TRAMS

Model of **TRA**nsfer of **M**edical research results
to decision-making in the **S**anitary field

RPE 3.2. DISSEMINATION MODEL

Partners in the project:

UOC — Universitat Oberta de Catalunya · Universitat de Girona · Blanquerna — Universitat Ramon Llull · Universitat de Barcelona · CAPs eixample · biocat

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1. Context

The mission of the project entitled TRAM-S (Model of TRAnsfer of Medical research results to decision-making in the Sanitary field) is to develop dissemination models and implement clinical recommendations based on scientific evidence.

As a part of the methodology on which the project is built, the research team has developed a series of focus groups in which all target audiences involved in the correct implementation of the Clinical Practice Guidelines (CPG) in the public health system play an active part in their geographical areas of action. These focus groups have identified the main barriers that these target audiences encounter in the correct implementation of CPGs and have analysed the aspects that could influence and facilitate their correct dissemination. Broadly speaking, we obtained extensive information on the determining factors and needs these audiences discover in their daily use of CPGs.

The results of this analysis can be found in the end report of effects and conclusions of the project's qualitative research phase.

This document deals with the preparation of a series of recommendations and standards for action to bring a new perspective to present CPG communication and dissemination models that, on the one hand, will achieve better results with regard to their potential for effective implementation and, on the other, may become a practical implementation tool accepted by the different groups affected.

In order to reinforce the feasibility of the TRAM-S proposal of dissemination and implementation and introduce elements that will deal with barriers and facilitators identified in a novel way, the scientific evidence collected in previous stages of the project has been weighed up in the light of recommendations and good practices in scientific communication policies. This enables the TRAM-S project to combine the vision of experts in communication with the content conclusions obtained from the focus groups with the intention of improving and enhancing them.

The objectives, therefore, of the TRAM-S dissemination and implementation model are:

1. Increasing the potential of dissemination and acceptance of CPGs, in quantitative and qualitative terms, in the different public health spheres in which they are relevant, furthering their accessibility (both as regards their physical scope and as regards their capacity of understanding) and promoting greater centralisation of the distribution of this kind of knowledge.
2. Promoting the correct, widespread, homogeneous and effective implementation of the good medical practices described in the CPG among health-care professionals, and encouraging users of the public health system to demand good clinical practices.
3. Making the circulation of medical scientific evidence among the non-expert general population more humane by providing contents in keeping with their level of knowledge yet destined to facilitate responsibility and decision-making regarding health issues in an appropriate and straightforward tone.
4. Proposing initiatives, resources and communication plans that will favour the sustainability of the recommendations included here and become in themselves a tool for continuous improvement of dissemination methodologies.

Besides these objectives, in order to further the development of the plan we shall set out next we have established a series of transversal strategic premises intended to provide guidelines for the various actions in the plan. In our opinion, these general premises sum up what we consider relevant efficient criteria in a good medical practice dissemination plan. This is why the recommendations included in our project always try to respond to at least one of the general lines of action.

In turn, and given that these premises are intentionally lacking in specificity and are related to general criteria of medical communication, we believe they may be applicable to the permanent evaluation of the actions of this plan and even to analyses of other dissemination models.

The initial strategic premises are:

1. **The question of position**: We believe it is very important to make the authors of good medical practice guidelines aware that the key element for a correct implementation of the guidelines is their correct

dissemination. A recommendation that isn't known cannot be implemented, and a recommendation that doesn't significantly reach a medical professional cannot be introduced. By significance we don't only mean the adaptation of its content to the actual reality of health professionals, but also that the forms and moments when good practice recommendations arrive and remain top of mind in the medical professionals actually meet their interests.

2. **Integration and transversality**: TRAM-S isn't the first project to tackle the issue of communication and implementation of good medical practices. Indeed, the project begins with an analysis of the scientific literature on the subject. The abundance of initiatives, scientific communities and organisations that strive to find a solution to these challenges of implementation proves that one of the key criteria for their definitive improvement is transversal collaboration. Participation, the integration of sources, the centralisation of resources, etc., are all considered to be key factors in the formulation of our recommendations.

3. **Human, technical and economic resources**: The correct implementation of any communication plan requires the investment of human and economic resources, the quantity of which is often correlated to the efficiency of the results. The dissemination of CPGs has the same needs as other agents in the industry of medical diffusion to dedicate significant resources to communication issues. The proposal made by TRAM-S doesn't conceal this aspect but actually deals with rules that take it into consideration.

4. **The importance of measure**: Continuous improvement in the dissemination of CPGs wouldn't be possible without a clear understanding by the scientific community of which practices generate the best results. Reaching this understanding requires defining and putting into practice key measuring criteria that will enable evaluation of the actions proposed. The TRAM-S project also deals with recommendations for the aforementioned analysis at different levels.

2. Fields of action and philosophy of the action plan

The first step in the development of the dissemination plan was to jointly consider those aspects that exert a greater influence on the focus groups organised in the first stage of the project.

The barriers identified in the exercises carried out with focus groups reveal the problems that health-care professionals and users face in the use of CPGs. The present dissemination plan draws from the conclusions reached in that regard, and from the recommendations suggested by the aforesaid focus groups as facilitators for the implementation of better practices. As a result, our focus of action lies mainly in barriers, in defining a communication challenge or problem and in proposing solutions to that challenge or problem.

