

Secção Autónoma de Ciências da Saúde

JOSÉ LUÍS LOPES DE ARAÚJO

RELATÓRIO DE ESTÁGIO: GESTÃO EDITORIAL NA ARC PUBLISHING.

INTERNSHIP REPORT: EDITORIAL MANAGEMENT AT ARC PUBLISHING.



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Relatório apresentado à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Mestre em Biomedicina Farmacêutica, realizado sob a orientação científica do Professor Doutor José Luís de Almeida, Sócio Gerente da ARC Publishing e Professor Associado Convidado da Secção Autónoma de Ciências da Saúde da Universidade de Aveiro; e da Professora Doutora Alexandra Isabel Cardador de Queirós, Professora Coordenadora da Escola Superior de Saúde da Universidade de Aveiro.

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resumo

Os principais objetivos do meu estágio em gestão editorial, na ARC Publishing, estavam ligados com o desenvolvimento do International Journal of Clinical Neurosciences and Mental Health e com tarefas de redação e comunicação científica. Após um período inicial, fui convidado a participar mais ativamente nas tarefas de gestão da empresa, promovendo o seu crescimento. Ambos os objetivos foram atingidos. Fui, juntamente com a equipa na qual fui integrado, capaz de criar uma sólida estrutura de suporte para a revista científica, incluindo um vasto painel de editores e uma plataforma para submissão de artigos e gestão do processo de revisão por pares. Como comunicador científico, participei na elaboração de 2 artigos, revi e executei métodos estatísticos, editei capítulos de livros, preparei cadernos de recolha de dados, e escrevi instruções para autores e textos comerciais (entre outros trabalhos). Estive também envolvido no registo da marca ARC Publishing, na sua promoção e na arquitetura de uma estrutura de qualidade que a fará uma referência futura nas agências de comunicação dedicadas ao conteúdo médico.

Durante o estágio, melhorei as minhas apetências técnicas em redação, edição e comunicação científica. No entanto, os maiores ganhos foram ao nível do desenvolvimento de apetências de gestão e de relacionamento interpessoal. Globalmente, atingi os objetivos traçados para o período de 9 meses de estágio, cresci como profissional e contribuí para o desenvolvimento da ARC Publishing.

keywordsMedical Writing; Statistics; Publisher; Peer-review; Open-access;
Editorial Management;

abstract

The main goals of my internship as associate editorial manager in ARC Publishing were to develop the International Journal of Clinical Neurosciences and Mental Health and to perform medical writing tasks. Bound with those objectives, and as result of the empowerment in the first months, I was invited to actively manage ARC Publishing activities and to promote the company growth. Both goals were achieved. We, me and my teammates, were able to build a solid editorial board for the journal and an information technology infrastructure to support the journal publication, manuscript submission and peer-review process. As medical writer, I participated in the writing of 2 original manuscripts, revised and executed statistical methods, edited book chapters, prepared case report forms, and wrote instructions for authors and marketing texts (among several other works). We also registered ARC Publishing brand, promoted it among our clients and built internal resources (by staff training and quality procedures) to guarantee ARC's future as a reference brand in medical writing for private clinicians.

During my internship I improved my medical writing and editorial skills. But my greater gains were in interpersonal and management skills. Globally, I met the objectives set for the 9 months period, growing as professional and contributing to ARC Publishing development.

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Acronyms

BMC	BioMed Central
CNPD	Comissão Nacional de Protecção de Dados
CRF	Case Report Form
EMWA	European Medical Writers Association
GP	General Procedure
ICMJE	International Committee of Medical Journal Editors
IJCNMH	International Journal of Clinical Neurosciences and Mental Health
IT	Information Technology
MW	Medical Writer
OP	Operative Procedure
SAP	Statistical Analysis Plan
SOP	Standard Operating Procedure
SP	Specific Procedure

1 Introduction

The curricular training at ARC publishing was presented to me as a diverse and challenging development of a start-up company. In the following sections I describe the objectives of the internship. To contextualize I included also an overview of the publishing and medical writing landscape. Section 2 presents the methods available (i.e. how the company enabled my work). In Section 3 I describe my activities and results, which are discussed in section 4. A conclusion is presented in the last section.

During this report you may notice a massive use of the word "We". The use of "We" is due to the preference for active voice, but also because all my work was not possible without the collaboration of Professor Luis Almeida (supervisor and ARC's Managing Partner) and Tiago Campos (colleague and medical writer trainee).

