English** have been made of the complete version of their guidelines, as well as reports on their goals, structure or the entities that develop CPG.

The international section highlights the actions carried out by the programme to disseminate their guidelines in various international databases of CPG.

**Methodological Handbooks:** section from which you can access the **methodological manuals drawn up within the framework of the CPG NHS Programme Framework** for the elaboration, updating, implementation and involvement of patients in the development of CPG. In a general way, all of them pursue:

- Provide an agreed methodology to develop, upgrade or implement evidence based CPG.
- Standardize the process of elaboration, updating or implementation of evidence based CPG.

They are also available in HTML and PDF format (except Manual involvement of patients that is only in PDF format).

In addition, the [methodology section](#) provides several lists using methodological tools developed by other entities that guide the development of clinical practice guidelines.

**CPG Catalogue in NHS:** In this section is accessed the search engine that allows the CPG included in the Catalogue. The **Simple search** allows you to check the contents of the catalogue in a single search, as a box, but the recovery it is performed on any field of the tab of the Catalogue. This search mode is suitable for users who do not have clear terms that have been used in the Catalogue to describe CPG or who simply want to browse that you guidelines there in the catalog. To do this, press the button "Search", without specifying any terms in the search box, the system displays all CPG Catalogue (including guidelines and which are already expired). To browse the guidelines perhaps may result from greater utility the dropdown menu which guidelines are classified into broad categories of diseases.

From the simple search box, by clicking on the Advanced link is accessible to the search engine that allows the user to be more specific in your search. This interface is useful for those who already know some data processing guideline such as the title or the development entities. Also from this search engine you can see only guidelines that are included or expired, thanks to the drop-down "situation", or for example, if you are a health care professional, you can filter by a particular medical specialty.

Regardless of the means used to consult the guidelines (simple/advanced or drop-down search), you click on any of the titles of the guides and takes you to a form that gathers relevant information about the CPG. This information is provided to get an idea if the selected CPG responds or not to the informational needs. If so, you can access the different versions available.

In the CPG Catalogue requests for inclusion through a [form](#), and are evaluated to see if they meet the [six criteria](#) of quality, becoming part of the catalogue where they met.



**Other evidence based products (OEBP):** It is a section focusing on other products, developed like the CPG, with a systematic methodology, that complement to the CPG for decision making in the NHS.

From the [Scientific Committee](#) with the collaboration of the [Secretariat of GuíaSalud](#), is working on the identification of products that are of interest and useful for health professionals, to

agree on a definition and develop quality criteria for each type of OPBE. By now the [defined products](#) are: patient decision aids (PtDAs), clinical questions, health care processes, protocols and clinical pathways.

Currently, you can access, through the [search section](#), clinical questions prepared by different groups of our geography and by groups and institutions working in the English language.

#### **Accessible contents for specific groups:**

**Public Exposure:** The process of public exhibition seeks to collect the opinion of other interest groups (IG) that have not participated in the previous stages of drafting and peer review of the CPG, through the publication of the final draft, and collection of views and opinions of the various GI registered in GuíaSalud.

The public exhibition has two main objectives: a) carrying out the IG review may provide other possible considerations not taken into account during the development of the CPG or during the process of external review, rating the recommendations made, provide additional evidence, evaluate the interpretation of the evidence that the development group has carried out, the proposed indicators and, b) disseminate and promote the acceptance of the CPG among its potential users.

**Shared work areas:** They are spaces in which the users can share their knowledge, manage their common work and promote collaboration in the development of certain projects, or simply in their day-to-day work. The ATC are technically as websites inside the GuíaSalud website. Shared work areas reproduce the same structure and tools that the main website owns. The only difference is that the ATC are specialised and aimed at a particular audience since they have a more specific purpose.

#### **Others contents:**

**Information for patients and citizens:** Materials made from guidelines for the CPG NHS Programme, which are intended to help patients, families and caregivers understand the recommendations of guidelines and provide information necessary to facilitate decision making.

#### **Examples:**

[Patient information](#)

**Scientific Conference:** Papers and communications of the scientific conference organised by GuíaSalud, as well as events carried out promptly as days of presentations of clinical practice guidelines.