As a starting point we have called to mind and compiled the five main barriers to the implementation of good clinical practices derived from the results of the focus groups, in keeping with the various professional collectives that formed the groups. These barriers are grouped in table 1.

Table 1: Main barriers to the implementation of good clinical practices according to the collective			
Primary health-care professionals	**Hospital health-care professionals**	**Health-care management professionals**	**Patients**
CPG as a management tool	Ignorance of costs, efficiency and effects	Lack of leadership and ownership	Lack of multidisciplinarity
Tailoring of the intervention	Organisational barriers	Clinical inertia	Organisational barriers
Professional role identity	Clinical inertia	Dissemination and training methods	Lack of patient knowledge
Scepticism	Professional medical knowledge	Excess of CPGs	Vagueness of content
Professional uncertainty	Lack of multidisciplinarity	Lack of agreement	Non user-friendly CPGs

We shall now analyse the joint influence of each of the aforesaid barriers in order to obtain an assessment of the whole, adding the number of mentions of each barrier crosswise for all the collectives involved. This cross-analysis gives us a ranking of the relevance of these barriers for the target audiences involved, the result of which appears in table 2.

Table 2: Ranking of the barriers identified as most relevant	
Barriers to the implementation of CPGs	**% of transversal mentions to target audiences**
CPG as a management tool	20.8
Scepticism	18.6
Clinical inertia	15.6
Organisational barriers	14.6
Lack of leadership and ownership	13.7
Lack of multidisciplinarity	13.4
Fragmentation of the health system	13.1
Ignorance of costs, efficiency and effects	10.8
Professional uncertainty	10.7
Professional role identity	10.6

Table 2: Ranking of the barriers identified as most relevant	
Barriers to the implementation of CPGs	**% of transversal mentions to target audiences**
Co-morbidities	10.6
Tailoring of the intervention	9.9
Excess of CPGs	9.7
Lack of patient knowledge	7.9
Vagueness of content	7.8
Obsolete content of CPGs	7.6
Dissemination and training methods	7.1

The obstacles observed must be overcome with a multifaceted approach that will include different kinds of actions and, in turn, with specific actions and recommendations able to overcome several obstacles at the same time.

For this reason and with the pedagogical intention of facilitating the practical implementation of improvements, we have grouped these barriers in three great areas of action. The barriers that can be tackled by similar initiatives will therefore belong to the same area. This enables us to simplify the understanding and implementation of the guidelines, and reveals the transversality of many of the challenges analysed.

We have defined three fields of action:

1. **Preparation of CPGs**: This field refers to the definition of

recommendations and improvements that, from the point of view of communication, affect the content of clinical practice guidelines in form and substance, and the way in which their wording and presentation can be enhanced to facilitate their dissemination.

2. **Organisational methods and human resources**: This field gathers recommendations related to the way in which the concept of the CPG as a whole is introduced in medical centres and how corporate culture develops around its functions and benefits. These measures sneak into the actual organisational structure of such centres because scientific evidence proves the need for their greater involvement.

3. **Communication and access to information**: This field embraces actions and recommendations related to how specific CPGs are communicated and disseminated among the different target audiences and to how proactive access to them by heath-care professionals is structured and promoted.

Table 3 presents the distribution of obstacles within each field of action, establishing the kind of actions that each of the barriers detected will overcome first.

Table 3: Distribution of barriers according to fields of action		
Preparation of the CPG	**Organisational methods and human resources**	**Communication and access to information**
● Ignorance of costs and adverse effects ● Vagueness of content, obsolete content ● Scepticism ● Lack of multidisciplinarity	● Instrumentalisation of the CPG ● Uncertainty regarding the role of the professional and his identity ● Clinical inertia ● Lack of leadership and ownership ● Organisational barriers ● Methods of dissemination and training	● Lack of certainty on applicability, costs and efficiency ● Lack of sufficient training ● Adaptation and tailoring of the intervention ● Saturation, excess of CPGs

A set of actions and recommendations is structured around these three main sections. However, in keeping with the philosophy of the TRAM-S project, we

believe that the flexibility, scalability and modularity of the recommendations may further their practical and effective implementation.

This is why these actions are to a great degree accumulative; in other words, the efficiency of their dissemination may increase if a greater number of the proposals described here are correctly implemented. And yet, in their turn, they could also be used either partially or independently if the specificity of a certain need should so require. For example: CPG authors who have specific requirements or health centres with special needs.

Nonetheless, in order to conduct a methodology for implementing in a practical and substantial fashion the recommendations, and thus avoid the difficulties inherent in the approach and launching among the target audiences responsible for the implementation, we have also decided to create a tool to connect the proposed activities and favour better decision-making regarding the actions that should be given priority in each case.