1.1 Objectives

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The job title "Associate Editorial Manager" is as broad as the spectrum of the objectives during the training. The major objectives can be related to 2 main areas: publishing activity and medical writing activity. On top of those, we added the objective of developing the ARC's business by engaging clients and finding marketing solutions.

Publishing activity was at the core of my internship. In the first 3 months (one third of total internship duration) the objective was to develop the International Journal of Clinical Neurosciences and Mental Health (IJCNMH). This task includes: interaction with Editor-in-Chief and Associate Editors to understand their needs; selection and invitation of the members of the editorial board; development of contact database for dissemination and marketing activities; planning (and production management) of journal website and peerreview platform; writing of guidelines for authors and reviewers; and writing of website contents. To better accomplish those tasks, the initial period of the internship was spent at the Psychiatry Department of S. João Hospital (Porto, Portugal)—the workplace of the Editor-in-Chief. The secondary objective in publishing activities was the edition of books and book chapters.

Our aim in the medical writing activities was to produce: scientific articles for submission to peer-review journals; oral presentation materials; Standard Operating Procedures (SOPs), internal and for other companies; translations of regulatory documents; and Case Report Forms (CRFs). To support medical writing activities, we also planned to write SOPs for statistical analysis and data management.

Management interconnects the objectives in publishing and writing. We aimed to develop a quality system—based on parallel processing and virtual team workflow—and to develop ARC's brand and business. In this category, objectives included the development of: SOPs, marketing materials, websites, and client interactions. At last, but definitely not at least, one important objective was to supervise an internship of an Associate Medical Writer.

1.2 Publishing landscape

1.2.1 Scientific journals and review process

The first scientific journal was published in January of 1665—the Journal Des Savants by the hands of the Académie des Sciences in Paris. It was a close call, 2 months later the Royal Society (London) published the Philosophical Transactions (1). But the Royal Society was the one to establish the principles of scientific priority and accuracy by editorial and peer-review. In fact peer-review was created to legitimate the editor's choice (1-3). The peer-review and basic principles of scientific editorial revision remained for 300 years, but are now thriving to change. In this section I will review how we stand regarding to academic publishing, the boom of the open-access and the issues arising from peerreview and overall cost of transmitting knowledge.

In early years scientists communicated their findings using letters with the objective of learning from peers. Scientific publishing (along with peer-review) replaced the inefficient letter system, adding degrees of freedom to the process, i.e. more scientists could intervene (4). The peer-review was increasingly standardized after 1950' science boom, with the creation of editorial and review boards. The main process is represented in Figure 1. The differences between peer-review processes are in the decision to disclose identities of the authors or the reviewers: in single-blind mode the reviewers know the author identity and the author is blinded to reviewers; in double-blind mode neither the reviewers nor the author know the identities; in open review all the identities are disclosed.



Figure 1. Schematic representation of the peer-review process. Immediate article rejection (e.g. out of journal scope) is represented by the dashed line.

The nowadays peer-review and publishing system is incontestably the only legitimate way of disseminating scientific information. It influences all aspects of research. Scientists even perceive publications (and their impact factor) as a currency: of utmost importance for reaching investigation funds. But peer-review as we know it will likely not endure, it needs to adapt to an internet driven system (5). In medical sciences the rate of new information is tremendous (5). The title of the paper from Bastian and colleagues states the scientific/medical problem: "Seventy-Five Trials and Eleven Systematic Reviews a Day: How Will We Ever Keep Up?"(6).

If press and paper scientific journals shaped peer-review and enriched the process, online publishing is certainly pushing the boundaries of scientific communication. Authors are no longer dependent on publishers to disseminate information. In fact they can disseminate it faster in other formats that may impact a specific scientific audience (4). Change is occurring inside and outside journals. In journals we can observe a clear trend towards open-access publications (5). Open-access is an online driven change that aims to deal with a greater scientific output by lowering the costs for the authors. It also makes the article more accessible for the community, which is a response to the crescent need to disseminate the information the faster way possible. But although it is a visible trend (Figure 2) it does not solve the issue with long and erratic peer-review cycles. It does not also solve (in fact it contributes to) the problem that more articles mean that more reviewers are needed; the number of experts available is not meeting peer-review demand (5).



