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ABSTRACT

The presentation gives an overview of features of information, promotion, and education for health professionals and citizens originated by pharmas. We will focus on main drawbacks of the whole information cycle, such as integrity, duplicated, delayed or anticipated disclosure of scientific results. We will analyse main communication channels and their favourite use in respect of the targeted goals and audience.

In view of the vast amount of biomedical information available, any action is welcome to ensure the diffusion of clinically relevant information and its correct assessment, such as quality criteria for the selection of sources, recommendations of contents for dissemination to lay public. All the actors (scientists, journalists, and communicators) must be aware of the importance of their roles in providing patients, health professionals and other stakeholders with health information.

In companies librarians and information professionals are integral part of the information cycle, provide information services, training on the use of sources, revise copies. In hospitals, the information experts organize the barrage of material on medical development and could critically assess the information provided by any channel. More understanding of media needs could help health librarians to support communication activities.

Academic courses for health communicators and specific training for journalists aim to improve their capacities in selecting, understanding medical information, assess its relevance for clinical use and put it in the right perspective.

The whole system could be improved to ensure a better understanding of health information, a high quality of care and to improve prevention and compliance with health care measures.

INTRODUCTION

In a world where drugs represent a major approach to improve health, the public has a right to know what is going on in the pharmaceutical “scientific milieu”. Difficulties in the communication of health (1) is not in the research itself but in the gap existing between scientists and health communicators (2) and on how research is interpreted by the lay press and thus by the public (3). Information, promotion, education for health professionals and citizens originated by pharmas is increasingly available and is based on the involvement of a variety of targets, including health communicators, and company’s stakeholders, for different goals and through a wide range of channels (Table I).

Table I *Drug Information Items and Targeted Audience*

<i>Items</i>	<i>Targeted Audience</i>
Disclosure of research streams	Investors
Patent applications	Industrial circles
Scientific publications Congress presentations	Scientific community Stakeholders
Datasheets	Health authority Physicians and Pharmacists
Leaflets	Health Authority Physicians and Pharmacists Patients
Promotional calls and give away, web contents	Physicians and Pharmacists, other health professionals
Media releases, press conferences, workshops	Health communicators
Educational campaigns	Physicians and Pharmacists, other health professionals Lay people

The earliest forms of dissemination of information include disclosure of “research streams” to investors through the financial press and companies’ annual reports. Patent applications for intellectual property are the first technical publications, available to all but they are seen only by a highly specialised audience.

The next step is to communicate findings to the scientific community through international and local congresses and publications. This step is the primary cause of the information overload now being delivered through a continually growing selection of scientific and medical journals.

Datasheet and leaflets, i.e. the core information on drugs, should provide adequate data, acquired and supported by scientific facts from the drug development program, so that health authorities, physicians, pharmacists, and patients understand how to use a drug and what positive and adverse effects are to be expected.

World-wide, the pharmaceutical industry is the main supplier of drug information and uses various channels for promotion (medical reps, printed material and multimedia, web contents). Promotion, defined by the European law as advertising, is primarily aimed at bringing technical and clinical information to prescribers in a readily usable form. Direct advertising to consumers are regulated by local laws and in Europe is not allowed for prescription drugs.

Pharmaceutical companies may design educational campaigns for doctors and the lay public. They present messages of varying complexity through suitable media, including the web. Scientific associations are often called in to guarantee ethical and intrinsic quality. These campaigns are part of a global context including governmental activities which are delivered for two main reasons: avoid misuse of drugs and answer the basic patients’ rights (4, 5).

Promotion and educational campaign are addressed to the whole cast of the health system including health communicators. Pharmaceutical companies issue media releases and press conferences on research stream and its finding and organize workshops for journalists on topics relevant to the company’s pipeline.

Health science librarians supporting health communication

Health science librarians are an asset in pharma for traditional activities such as retrieval, assessment, selection and processing of information, and storage, which are supporting all the information and documentation cycles. The increasing number of information resources on the Internet is offering librarians with the challenge and possibility of new ways to continually increase their role, and thus their visibility, driving them to offering new products and services as "consultants, advisors, trainers and coaches".

A similar approach could be useful also to support health communicators (such as medical journalists, company's press agents, medical and drug copywriters and web-content providers), who in different ways contribute to translate and mediate the medical information to lay people through all channels delivering medical news reporting (newspapers, lay magazines, health magazines, radio and TV formats and websites).

It has been long recognized that health and science information has become difficult for non specialist scientists (6) and they are even more difficult for health communicators; the main obstacles are shown in Table II.