The three levers on which this tool designed to help decision-making regarding the implementation of CPGs is articulated are:

1. The **Semmelweis Hub** for the centralisation of knowledge in digital format, which acts as a repository of resources and has tools for providing advice and exchanging information. Chapter 3 of this document deals with this proposal in greater detail.
2. A **self-assessment model** for assessing the relevance and dissemination opportunities of each CPG and making decisions concerning its implementation.
3. A **proposal of segmentation** of implementation and dissemination actions to be applied as a result of the score obtained in the self-assessment test

3. Semmelweis Hub for the centralisation of knowledge

One of the main difficulties identified for the correct dissemination of CPGs is the absence of an agent that will carry out functions of leadership, advice and control of such practices. In order to make up for this lack, the TRAM-S project proposes the creation of a hub for the centralisation of knowledge that will enable a better coordination and transversal enforcement of good practices in the dissemination and implementation of CPGs. The aforesaid hub, conceived as a digital tool, could also be supported by a dedicated human team that would ensure its correct maintenance and provide additional consultative functions to improve the implementation of dissemination actions.

Therefore, the objectives of this hub for the centralisation of knowledge would be:

- To facilitate access to quality CPGs and to resources and plans that ensure their correct implementation
- To offer knowledge and training tools that will improve the preparation and dissemination of CPGs
- To provide tools and functions that in a practical operative way will allow for the automation or semi-automation of actions for disseminating CPGs, especially some of the recommendations mentioned in this plan
- To promote the exchanging of experiences, knowledge and recommendations between knowledge networks, health-care and medical professionals and agents in the scientific community
- To provide customised advice for the implementation and dissemination of CPGs, especially if the initiative has the support of a human team

Bearing in mind the aforementioned objectives, we propose a first classification of the type of contents and functions that should be included in the hub, arranged according to three large clusters or thematic groups:

1. **Training and knowledge cluster**: This includes self-learning contents and resources.
2. **Transactional operating cluster**: This includes tools for automating the dissemination process and the creation of pieces and deliverables starting from templates.
3. **Advice and consultancy cluster**: This refers to the access of the medical

and academic community to support and consultancy services provided by professional teams specialised in medical communication.

Table 4 presents a first proposal of contents grouped according to the needs of each cluster.

Table 4: Proposals of contents for the different clusters in the Semmelweiss Hub		
Training and knowledge cluster	**Transactional operating cluster**	**Advice and consultancy cluster**
• Repository of contents on the CPG concept and evaluation and self-assessment tools for measuring credibility • Resources for explaining how to access CPGs • Repository of resources with manuals and recommendations for disseminating CPGs • Repository of resources in communication, contacts, the press, media and other databases for furthering dissemination • Repository of CPGs classified according to pathologies, authors and other fields of action • Benchmark of results of the implementation of plans	• Self-assessment questionnaire for decision-making regarding the implementation of CPGs • Automation tool for creating communication pieces from templates • Tool for disseminating and automatically alerting the hub's registered users of CPG updates • CPG crossover tool according to symptomatology or complaint • Tool for obtaining feedback for updating and improving existing CPGs	• Financed delegation for CPG implementation and dissemination • Evaluation services for CPGs and their dissemination plans • Support in the search for funding for the preparation or dissemination of CPGs • Coordination of petitions and enquiries regarding new CPGs • Advisory services for transfer of CPGs in medical protocols

The TRAM-S proposal is that an initiative of this kind may become a very relevant contribution to the objectives of the project, providing the medical community with new tools for CPG dissemination. Although this initiative would require funding and a specific development and maintenance plan, we feel that its potential utility is unquestionable.

4. Self-assessment plan for decision-making in CPG implementation

In the image and likeness of other similar models for assessing the quality of CPG contents, the TRAM-S project suggests a simple practical test that will help make decisions concerning the kind of actions that should be taken to disseminate and use new clinical practice guidelines.

The objectives of the creation of this kind of self-assessment test are:

- To draw the attention of CPG authors to the fact that the preparatory work for CPGs doesn't conclude with the completion of the deliverable of good medical practices, but must continue with the preparation and setting up of a communication and dissemination plan of which they too are co-responsible
- To facilitate the creation of a road map that will establish the kind of actions that may be most convenient for CPG dissemination
- To help health-care professionals with responsibilities or those concerned with CPG dissemination prioritise those that have greater potential from the point of view of communication
- To establish a certain standardisation in the way in which CPGs of similar levels of interest and quality are promoted, which should have a positive effect on the fulfilment of expectations of target audiences, and therefore on the recognition and effective use of the guidelines

The self-assessment test proposed revolves around two groups of issues we recommend be tackled: the actual contents of the clinical practice guidelines, on the one hand, and other aspects related to the resources and feasibility of their dissemination, on the other.

As a methodology, we suggest that those users responsible for self-assessment of CPGs answer the questionnaire included in table 5, that gives a score from 0 to 2 to the answers according to the way in which CPGs, their authors or those responsible for their dissemination reply to each question. 0 would indicate a total inability to answer the question, 1 would indicate a moderate ability and 2 a high ability. The resulting unique score would match one of the three scales described in table 6, bearing in mind there is a recommendation for each scale.

Table 5: Self-assessment questionnaire for decision-making in CPG dissemination

1. Has your CPG obtained an average score equal to or higher than 4.5 in item 1 of the section entitled *Overall Assessment of the Guide* in the AGREE II questionnaire?*

- ○ Yes: Proceed with the questionnaire in question number 2
- ○ No: Reconsider and revise your CPG

*We strongly recommend that this score corresponds to the average marks given by at least four reviewers of the aforesaid item on the questionnaire

2. Does the CPG include references and are they related to other existing CPGs that allow in-depth study of their specificity?