Figure 2. Open-access publication trends from 1993 to 2009. Adapted from (5).

Journals are trying to improve the efficiency of peer-review cycles. Large groups as BioMed Central (BMC) are already re-using the reviewers' feedback inside the group journals. One of BMC managers, Matthew Cockerill, referred that Genome Biology only accepts 10% of the papers submitted, but passes 40% of the rejected manuscripts to other BMC journals; from those papers about 50% end up published (7). A large scale of this passing philosophy is being implemented by Rubriqs, which is a company that aims to promote professional peer-reviewing. In this model the author pays for a fast and independent review that will be available for the journals which are recruiting the service (the expected fees for authors are between 500\$-700\$). A small but powerful group of publishers already adhered to this initiative, including: Public Library of Science, Karger Publishers, F1000Research and John Wiley & Sons; Rubriqs holds (April 2013) a group of 500 professional reviewers (7).

But there is also a movement to publish in less conventional formats, or even to not publish at all as a protest for the journals costs. Academics more and more practice openscience, sharing their data in repositories as figshare, GenBank, Dryad, GitHub among others; and even sharing their methods by open-notebook philosophy. New approaches

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also include blog posts, comments, and social media integration. One of the blog/prepublication approaches—popular in mathematics and physics—is ArXiv.org from Cornell University Library. It is likely that in the near future the majority of the academics will join those open networks driven by the fear of being excluded from important decisions or projects (4, 8, 9).

In an interesting Nature paper, Priem defends that the shift to online publications will have 3 main consequences: 1) the increase in information flow will swamp the filters (as peer-review) designed for paper-based systems, and the manual controlling methods will fail to deal with the new paradigm; 2) the use of new metrics to evaluate scholarship success, as views, approvals or mentions in discussions, will replace the citation system; 3) as consequence of 1) and 2), reviewers and editors will be replaced by the community judgement, the information burden will therefore be a solution to its problem (imitating what happened with Google's ranking algorithm for filtering web-searches) (4).

To the reader still unwilling to accept the change in scientific publishing, lets also have a look at more radical movements. A group of prominent researchers (leaders in their field, mostly in mathematical and fundamental research) is refusing to publish or participate in review process. This movement is called the "cost of knowledge" and basis its boycott in the fact that authors type and pre-format their papers and the online distribution costs are low: which lowers the overall publishing costs. Despite of this, the price of university journal subscriptions continues to raise, with the State (the majority of fundamental research uses public resources) financing the research, the writing, the publishing fees and still having to pay to access the publication (10). In a nutshell we—as taxpayers, authors and reviewers (by voluntary work)—are paying for a service that can easily be replaced.

1.2.2 Issues in peer-review and open-access

Clinical study related publications hold a different scenario. Regulatory authorities demand public divulgation (preferably by publication in peer-review journals) of clinical research results. Industry is also interested in publication of results, which may be read by key opinion leaders and impact drug sales. To better understand the issue in trial reporting, we have to consider an additional fact: publication is biased to positive results (11).

So we have editors that are looking for positive results and industry that is happy to hide negative results. That is truly an unfortunate combination, which may be dangerous and do not help doctors to select the best possible treatment for their patients. The specific biases in clinical research have been reported by several authors (11, 12). Lee at al. analysed the publications from 90 Food and Drug Administration's approved drugs, reporting that: more than half (67%; N= 909) of the trials were not published 5 years after drug approval; and original articles were more likely to be published for trials with large populations (pivotal) and when statistical significant results were present (11). Furthermore, Ramsey and Scoggins analysed oncology trials (N=2028) publications: only 18% of the trials were found in PubMed; within pharmaceutical industry the proportion of published trials is even lower—about 6%, contrasting with 60% from clinical trial networks; the results were positive in approximately 65% of the studies (12).

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1.2.3 Medical journal structure and ICJME guidance

The International Committee of Medical Journal Editors (ICMJE) guideline (Uniform Requirements for Manuscripts Submitted to Biomedical Journals) is an essential document to every journal in clinical research. It includes ethical considerations in the conduct and report of scientific research, standards for manuscript preparation, submission and publishing, and editorial issues. The guideline is focused on very important issues as authorship, acknowledgements, editorship, peer-review, the conflicts of interest, privacy, and confidentiality. It presents also ethical standards for protection of humans and animals in research (13).