**Up-to-date information:** access to up-to-date information ([calendar](#), news, conferences, courses, congresses, etc) related to evidence-based practice, widespread in different media digital, blogs or other web sites. Also offers various media, to access the novelties offered from GuíaSalud: [newsletter](#) (upon registration as a user in the portal), and subscriptions through [syndication of content \(RSS\)](#) and the [alerts](#) (necessary also the prior registration as a user of the portal to receive news on email).



**Sources of information:** This section is produced by GuíaSalud in order to meet the needs of information on evidence-based practice and the clinical practice guidelines of its users, by selecting different sources of information: web sites with catalogs, databases, search engines, magazines, etc.; bibliographical selection on CPG; training materials; entities working with clinical practice guidelines; Wiki of practice based on evidence; resources for patients (news, tools, web sites); resources on health, CPG and the Internet.

**Searcher:** to learn about the different tools and services from GuíaSalud to search for information, it is important to go to this section where you can access different search engines, thematic searches or by diseases, see the contents according to user profiles (primary and specialty care, nursing, patients or citizens in general...) or to access the multimedia content (videos) by GuíaSalud. In the [search help section](#), will be resolved many of the doubts that have been able to arise in respect of the consultation of this section.

**Who are we?:** This is a space where the person who has access to the GuíaSalud website will have the opportunity to learn about the history of GuíaSalud, mission and objectives, as well as the organizational structure that presents and a synthesis of the services and products offered.

In summary, GuíaSalud works to promote the integration of the CPG and OEBP in the NHS. These Patient Decision Aids (PtDAs) are intended to transfer the knowledge based on evidence to clinical practice, in order to improve the quality of health care.

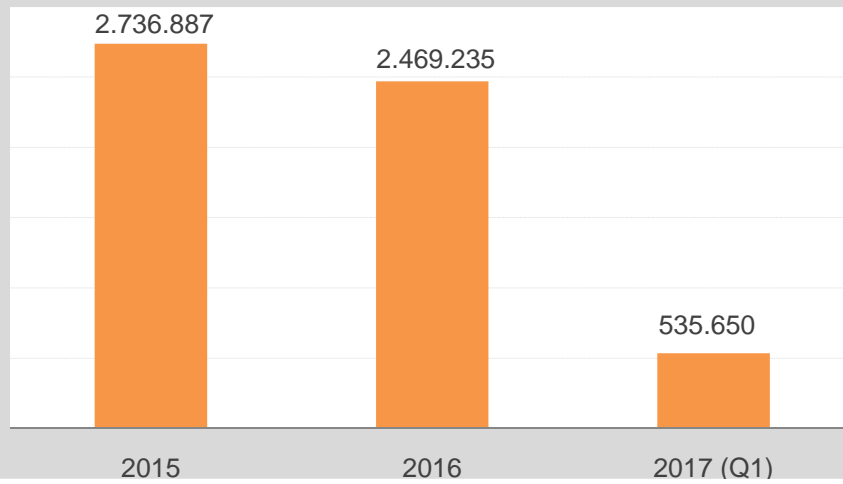
The website is created in order to serve as a tool for the scientific community and those interested in the principles of evidence-based decisions, and therefore enhance the supply and use of resources, services and products based on scientific evidence, so that work on developing those that are considered to be necessary, that these are accepted, make them accessible and are updated so that professionals and citizens to use them.

In 2016, the GuíaSalud website received a total of 2.5 million visits and unloaded nearly 78,000 CPG<sup>2</sup>. In addition, it boasts a significant international presence, focused especially on countries of Spanish-speaking (and USA), which comes from almost 70% of visits and half of downloads in the past 3 years.