- ○ Yes: Add 2 points
- ○ Yes, but only incidentally: Add 1 point
- ○ No: Add 0 points

3. Does the CPG deal with a pathology of which no previous mention exists in the Guideline.gov, Guiasalud.es or Nice.org.uk databases? Is it new?

- ○ Yes, it doesn't appear either in Guideline.gov or in Nice.org.uk: Add 2 points
- ○ It appears in Guideline.gov or in Nice.org.uk but not in Guiasalud.es: Add 1 point
- ○ No: Add 0 points

4. Has the CPG been drawn up following the recommendations of a style manual?

- ○ Yes: Add 2 points
- ○ No: Add 0 points

5. Does the CPG update or improve previously prepared CPGs?

- ○ Yes: Add 2 points
- ○ No: Add 0 points

6. Does the CPG deal with a specific pathology or include recommendations subject to frequent scientific debate? Is it groundbreaking, does it dissent from recommendations made by the pharmaceutical industry or is it covered by the mass media?

- ○ Yes: Add 2 points
- ○ No: Add 0 points

7. Do the authors foresee having sufficient economic resources for disseminating the CPG or access to funding?

- ○ Yes: Add 2 points
- ○ No: Add 0 points

8. Do the CPG authors belong to a knowledge network or centre of excellence on the pathology dealt with in the CPG?

- ○ Yes: Add 2 points
- ○ No: Add 0 points

9. Do the authors of the GPC have a pre-existing digital platform of their own? (blog, forum, website, etc.).

- ○ Yes: Add 2 points
- ○ No: Add 0 points

Table 5: Self-assessment questionnaire for decision-making in CPG dissemination

10. Has the CPG been commissioned or financed by an institutional sponsor?

    ○ Yes: Add 2 points
    ○ No: Add 0 points

11. Have most of the authors or the organisation responsible for the CPG prepared and disseminated other CPGs previously?

    ○ Yes: Add 2 points
    ○ No: Add 0 points

12. Does the CPG belong to a medical conference, congress or symposium? Is it the result of, or will it be presented at, any such event?

    ○ Yes: Add 2 points
    ○ No: Add 0 points

Table 6: Actions recommended as a result of the self-assessment model	
Score obtained	**Recommendation**
Between 0 and 8 points	Consider a revision of the CPG before its dissemination
Between 9 and 15 points	Implement the actions in the communication plan described for segment A (Basic Plan)
Between 16 and 22 points	Implement the actions in the communication plan described for segment B (Pro Plan)

5. Strategic actions

We now present a summary of communication actions designed to facilitate the objectives of implementing and disseminating the project.

The actions proposed are classified according to three dimensions:

1. **According to the fields of action previously described to overcome the identified barriers**: Actions related to the actual contents of CPGs, actions related to organisational measures and human resources, and actions related to communication and access to information.
2. **According to the target audience which they preferentially address**, grouped by pedagogical motives into four end groups: primary health-care professionals, hospital health-care professionals, health-care management and administration professionals and end users (patients, care providers and healthy population in general).
3. **According to the segment of implementation recommended as a result of the self-assessment questionnaire** for decision-making when implementing CPGs: actions in segment A (Basic Plan) and actions in segment B (Pro Plan), which in turn includes those of segment A.

As a result of this classification we obtain a matrix of the different actions suggested:

🟦 Segment A (Basic Plan)
🟥 Segment B (Pro Plan), which also includes the actions from Segment A

	Primary health-care professionals	Hospital health-care professionals	Health-care management and administration professionals	End users
Contents of the CPG	1. Style manual and writing guide for health-care professionals			2. Style manual and writing guide for end user
	3. Creation of a friendly abstract			
Organisational and human resources measures	4. Creation of a multimedia product explaining what a CPG is and the importance of its implementation, accompanied by the results of your particular CPG			
			5. CPG 'ambassador'	
	7. Annual Prize for Excellence in CPG promotion			
Communication and access to information	6. Institutional launching of the CPG			
	8. CPG digital visibility plan			
	9. CPG professional reputation plan and 'karma' reviews			10. Informative talks

We shall now present the descriptive content of each of the actions suggested in the previous matrix.

1. 2. and 3. Advisory rules on style and writing in products for CPG promotion according to the health professional who will implement it; style manual and writing guide in products for CPG promotion adapted to its use by end users; and creation of friendly abstracts

The idea is to draw up a style guide with recommendations for the creation of dissemination products of CPGs (leaflets, clinical rules, health recommendations, etc.) that facilitate their understanding and use by different

target audiences (medicine professionals and end users). The question is to help adapt the most relevant discourse and results of CPGs to the target audiences and, therefore, the aforesaid style and writing guides should refer to those aspects related to communication of the guides and their understanding, not to the scientific content itself, even though there is a recommendation to also include a schematic glossary with the key results of the CPGs adapted to different recipients.