To standardize the report of original research, the ICJME presents their views on how a manuscript should be structured and the contents of each section. It also provides guidance on reference style and format. The submission, review and editorial process are also detailed (13). The guidance contents are transposed to a vast number of journals— 1305 journals are listed in the ICJME website (14), including all the heavy-weights as The Journal of the American Medical Association, The Lancet, British Medical Journal, etc. who implemented them in their editorial policies and instructions for authors.

1.3 Medical writing landscape

1.3.1 Spectrum

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Medical writing is a challenging and demanding activity. It needs a broad spectrum of skills to cover a large number of documents. In this sub-section I review the major areas and tasks of medical writers and other associated careers. I also included some of the major criticism regarding authorship of professional writers.

The job title speaks for the function: the writing of medical content. The challenge in describing medical writing is not about the function (to write) but more about the diversity of documents. Documents and its finalities will dictate the medical writer type of activity. The European Medical Writers Association (EMWA) divides—in some opinion papers (15) and also at the main website (16)-medical writing in regulatory writing, scientific communications, marketing/journalism and translations. Regulatory writing includes the preparation of study documents for drug approval (clinical study protocols, clinical study reports, investigator brochure, etc.), the summary of medicinal product characteristics and patient leaflet, support for marketing products and the value dossiers (pharmacoeconomics studies, including systematic reviews). Scientific communications refer to the writing of manuscripts for peer-review journals, conference posters and abstracts, book chapters, oral communication materials (for clinicians or for medical scientific liaisons) and scientific online text. Documents respecting marketing and journalism categories are usually derived from the above mentioned and may include: marketing online text, sales representative materials (and training), newsletters, articles of medical journalism and public relations activities. Finally, medical writers may be involved in translations, because the wording may need not only clinical adaption but also to be tailored for effective communication with regional authorities.

Medical writers may work in all the mentioned areas (rare cases, typically freelancers) but often are specialized in 1 or 2 areas (15). The specialization is not due to lack of capacity,

it is frequently related with the focus of the employer. Some authors may even suggest medical writing in a spectrum of activities, with the regulatory in the front-end and marketing/translations at the back-end (15).

1.3.2 Functions, skills and metrics

The medical writing functions, skills and metrics are strongly related to the job and the employee affiliation. Medical writers (although not always with this designation) can be found in pharmaceutical companies, clinical research organizations, medical writing companies (commonly referred as MedComms), publishers, universities, or can also work as freelancers. The type of documents will depend on organization objectives; freelancers and MedComms often cover a broader spectrum of documents and services.

As suggested by the diversity of documents, a job in medical writing is not necessarily a writer position. Companies may also employ Editors (for copy-writing and proof-reading activities), Project Managers (and other leadership positions) and Account Managers. The functions also vary with the job task and setting, but generally include (17):

- Input in scientific documents and reports destined to all audiences types.
- Consultancy to clients and colleagues on templates, regulations, branding, quality control and marketing materials.
- Input in pharmaceutical development (trial design, data management and statistics, product marketing, etc.).
- Team building and communication activities, and interaction with clients/investigators.

This multiplicity of functions is handy to pharmaceutical and communication companies, in which medical writers often grow into leadership positions. But to achieve it a medical writer needs to have a diverse set of skills. It is generally expected that, beyond writing capabilities and health sciences background, the writer is proficient in: statistical analysis, data management, publishing and regulatory requirements, computing (sometimes including programming languages), editing, proofreading, design, and soft skills for team work. An eye for detail is an often request in job offers. Writers are expected to produce flawless text with minor need for revision-a draft is perceived as a final document that needs only approval. Skills in editing and proofreading are therefore essential. Proofreading is the activity of finding inconsistencies or errors; editing refers to correcting and improving the readability of a document; medical writers often do both tasks and the difference is not always clear. Nevertheless, editing and proofreading refer to quality control of the documents. Soft skills (which are not often trained) are also vital and deserve managers' attention when come to reinforce the medical writer pivotal role. Recently, McPhail et al (17) recommended the involvement of medical writers in the review of the Statistical Analysis Plan (SAP). The authors argue that this involvement benefits both statisticians (identifying errors or gaps) and the writers, which knowing the SAP will produce a faster a more accurate report. They suggest that the writer should be attentive to:

- Consistency with the study protocol and completeness.
- Statistical methodology and how data will be handled.