Table II *Issues in Drug Information*

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| <ul style="list-style-type: none">• Information literacy• Information overload• Few independent sources• Specialized research and terminology• Target's level of education |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Moreover, scientific and medical information is never immediately usable for health communicators: the growing number of scientific publications, their quality, relevance and the usefulness of the information have to be continuously filtered and evaluated (Table III) (7) and reporters find science journals hard to trust but not easy to verify (8). Last but not least, scientists and journalists are not always sharing the same sources (9).

Table III *Issues in medical and drug information for health communicators*

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none">• Information literacy• Accessibility (costs)• Growing number of scientific publications• Quality of diffused information• Relevance of information• Usefulness of information |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Health science librarians, with their competence in locating information resources from library holdings, searching databases and the Internet wilderness, and their skill in understanding, evaluating, selecting, compiling and processing information, could be a key partner in supporting the health communicator in understanding and mastering the material. Health science librarians could approach health communication in a stepwise fashion, initially supporting health communicators. The potential services that can be offered are listed in Table IV.

Table IV *Support to health communicators*

Addressing to reliable sources
Notifying services for media which indicate papers with a newsworthy contents from published

literature, such as the BMJ Alerting Service
Identifying websites collecting scientific and medical media release
Establishing local and tailored alerting service
Explaining papers in the light of the scientific method (difference between biomedical and clinical papers; biometrics relevance, conflict of interest, etc)
Introducing to the Evidence Based Medicine
Establishing a portfolio of rapidly answering experts

The support to health communicators could evolve in the integration of a “news health librarians” in the editorial staff of health magazines, where there are at least three areas in the news production process where the health science librarian’s role could prove useful: news gathering, news production, news packaging and delivery (10)

Health science librarian’s skills and competences

The role of librarians is continually evolving: senior health science library positions require a master's degree in information and librarianship but this is not enough, they need a biomedical background. To face the challenge of this specialization, specific skills and competences are needed. Beside the traditional librarian’s skill, courses should include new abilities (Table V)

Table V *Health science Librarian skills and competences*

<i>Traditional basic librarian skills and competences</i>	<i>Health science librarian skills and competences</i>
Retrieve, select, process, organize and disseminate information	Mastery of medical terminology
Information assessment	Epidemiology or biostatistics
Manage digital access and content	Study designs
Plan, budget and management of library	Evaluation of scientific literature
Computer skill	Evaluation of the advanced information technologies
	Evidence Based Medicine
	Communication skills (as listening, speaking and writing especially for patients)

Depending on the kind of services they are providing in the medical communication field, health science librarians need different level of competences. The first could be helping health communicators in improving the way they work and providing targeted services (table IV). In this stage health librarians should learn the basic items of medical journalism (Table VI – stage 1). Some issues which to familiarize with are the different approach and consideration of sources (9): what makes a fact a news (i.e. what is newsworthy) (11), how health communicators work in time and space constraints, the need for verification and second critical and possibly diverging opinion and finally how to write a media release.

The second stage could be a real approach to the new role for health science librarians in editorial staff, writing medical news items (Table VI – stage 2). For this second step they need to be familiar with journalism and its techniques, i.e., the concept of the patient’s agenda (12) what is the minimum content of a journalistic article (the news values; the 5 W’s contents in news items: who, what, where, when, why), which is not too dissimilar on how a good scientific article is built (13). Others are: what is the basic information featuring a reliable medical news item (i.e., which

recommendations and guidelines should be followed in medical and drug reporting, as an example see reference (14), local professional codes and laws, how to build up a story, the importance of *incipit* and appealing titles, the use of graphics, infographics and corollary information. Moreover understanding the communication channels and their specific rules may prove useful.

Table VI *Health science librarians supporting health communicators*

Stage 1. New basic competences	Stage 2. Advanced competences
Different view of sources	Basics of journalism (News values; 5W's content; titles and incipit; interviewing; corollary information, graphics, infographics)
Newsworthiness	Professional codes and laws for journalism
Time constraints	Patient's agenda
Space constraints	Guidelines and recommendations for medical journalism
Need of verification and second opinion	Understanding of communication channels (web included) and their rules
Basics of media releases	Understanding of restrictions (laws and codes) on drugs advertising
	Best practices in supporting drug promotion

The training of health communicators

In addition to the new competences to support health communicators and provide reliable and useful medical communication, health news librarians are expected to become familiar with the entire setting, in particular on the training objectives of health communicators.