The advice offered in the communication plan would be to ensure that these recommendations and parameters focused on communication are used in the preparation of CPGs. We also propose introducing this aspect as one of the questions in the self-assessment questionnaire for decision-making in CPG dissemination.

The objectives of this action are:

● To promote among authors of CPGs the importance of drawing up the aforesaid style manuals according to the general requirements of adaptation to target audiences proven by scientific evidence, following communication criteria
● To help establish a CPG model capable of becoming a standard generally accepted by the medical community, which will also help identify those CPGs with an appropriate degree of quality more efficiently
● To facilitate and accelerate the production of CPGs and therefore increase the volume and degree of CPG updatings, either tackling a greater number of pathologies or doing so from a more interdisciplinary approach
● To facilitate the introduction of new authors to the preparation of CPGs, who will benefit from a style manual that will sharpen their work

These standards should be applied to recommendations in different areas related to the writing and format of CPGs. The recommendations would have less to do with the way of drawing up the CPG from a methodological perspective or from the point of view of its clinical content, than with its ability to communicate precisely and convey its content efficiently to target audiences. Among other issues it should, therefore, include contents linked to:

● Advice regarding the correct structuring of the document and the creation of modular versions adapted to the different target audiences

- Writing standards for ensuring the guidelines are understandable by different audiences
- Recommendations concerning the design and format of CPGs
- Recommendations concerning the design of information applied to graphs and list of objective quantitative data
- Standards for the creation of glossaries of key concepts in CPGs
- Recommendations and resources for facilitating digitisation of contents and their dissemination through digital channels
- Standards for quoting sources and compiling bibliographies, particularly in the versions for the general public, in which these sections re not usually considered
- Checklist of main practical recommendations

We also recommend that this style manual contain a detailed chapter dedicated to the preparation of CPGs for end users (patients, care providers and the healthy population in general). This chapter should fulfil the following specific objectives:

- Raising awareness of the need to adapt CPGs to different audiences, especially to end users whose specific needs regarding information and understanding capacity are different to those of medical professionals
- Promoting the production of CPGs adapted to user audiences
- Proposing recommendations and standards for adapting the contents of CPGs to the demands of end-user audiences detected by scientific evidence

Last but not least, the style manuals for the preparation of CPGs should include a model for creating abstracts in the form of templates that, by solving questions, enable the preparation of summaries of the CPGs in a friendly format, easily understandable by different kinds of health professionals. Segmented communication of each abstract associated with CPG should enable the different health sectors to assess the relevance of its results in their daily practice. Ideally, the aforesaid abstracts would be drawn up automatically by means of a specific tool that would enable them to be designed at the Semmelweis hub for the centralisation of knowledge.

In the framework of the TRAM-S project we intend these style manuals to be the result of a specific project or of a broadening of the very objectives and resources of TRAM-S, and that they be produced in a context of collaboration

with institutions and organisations linked to the creation and dissemination of CPGs, such as the Catalan Agency for Health Assessment and Quality (AQuAS) or equivalent organisations in other territories.

4. Creation of an attractive communication project on the CPG concept and its implementation

One of the main barriers identified by scientific evidence and by focus groups is that certain collectives have a vague idea of the scope, functions, origins or the actual concept of clinical practice guidelines.

For this reason we suggest the creation of a communication product – ideally in a multimedia format such as a presentation or an audiovisual – on the concept of CPG, with contents concerning search and selection strategies, training regarding methods of preparation and assessment, and similar resources. Moreover, if this is carried out in the framework of a specific CPG, we suggest introducing its measures and recommendations in the multimedia product.

One such communication element should fulfil the following objectives:

● Communicating the objectives – both general and specific – of the CPGs and providing the context that accommodates their development
● Furthering knowledge of the methods of creation of CPGs, the profiles they entail and the procedures for their development
● Publicising the mechanisms of assessment and certification of CPGs to increase the security and trust of health-care professionals in their use
● Facilitating investigation and information searches on clinical practice through reliable sources and improving the skills of health-care professionals in identifying prestigious and credible information sources

As in the previous case, in the framework of the TRAM-S project we intend the preparation of this material to be the result of a specific project or a broadening of the very objectives and resources of TRAM-S, and that they be produced in a context of collaboration with institutions and organisations linked to the production and dissemination of CPGs, such as the Catalan Agency for Health Assessment and Quality or equivalent organisations in other territories.

5. Appointing an 'ambassador' or person in charge of implementing the CPG in every health centre or hospital

Many of the barriers detected by scientific evidence for implementing CPGs reveal that a number of professionals perceive an administrative imposition of their use which, combined with an ambiguous system of rewards and incentives linked to their fulfilment, occasionally leads to a certain degree of negligence or lack of co-responsibility of professionals in their implementation.

The TRAM-S project believes that the setting up of organisational measures in health-care centres is one of the best proposals for helping overcome the barriers identified in the focus groups. In the framework of these measures, the appointment of a professional who will assume a leading role in the centralisation of the knowledge derived from CPGs and will be responsible for coordinating their diffusion in each medical centre may prove essential.

The idea is to establish recommendations that will encourage the managerial teams of each centre to appoint a coordinator to implement the CPG. Additionally, revisions of flexible retribution systems can be valued, along with the introduction of specific incentives to reward their implementation.