- Comprehensibility and clearness of the statistical methodology for all study variables.
- Outputs contents (tables and listings) that will be at the core of the final study report.
- Grammatical or spelling errors.

EMWA characterized the activity of freelance writers in 2 surveys in 2003 and 2007 (18, 19). The most common types of activities were writing, editing and translation (occupying respectively 67%, 18% and 11% of the work-time: 2007 data). The most frequent type of documents is related to pharmaceutical drug development (41%) followed by scientific articles (35%) (18, 19).

Metrics is a very sensible topic when comes to medical writing. The business world needs metrics, and tangible metrics are essential for making managing decisions. Kingdom (20) reports some possible metrics: number of documents written, average time to produce a document, number of papers published, number of citations of a paper, and number of quality control findings. But although the activity is possible to measure—to some extent it is important that senior management considers more than numbers to make it tangible. For example the average time to produce a document is highly dependent on the difficulty and length of the document (and may be dependent on input from third parties). Good writers enjoy learning from the quality control process: it is intended as a cycle to improve a document. If it becomes a tool for measuring writing performance, that tool can break teams and destroy the true aim of the process. Managers must consider all the possible alternatives before imposing strict metrics to writers (20).

1.3.3 Language

As we dig deeper in scientific literature the importance of English becomes evident. Hikamaru Sano (21) went further reporting in an article the growing importance of English since 1961 in one of the largest chemistry databases (Chemistry Abstract file). Figure 3 shows an adaptation of data reported in Sano's article; the trend of language use over time in scientific papers.

This clear trend tends to filter medical writers, which must hold reliable writing skills in their native and English language—so, who is favoured by this trend? Native English writers have for sure a natural advantage, but this is not always true.

From Figure 3 we can observe that the growth of English as the language of science is not derived from a growth of publications from English natives but rather from the decrease of publication in other languages. So, English scientific text written by non-natives is growing: this fact shapes the English language. English in the sciences is becoming more direct, eliminating all the flourish and unimportant wording. In this context, non-natives hold an advantage because they know what simple English is because they were less exposed to the complex form of the language. The unique scientific language has to be seen as an opportunity by non-native medical writers. Eugene Garfield already defended this point in 1989 (22), saying that the monolingual English native "…risks being left out of the conversation in an increasingly global and multilingual business community".



Figure 3. Proportion of papers published in different languages between 1961 and 2000 in Chemical Abstracts Service database: adapted from table 1 in (21).

1.3.4 Authorship

Authorship, ghost-writing and guest-authorship are big issues in medical writing. Ghostwriting refers to individuals that although making significant intellectual contributions are not included in the author's list. Furthermore in ghost-writing the writing contributions (as technical service) are also not acknowledged. Guest or honorary authorship is intrinsically connected with ghost-writing (23, 24). Guest-authorship refers to the practice of including authors, which do not qualify as author, to enhance the manuscript reputation or to increase the guest's number of publications (23-26).

ICMJE guidance (13) refers that authorship criteria should be based on (to classify as author all the bellow conditions should be met):

- "substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;
- drafting the article or revising it critically for important intellectual content; and
- final approval of the version to be published."

Harvard University (27) presents 6 criteria to guide authorship attribution, from which the following is relevant to medical writing activity: "Everyone who is listed as an author should have made a substantial, direct, intellectual contribution to the work. For example they should have contributed to the conception, design, analysis and/or interpretation of data. Everyone who has made other substantial contributions should be acknowledged. (...) provision of technical services, patients, or materials, while they may be essential to the work, are not in themselves sufficient contributions to justify authorship".

Both guidelines appeal to the responsibility of the author and the distinction between technical and intellectual contributions. If the medical writer is contracted he passes the responsibility and final approval to the sponsor. So the responsibility clause is often consensual—the technical writer is not responsible and therefore does not qualify as author. The main issue, and source of debate, is in how to distinguish between technical

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and intellectual contribution. The writing process encloses a natural intellectual contribution; it shapes ideas and transfers knowledge. The extent of the outline and content control by the author (that is not only a guest) and the sponsor, will dictate the difference between intellectual and technical support. If a writer is allowed to contribute to the paper in constructive way, then that fact should be properly acknowledged and not ranked as a service. But even with an intellectual valid service, the responsibility clause is not valid for medical writers, so they do not qualify as authors (28).

shows the process of ghost-writing and guest-authorship and the control by pharmaceutical industry sponsor (34). It is worth to note that this figure shows the fraudulent and non-acknowledged version of the process: if the author outlines the article, and the medical writer only does an acknowledged technical service, the process is valid and ethical.