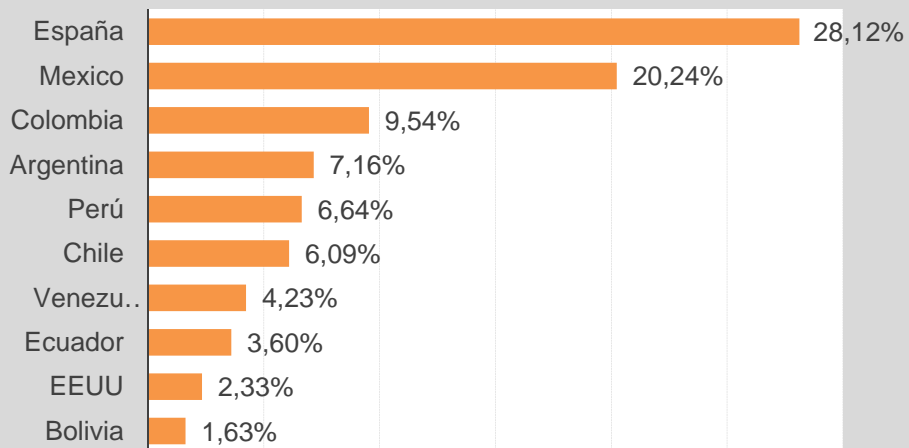
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<sup>2</sup>We have only included GPC downloads made from the Portal GuíaSalud. However there is a significant number of downloads coming from search engines or external links.

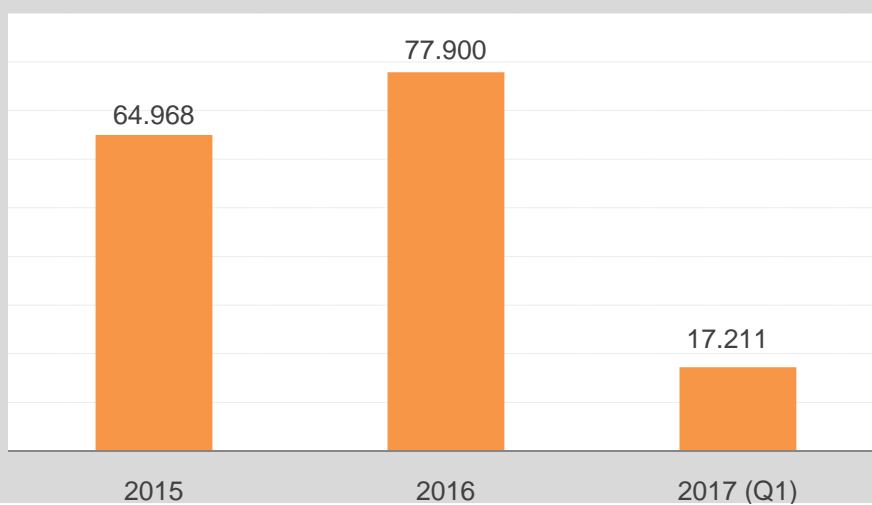
### Annual visits to GuiaSalud (2015-2017)