The functions of this ambassador or coordinator for implementing CPGs would be:

- Receiving and maintaining an archive of the different CPGs that have reached their medical centre, preserving a certain search capacity for providing support to the rest of medical professionals
- Coordinating with the different medical and administrative professionals the internal diffusion and implementation of new CPGs according to proposed plans of action
- Assessing the efficiency of the plans of diffusion and implementation and suggesting improvements
- Providing feedback and maintaining eloquent contact with those in charge of the Semmelweis Hub for the centralisation of knowledge, once it is launched
- Centralising and channelling requests for developing new CPGs or updated versions of CPGs, according to the needs detected at centres

This action is related to the one described in point 10, focused on the

organisation of informative talks at each health centre aimed at disseminating CPG among patients and the healthy population.

6. 'Institutional' launching of new CPGs

One of the main weaknesses detected in the usual procedures for developing new clinical practice guidelines is that the most frequent activities for launching new publications, technical documents, books, etc., are often avoided. We therefore consider it important to also approach the CPG dissemination plan from the point of view of institutional or media campaigns habitually applied in the launching of new products, relevant business events, etc.

The objectives of this set of tactical actions would be:

- Maintaining eloquent contact between the community of medical professionals who have drawn up the CPG and the press, both 'internal' (sectorial publications and those produced by health centres) and 'external' (specialised and general publications), including new digital media
- Creating prestige around the preparation of a new CPG among civil organisations, patients' associations, medical institutions, professional colleges, non-medical professionals related to the pathology in question and other general target audiences
- Making the visibility of CPGs a resource for enhancing their creation and a stimulus for increasing the number of professionals involved in their development and implementation
- Turning the visibility of CPGs into a stimulus for the informative zeal of end users of the health system, and promoting knowledge of and responsibility over their own health

Consequently, before the publication of a new CPG we suggest developing the following communication actions, in addition to those described in the digital visibility plan (point 8):

- Writing a press release and sending the communication to the media. According to the level of interest, relevance or novelty of the medical practices described in the CPG, we recommend assessing the scope of the announcement, from specific publications to the general media. The press

release should be accompanied by an abstract or summary of the CPG in a version understandable for the media audience addressed, and therefore make a distinction between specialised media (medical audiences) and general media (the general public)

- Calling a press conference and organising a presentation of the CPG in those cases in which the CPG is particularly meaningful or has been developed or funded by a prestigious medical professional, a knowledge network, institution or foundation with large potential for ensuring publicity or successful experience in similar situations
- Mass mailing of clinical practice guidelines to be distributed among scientific societies, prestigious medical centres, libraries and documentation centres, research centres etc., with the objective of generating knowledge on the existence and contents of the CPG and of enhancing documentary deposits

The existence of a knowledge hub such as the one suggested in this document would prove very useful for the implementation of this plan of action, as it could contain a central database of press and institutional contacts potentially interested in such content. Furthermore, the existence of a department with staff dedicated to managing the hub could ensure public relations activities were pleasant, friendly and centralised, which would naturally result in the efficiency of these professional contacts.

7. Annual Prize for Excellence in CPG promotion and implementation

Following a usual practice in the field of academic research, we suggest fostering the organisation of an annual competition which, according to established grounds, will announce different projects for promoting and implementing CPGs and reward those that stand out for the excellence of their implementation or those that have obtained notable results.

The objectives of this initiative would be:

- To dissociate the production of CPGs from the administrative-economic field in which some medical centres place it and emphasise the scientific aspects of their preparation and implementation
- To promote the need to develop dissemination plans alongside the preparation of CPGs and enhance the status of such tasks among medical

professionals

- ● To obtain greater attention from professional media to the role of CPGs in the improvement of health systems and ensure their current relevance and renown among target audiences

We believe that a project of this kind should be championed by a relevant prestigious institution, or by a group of educational institutions or medical and scientific societies that could count on the support of foundations and similar civil organisations.

In order to attain its objectives, this initiative should be accompanied by a dissemination and communication plan, centred on the press, similar to the one explained in point 6 relative to the institutional launch campaign of CPG.

8. CPG digital visibility plan

The absolute importance of the Internet and of digital channels as sources of information for health-care professionals, and especially for users of the health system, suggest the need to establish formulas that will guarantee the visibility of CPGs in digital channels.

The specific objectives of this digital visibility plan would be:

- ● To guarantee that CPGs are easily accessible through the appropriate channels and formats by digital media, ensuring the visibility of the versions most suited to each target audience
- ● To promote public diffusion of CPGs as a mechanism to emphasise their development
- ● To further a better understanding of issues related to public health and counteract the negative effects produced by the consumption of information on health issues either insufficiently contrasted or obtained from unreliable sources

The implementation of the digital visibility plan would be the responsibility of different CPG authors or of the members of their teams assigned to disseminate and implement them.

In the event that the proposed centralised knowledge hub should also act as a

consultancy which would ensure it had a team of dedicated professionals, this team could carry out an important collaborative task for the development of these recommendations.