Stephanie Phillips (29) ran a survey in members (N=61) of the American Medical Writers Association involved in regulatory writing that could potentially involve bad authorship practices. The author found that: in research articles 70% of the writers were involved after development of tables and figures and 5% of the participants were only involved after development of the first draft (outline); in review articles, 75% of the authors were involved before the outline development. Furthermore, the participants estimated that in the outline process the authors controlled 51% of the content, the pharmaceutical company 19% and the writer 32% (average values) (29). Acknowledgement of the service was more frequent in pharmaceutical companies (61%) than in MedComms (18%) (29).

Other study, from Gøtzsche et al (30), reported alarming numbers of ghost-writing. The

authors investigated 44 trials and found evidence of ghostwriting in 33 (increasing for 40 when authorship was substituted by acknowledgement). However, in this study, qualification as author was defined by the following functions: writing of protocol, perform statistical analysis, or writing of the manuscript. Other authors (31) discussed that these findings are highly debatable due to the definition of author being broader than the one used by the ICMJE (13). Nevertheless other authors also point to a prevalence of guest-authorship in articles published in peer-reviewed journals (32, 33).

Studies on guest-authorship and ghost-writing should follow the most accepted standards for authorship (ICMJE or Harvard University) and be conducted by transparent methodologies. A key message is that the medical writer is providing a service, thus the final use and responsibility of the result of that service—the manuscript—is of responsibility of the client. By current guidance, the medical writer should be acknowledged but do not gualifies as author.



Figure 4. Fraudulent role of the Medical Writer (MW) in ghost-writing process. Adapted from figure 1 in (34).

2 ARC Publishing: the methods

ARC Publishing is a communication agency tailored for serving healthcare professionals. It was developed keeping in mind the difficulties in conciliate the clinical practice and research tasks. Those difficulties arise from the lack of time of clinicians that are too busy and often work extra hours, but also from the lack of knowledge in clinical research methodologies (often non-lectured during medicine courses).

This context presents a market opportunity to provide specialized services to a niche of professionals. Simultaneously it responds to a crescent need in medical writing from pharmaceutical industry. The following sections present the mission of ARC Publishing, its services and the methods (workflow) employed; it is also included a short description of the educational activities performed during the internship.

2.1 Mission

"The ARC Publishing mission is to provide superior medical writing, statistics and publication services, helping you to get out the most of your work, to enhance your reputation among peers, and transfer to society the best of your knowledge".

The mission statement transcribed above was developed during the internship and transmits ARC's essential points of action. The short-term goal is to help clinicians to raise the impact of their work: this is accomplished by providing medical writing, statistics and publication services. But also to help clinicians transfer their knowledge, which can be processed in 2 directions: from healthcare professionals to the society, in form of publications, or dissemination; and from society to healthcare professionals, in form of medical education programs. The last direction is expected to close the loop, generating outputs but also providing inputs—and to select those that are meaningful for the practice of medicine. With this information loop it is expected to provide a platform for scientific sharing and development, and also to increase the professional's reputation.

2.2 Services

As referred above, the main services of ARC Publishing are related to medical writing, statistics, publication and educational activities. Although they withhold the same importance and were all part of my internship, I describe further the medical writing services. Medical writing services are diverse and directed for different audiences thus may have multiple formats, which requires a more detailed description. The following sections describe each of the ARC Publishing services.

2.2.1 Medical writing

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Medical writing services are directed for 2 main costumers: healthcare professionals (private clinicians) and organizations. Within healthcare professionals 2 profiles can be distinguished: clinicians that need support in analysis and reporting their work, and clinicians that need writing support for initiating their scientific work (e.g. protocol and regulatory submissions consultancy).

The analysis and report for clinicians includes, but it is not limited to, the following type of documents:

- Manuscripts for peer-reviewed journals.
- Abstracts for congresses or proceedings books.
- Poster presentations.
- Oral communications.
- Book chapters.
- Academic Thesis.