The relationship between scientists and media is often uneasy due to the complexity of scientific method and its jargon. Scientists and physicians blame journalists in their reporting medical information and, on the other hand, journalists accuse the medical community of limiting access to information and erecting barriers to the public dissemination of medical/pharmacological research (2).

The lack of time, space and knowledge, the speed of technology and the overload of information are some of the barriers to the brevity and simplicity of news. On the contrary mass media play a central role in people's life identifying what issues we should think about. The need of bridging a gap between medicine and lay people is great and common to all the private and public actors of the system: academics, scientists, governments, mediators, lay people, to produce a new way of information which avoids shouts, sensationalisms in favour of a balanced and scientifically correct information: in other words, an information which maintains the rules of science in the respect of the journalistic basics (15).

The academic master for health communicators of the School of Pharmacy, University of Milan is an example of a curriculum of studies addressing these issues (16). We train biomedical graduates to familiarize with public media and their "languages". The master programme focuses on developing skills as a mediator from science to mass media, teaching a methodology on selection, analysing, understanding, mediating and diffusing scientific information, asses its relevance for clinical use and put it in the right perspective.

Then barriers to a good scientific journalism are analysed, such as sensationalism, biases, conflict of interest, lack of follow up, involuntary distortion of information, news making (lack of time, space, and knowledge), and the difficulty in understanding when the story has a strong promotional nature, issues in finding and using sources. An area where health science librarians could provide an experienced support, approaching the world of medical communication and journalism and learning with a field approach (17).

DISCUSSION

We are suggesting a step forward for health science librarians from the care of historical libraries which library primarily contained single copies of paper-based information resources, and the health librarian was mainly an “information gatekeeper”, controlling the flow in and out and back again of the information resources in the library. A great change also from the phase when librarians have been considered “information intermediary” able to build-up the databases and/or how best to retrieve the information from the databases. And again a step forward after all the drastic changes in the information technology which lead librarians to adopt futuristic approaches, trying to master the internet wilderness and understand and compare new technologies.

In addition to basic skills, in the future health science librarians could share communication responsibilities with health communicators (Table VII).

Table VII Share communication responsibilities with health communicators

<i>Information basic skill</i>	<i>Health communicators</i>
Assessment of needs	What do you need to do?
Task definition	Why will you use it?
Evaluation	Which should you choose?
Acquisition	Who's going to get it?
Access	Who gets to use it?
Seeking skills / training	How do you learn about it?
Maintenance	Who will preserve it?
NEW: Communication	NEW: Phase 1. How to support health communicators? Phase 2. What, how, why, to whom communicate

Continuing education is essential for all library personnel; continuing education opportunities include both formal and informal learning situations, and need not be limited to library subjects or the offerings of library schools. It is a lifelong learning and is essential for a professional growth and instrumental for sustaining one's competence. Particular attention should be given to emerging areas, such as blogs, wikis, web communities: in fact while web has a tremendous potential for access, range of sources and interpersonal communication, the quality of all the information still varies and will continue to vary widely, limiting its use as a serious source of information (2, 3) or better requesting a wise assessment of sources accessed (9). Librarians have been able to cope with all changes in the information process and they should continue to do: education and continuing education are the cornerstones of their progress in role and their “adaptive” nature.

Regarding health librarians, in their present role they should be professionally qualified and possibly have a biomedical background; this will help in progressing in their role and be more useful to their institutions.

A news medical librarian will require a further specialization as well: in addition to the general criteria of information management and assessment with which we all should be familiar, a news medical librarian needs to acquire the basics of health communication and medical journalism, no matter how these skills are acquired. It is commonly assumed that one of the most effective ways to remain professionally updated is reading professional literature; but little can be found in the medical literature on this subject; (for an example of challenges in becoming a medical journalist see reference 18). Academic curricula for medical journalism and health communicators such as the one mentioned could answer this continuing education need.

We have focused this paper on “news library health librarian”. But in pharmaceutical companies more responsibilities can be in supporting, revising and improving, medical publications,

promotional copies, annual report, media releases, continuing medical education projects and any item or activity involving drug information.

CONCLUSIONS

Health science librarians could try to establish as a key partner in supporting the health communication professionals' needs. This evolutionary change in role could establish an information partnership between health communicators and health science librarians, where the latter's abilities and skills, integrated with proper specific competences, will work with the communicator's role as interpreter, explainer and compelling writer.

The writing of promotional material or news reporting will be more accurate and useful, contain more perspective, bring in more voices, where appropriate, and provide different angles than possible in the past.

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