The tactical activities we recommend be carried out in the digital visibility plan would be:

a. **Creating optimised versions of all the documentation for multi-device digital use**
We recommend that the final documents with CPG content be made available in different digital formats and adapted for use on all kinds of devices. In the case of a guideline drawn up in the form of a leaflet or graphic material to be printed and distributed, other more optimal formats for consumption of the material on digital devices could possibly be overlooked. We therefore recommend the creation of archives in platform-independent formats such as PDF and EPUB, optimised for electronic books (see 'ePUB', Quora).

The digitisation of a CPG could be linked to the prize for excellence (point 7) and considered an incentive for promoting participation.

b. **Uploading of the CPG to the Semmelweis hub for the centralisation of knowledge**
In the event that the hub for the centralisation of knowledge has indeed been set up, any new resource produced should be conveniently accommodated and classified in the hub, facilitating its subsequent localisation.

c. **Sending alerts and newsletters to subscribers of the hub for the centralisation of knowledge**
In the event that the hub for the centralisation of knowledge has indeed been set up, it would be equipped with a system of alerts and newsletters to inform registered users of the novelties and new publications on the platform. It would be very beneficial for their implementation if these new contents were distributed by such an alert.

d. **Selection of relevant digital databases for the pathology treated in the CPG and sending of the documentation**
We recommend that the authors of CPGs send their new publications to

databases and scientific publications relevant to their pathology, in order to favour their accessibility and obtain interdisciplinary and inter-pathological information, such as Guideline.gov, Guiasalud.es and Nice.org.uk.

e. Selection of knowledge networks or work groups linked to the CPG or its authors and sending of the resources generated for their publication

The collaboration between different knowledge centres and professionals is becoming increasingly important for the improvement of results in numerous scientific disciplines. In order to avoid solitude or isolation in the production of CPGs, authors should try to communicate their productions in open formats to those professionals and knowledge networks with which they are regularly in touch, either formally or informally. In the event that the [hub for the centralisation of knowledge](#) has been set up, some of its functions could replace this task.

f. Creation of a website with the CPG content that will include its future updates and will tackle recommendations concerning natural positioning in web Search Engine Optimisation (SEO)

The most basic form and that which provides a greater control capacity for the dissemination of any digital resource is the creation of a specific website, a recommendation we believe is valid for the authors of new CPGs. Nonetheless, in the event that the CPG has been assessed by a work group or a network that have their own website, we recommend their inclusion in the aforementioned supports.

The creation of websites of a high professional level is relatively affordable for all kinds of audiences and there are numerous resources that facilitate the task (see ['What is the best way to create a free website'](#) Quora).

Furthermore, it would be recommendable that contents and format be elaborated to guarantee a good position in the natural searches in Google and other search engines. This is achieved through optimisation techniques known as Search Engine Optimisation that consist in adapting contents to the most relevant criteria on which the search engines are based to position websites in their results. These criteria are not 100% public and change regularly. The present tactical agreement is that the best formula for optimising search engines is to draw up contents bearing in mind their audience and to keep language natural. A few recommendations could be made, however, chiefly of a technical nature. Some commendable resources for learning more about these techniques

are the ['Search Engine Optimization Starter Guide'](), Google, or the ['Guía SEO: cómo dominar Google'](), 40 de Fiebre.

g. **Dissemination of the new CPG in social networks**

Social networks are one of the most important supports for the swift dissemination of contents and are increasingly present too in professional and scientific fields. As a general policy, new CPGs should be communicated on social networks from the different profiles involved in their preparation: authors, the institutions they come from, the organisations that have sponsored the production of CPGs and the knowledge networks to which they belong. In principle, we don't recommend creating specific profiles for each new CPG if a relevant frequency of content update can't be guaranteed, beyond the general editing of the CPG.

In order to obtain general rules regarding the use of social networks by medical professionals, we recommend '[How medical doctors and students should use Social Media: a review of the main guidelines for proposing practical recommendations]()' (M.A. Mayer et al., 2012). For more information on the general use of social networks, the lists of resources included in [40 de Fiebre]() and [Quora]() are very useful.

h. **Audit of the information available on the Internet concerning the contents of the CPG and participation in the main sources detected for including or correcting contents, based on Wikipedia**

The Internet provides all sorts of information on illnesses, pathologies and clinical practices. In order to favour the dissemination of CPGs and contribute to the improvement of the medical contents distributed through digital channels, we recommend searching contents related to the theme of our CPG on the Net, and that the specific terms of our CPG be found in approximately 25-30 of the top hits in search engines (the attention paid to the results of search engines falls greatly even after the fifth or sixth result). In the event of developing a more structured search process we could count on the assistance of social listening tools (for more information on such tools, see '[What is the best social media listening tool for small business']()', Quora).

Once erroneous, incomplete or complementary content has been detected in our CPG, the recommendation is to include mentions and links to our resources, either directly, in the form of comments or forums, or else notifying the administrators of the identified website.

This strategy also includes revising Wikipedia contents. As a result of its relevance and positioning in search engines, Wikipedia has become one of the main sources consulted on any subject, whose user and good practice recommendations are followed bearing in mind that it isn't a primary source of information (see '[Five Pillars](#)', Wikipedia).

i. **Updating curricular profiles of authors on LinkedIn and other relevant databases**
As a general rule, we recommend the inclusion of references to the production of CPGs in the section publishing authors' profiles on LinkedIn and their dissemination through links in related groups.