The support for study initiation for healthcare professionals includes, but it is not limited to, the following type of documents:

- Study protocol, including the SAP and the informed consent.
- Ethics committee and regulatory applications.
- CRFs, printed or electronic versions.
- Study database and codebooks.
- Statistical report.

The medical writing services for organizations are aligned with needs of pharmaceutical and medical device industry in Portugal. The services are related to the non-regulatory part of medical writing. Regulatory writing is a service that has higher demand by the innovative industry, which (unfortunately) does not have a strong presence in Portugal. The writing of regulatory documents is also inserted in a competitive and highly bureaucratic environment that can present impracticable market barriers for start-up companies. Therefore ARC Publishing services for organizations are focused on the following documents:

- Translations of clinical study documents, from Portuguese to English or from English to Portuguese.
- Scientific manuscripts, posters, oral communications or any other form of results communication.
- Online scientific materials.

2.2.2 Statistics

Statistical services are directed primarily to private healthcare professionals. The intent of statistical services is to provide more than an analysis solution: aiming to plan the study as well. A planned statistical approach reduces the need for post-hoc analysis and allows the sample size calculation. Consequently, the investigator is less prone to waist resources with inadequate sample sizes and inefficient statistical analysis.

The analysis of scientific data is performed following SOPs, which include decision trees that adapt the analysis to the data and research question (those SOPs were part of my internship objectives).

2.2.3 Publishing

The divulgation of knowledge generated by healthcare professionals is a crucial part in ARC's mission. Publishing services aim for that purpose. Because English is (as seen above) the language of science, it is always recommended for the clients to write and publish in English, maximizing the impact of their work. The publications although thought

global, are meant to act local. Scientific journals and books published in Portugal are more likely to impact Portuguese audiences: students, pharmaceutical industry, healthcare professionals and key opinion leaders.

The publishing service includes the steps of editing, publishing (proof-reading, formatting, and copy-rights handling) and dissemination. The formats may range from books, scientific journals, conference proceedings and newsletters. Services related to scientific journals also include the development of editorial board, review board, websites, and handling of manuscripts and communication with authors.

2.2.4 Training

ARC publishing provides training in medical writing, statistics and clinical research methodology. The idea behind training services is to provide tailored content to adapt to audience needs. The courses are mainly organized for medical educational activities (often sponsored by pharmaceutical industry) and for staff training to enhance the efficiency of an organization. The methods of teaching may need also specific (tailored) approach, e.g. e-learning short courses with video-support.

The objective of training services is to provide a course that will allow the participants to apply the materials in daily activities. For example in statistical courses taught to an audience with non-mathematical background, the focus is on teaching the participants how to decide which statistical methodology to apply and how to apply it using user-friendly software.

2.3 Workflow

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2.3.1 Virtual team and parallel working

The workflow at ARC Publishing was thought to optimize the work by 2 persons. But it is scalable, i.e. it can include more workers. When evaluating the task size and complexity, the main issue is to calculate the optimum number of staff to work on the project (resources): more members will likely generate more diverse inputs and grant project continuation; less members will generate a less bureaucratic and consistent project—to find a right balance it is important to be attentive to the specific needs of the document. For ARC's tasks, 2-person teams were judge as optimum to cover the services that are part of the portfolio.

ARC is based on the new paradigm of virtual teams. A set of informatics tools (specified bellow) simplifies the virtual work. In specific tasks virtual interaction can be more effective than face-to-face interaction. Although apart, the workers are in constant communication, benefiting from the isolation for writing (writers are often annoyed by interruptions) and from the scheduled communications periods.

2 persons working in the same project already generate a degree of parallel workflow. As shown in Figure 5, the time-savings are considerable when a team of 2 persons works in parallel. Parallel work has more advantages than time-savings. It allows a stronger outline component. When 2 persons think the outline, it becomes more robust and less prone to modifications—furthermore, if the workers have complementary skills the project will benefit from different perspectives. It can also be more consistent since the document

story is shared and understood by both workers. Other advantage of working in parallel is to reduce the dependency of the individual. In this way a team shortage will produce only a small impact on the final product delivery time and quality.



Figure 5. Time saving in parallel workflow compared to sequential workflow for writing a scientific manuscript; the team size is 2 (workers 1 and 2); and the order (sequence) of tasks is purely illustrative.