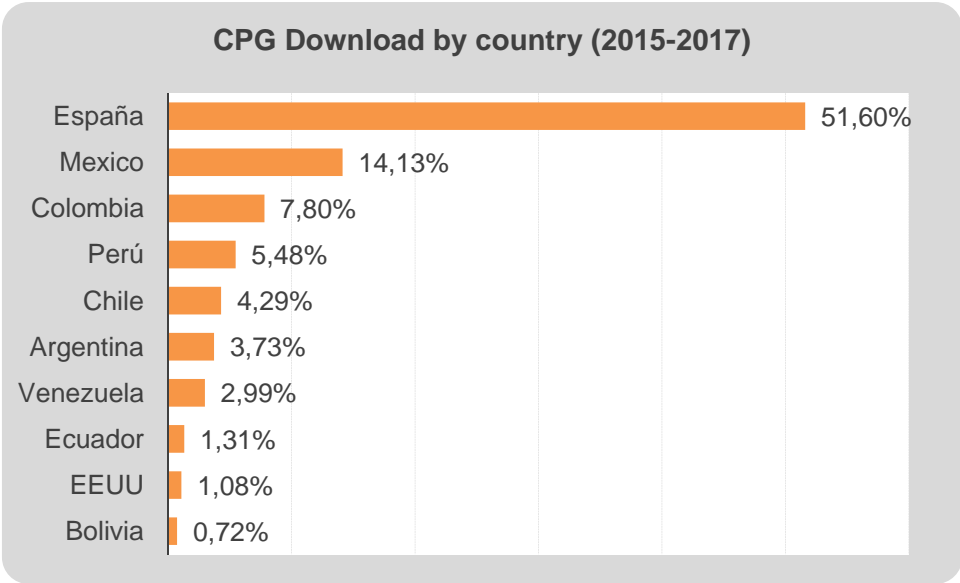


### Visits by country (2015-2017)



### Annuals CPG downloads from GuiaSalud (2015-2017)





**Blog and social networks**

GuíaSalud commitment to the use and exploitation of the new channels of information dissemination. Noteworthy is the Blog GuíaSalud in which the Secretariat, Executive Council and Scientific Committee of GuíaSalud and collaborators wishing to do so, explain with a more direct language and with greater detail, information related with CPG, activities OR services of GuíaSalud.

In addition, GuíaSalud has profiles social media and other tools, such as Twitter, LinkedIn, SlideShare and YouTube, both to disseminate information and to share digital videos, documents or presentations objects.

## What challenges are we facing?

Having many units of partially structured information (type of product, indexing by chapter and associated metadata), attached to existing forms of display and manage information, makes necessary the evolution and progress of the GuíaSalud website to ensure the continuity in the exercise always offer quality content, based on the best evidence, accessible to different profiles of users (professionals, patients, family members, caregivers and general public). In this way facilitate the means to access, understand the content and recommendations of the CPG and other products to improve decision-making.

It boasts a wide variety of products based on the evidence, made with rigor, transparency, credible and quality, which must be provided so that they are accepted and used, resulting in improvements in clinical practice and quality of care. Therefore, there are two important factors that push us to evolve:

- The presentation format must continue to adapt to the new forms of consultation (PC, smartphones, tablets) and maximize the agility and ability of interaction.
- GuíaSalud website should further develop solutions aimed at improving information, understanding and implementation capacity of the recommendations and contents of products developed.

The search tool operational in the portal, like other search engines, offers a list of documents that contain the keywords of the consultation carried out. These systems have some disadvantages as the lack of specificity of retrieved information, little precision, the presence of the keyword in the document is not indicative of relevance to users, making it difficult to obtain all the outcomes of interest in a single search.

Information units that make up the GuíaSalud website are dysfunctional, in our search for offering the greatest flexibility and possible usability to the user, enhance the search tool with intelligent search system responses, which to address questions in natural language would be an essential breakthrough. The technologies of language can be an innovative solution to the evolution of the Portal GuíaSalud.

These needs are perfectly aligned with two of the lines of work that has been done in GuíaSalud:

- The development of the CPG in layers, which provides a query tool intended to search-oriented and effective. It expresses the aim of presenting the recommendations of simple, instant, can deepen.

### Examples:

[CPG in layers format](#) (preview)

- Involvement of patients is being developed in the elaboration of CPG with the aim of developing recommendations with not only technical and scientific criteria, but will also include the perspective of patients, thus achieving a more comprehensive vision. Some points to keep in mind when adding to patients may be the difficulty of understanding biomedical language or the extension of the texts.

## **Where do we want to go?**

This project consists of the implementation of a process of evolution to Portal GuíaSalud, focused on an intelligent search engine developed from natural language processing techniques in which to perform queries in natural language that return specific results according to questions and recommendations of the practice clinical guidelines (CPG). As well as according to the full text of the GPC in its different versions , other products based on the evidence, not to make recommendations, etc.; ultimately, the units of information previously identified and included in the GuíaSalud website.

The use of natural language processing techniques, useful for classifying texts unstructured, in an automated manner is an element that takes on special relevance. The management of these techniques makes it possible to process searches made by users through its indexing, decomposition, and semantic annotation and compare them with the units of information using algorithms and machine learning techniques. The relevance of searches for the user has implemented as a learning algorithm from the input of the users about the results retrieved by the search, able to establish correlations of comprehension or understanding and recognize the context for words or sentences of search.

According to the number of visits and downloads of CPG from the GuíaSalud website carried out from Latin American countries, it is essential to direct efforts towards the use of Spanish in the communication of biomedical knowledge.

BiGS project opens the possibility of putting in the user's hand various recommendations and evidence-based contents, adapted to their profile, in order to improve the accessibility to health information, promote efficiency and, as the ultimate objective, to reinforce the quality of care.