9. Professional reputation plan for CPG authors

This action is relevant in the context of the [Semmelweis Hub](#) as it undoubtedly requires a digital support. The idea is that the hub should include include direct and simple feedback mechanisms for authors by implementing a review system with credibility scores or a greater presence of CPG authors' academic record.

The professional reputation plan for CPG authors should include communication and interrelation with existing knowledge networks in each discipline.

The objective is to increase the credibility and positive assessment of CPGs by collaborative preparation and updatings in which assessment and self-assessment tools play a greater role.

10. Informative Talks

This point is related to the existence of an ['ambassador' for the implementation of CPG](#) in every health centre. In this way, besides the functions mentioned in point 5 of the packet of strategic actions, one of the main tasks of these representatives would be to coordinate the organisation of dissemination activities addressed at end users which, as proved by scientific evidence, is one of the most potentially effective actions for the general population.

The main objective of this action would be to improve the dissemination of CPGs among end users and increase awareness as regards communicating the

evidence they provide. In this context we recommend organising two informative sessions at different times in every health centre or hospital for each of the new CPG published.

Summary of actions

We now present a table that sums up the different actions proposed, classified according to the level of implementation recommended, in keeping with the result of the self-assessment tool for CPG implementation.

Action	Segment A (Basic Plan)	Segment B (Pro Plan)
1. 2. and 3. Style manuals and writing guides according to health-care professionals; style manuals and writing guides for end users; creation of friendly abstracts	This should be taken into account in the preparation of the CPG and is important for its dissemination	This should be taken into account in the preparation of the CPG and is important for its dissemination
4. Creation of an attractive communication product on the CPG concept and its implementation	This should be taken into account in the preparation and dissemination of the CPG	This should be taken into account in the preparation and dissemination of the CPG
5. Appointing an 'ambassador' or person in charge of implementing the CPG in every health centre or hospital	We recommend the implementation	We recommend the implementation
6. 'Institutional' launching of new CPGs	We recommend the launching	We recommend the launching
7. Annual Prize for Excellence in CPG promotion and implementation	We recommend not taking part in the competition until obtaining a score in segment B	We recommend taking part in the competition
8. Digital visibility plan	Basic actions recommended: preparing of a digital version, sending it to the hub and promoting it in social networks	All actions: preparing of a digital version, sending it to the hub, sending it to databases, creating a website, promoting it in social networks, auditing web and Wikipedia contents, newsletter alerts and knowledge network alerts
9. Professional reputation plan for CPG authors	We don't recommend it	We recommend it in the event of the existence of a hub for the centralisation of knowledge
10. Informative talks	They can be organised as pilot tests	We recommend their organisation

6. Measurement of actions of the dissemination plan

Information and its correct analysis is one of the most relevant aspects of communication activities given that, according to the objectives considered, we should establish the extent to which each action helps achieve them in order to intensify their use or communicate good practices and establish benchmarks. Only by measuring, listening and adapting to what takes place can we establish a genuine tailored relationship with target audiences. This is particularly relevant in initiatives whose expected results are in principle less tangible and quantifiable, and in which there is no specific person in charge able to provide a clear idea of how a given plan is working.

Although the definition of key indicators for measuring the implementation of the good practices in the CPGs should first of all bear in mind aspects related to health improvement, medical efficiency and competence in the management of health services, the TRAM-S project considers it convenient to recommend a series of indicators based on communication criteria that enable us to assess the implementation of the proposed actions.

Consequently, for each of the actions suggested we recommend the following measuring indicators (key performance indicators, KPI):

Action	KPI
1. 2. and 3. Style manuals and writing guides according to health-care professionals; style manual and writing guide for end users; creation of friendly abstracts	- Percentage of new or updated CPGs published according to these manuals in a given period and territory - Scale for assessing the importance and understanding of CPG contents by target audiences (requiring a hub or economic resources for a special study) - Number of CPGs that qualify according to the CPG self-assessment model
4. Creation of an attractive communication product on the CPG concept and its implementation	- Scale for assessing the importance and understanding of the CPG concept by medical professionals (requiring a hub or economic resources for a special study) - Evolution of the number of CPGs published in a given period

Action	KPI
5. Appointment of an 'ambassador' or person in charge of implementing CPGs in every health centre and hospital	• Percentage of health centres that implement this figure • Scale for assessing the importance and understanding of the CPG concept by medical professionals (requiring a hub or economic resources for a special study)
6. 'Institutional' launching of new CPGs	• Mentions in digital media and supports (publicity) and equivalent economic investment
7. Annual Prize for Excellence in the promotion and implementation of CPGs	• Number of entries in the competition • Mentions in digital media and supports (publicity) and equivalent economic investment
8. CPG digital visibility plan	• Web traffic • Amount of impressions on our contents in social networks • Rates of engagement with our contents in social networks • Mentions and links to our contents and website on the Net
9. Professional reputation plan for CPG authors	• Number of authors with hub profiles • Number of comments obtained • Evolution of 'karma' score of different professionals
10. Informative talks	• Number of people attending the informative talks

Credits

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