2.3.2 Software

ARC Publishing collaborators need to work with a broad range of computer software. To meet the service and workflow needs it is necessary publishing/medical writing, statistics and project management software. On top of the task-specific software, other informatics tools are necessary to manage the communications and data transfer.

Publishing and medical writing services use heavily common word processor and slide presentation software (Ms Word[®] and PowerPoint[®]). For better layouts and to publish final versions of documents we opt for InDesign[®]. InDesign allows to more efficiently align the text in various formats (e.g. it is useful to flow text in multi-row formats for scientific articles layout). To generate high quality figures we opt for Gimp[®]. Gimp can be seen as the open-source version of Photoshop[®] from Adobe.

Statistical analyses were performed in SPSS[®]. SPSS allows investigators the commodity of a non-programming environment, being user friendly and maintaining scientific consistency. To obtain certain types of figures (e.g. pharmacokinetic graphs) more flexible software were used as Ms Excel[®] and Graphpad Prism[®].

The project management and communication software is critical to virtual teams. To keep track on tasks, and to monitor their priority/completeness we used the TeamBox[®] software. TeamBox is free of charge for a small number of projects and a small number of users (ideal in the start-up company context). TeamBox also allows the integration of file sharing software as Google Drive[®] and Dropbox[®]. The crescent number of videoconference and cloud-based office software also favours virtual teams. Our choice for videoconference was Skype[®]; to simultaneously process text we chose Google Drive.

Google Drive allows the users to view real time edits from partners, which is an effective method to discuss and draft manuscripts outlines while in voice conference.

To manage the submission and peer-review of manuscripts, in-house software was created and named Manuscripts. More details of the development and features of Manuscripts are available at section 3.

2.3.3 Quality control in medical writing

One of the tasks of the internship was to create and implement a quality control system. Although not in writing format, some quality guidance was already in place. Medical writing quality control can be seen as a double-step process: self and external quality control. Self quality control refers to the process of producing the best draft possible. This quality control (that can also be regarded as revision) should preferably take place after some time (at least a good night of sleep) of writing the first draft—giving the possibility to the writer to acquire some mental space from the freshly done text. External quality control assures that the writing is flawless. Writing is a form of transmitting knowledge and it also suffers from what is commonly referred as curse of knowledge—that can be defined as the difficulty of after learning return to the non-knowledge perspective (the previous step) and reconstruct the learning process. External validity is also crucial to guarantee that the writer does not skip any important piece of information for the reader, and that the draft is free of mistakes and consistent in style.

2.3.3.1 SOP structure

Although a clear structure for SOPs was not in place at the start of the internship, training was provided in how to deliver consistent SOPs. The SOP development was also part of the first year master's course in the module clinical pharmacology. The course included the general rules of writing SOPs and part of evaluation work was to create a SOP for writing the clinical study protocol.

In summary, the general rules considered for SOP development were to:

- Know the SOP objective and have a clear work methodology apprehended.
- Put in place a quality control process, with SOP approval and version control.
- Use a template that is based on the following sections:
 - o Purpose
 - o Scope
 - o References
 - o Responsibilities
 - o Procedures
 - o Appendices
- Use flowcharts and diagrams to explain complex procedures.

2.4 Sponsored training

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On top of the training provided during the first year of the master program in Pharmaceutical Medicine, ARC Publishing also sponsored a course in Project Management. ARC also allows the employees to seek for free web-based formation. Those formations were conducted during the internship and were essential to complement the on-job training.

2.4.1 Project management: interpersonal skills

The course "Project management: interpersonal skills" is part of an optional subject of the master degree in pharmaceutical medicine. Since it was an extra-curricular (and optional) course, ARC Publishing sponsored my participation.

The course was fundamental to better understand the subtle role of interpersonal skills when managing a project. It presented 8 interpersonal skills: leadership, team building, motivation, communication, influencing, decision making, negotiations, and political/cultural awareness. All the skills presented are essential for team members in organizations. Even for small companies, the training in interpersonal skills is very important to alert worker's senses for the team needs.

The course allowed me to practice teambuilding through creative group exercises, in which the dialogue and empowerment was fomented. It also provided a review on the importance of communication for project success. The course made use of guidelines and structured approaches to soft skills. The participants were able to use those guidelines for positive communication (influence), effective negotiations, conflict management, and decision-making. Issues of power and relationships were also part of this course: e.g. how to apply models of leadership and motivation.

2.4.2 Web-based training

Massive Open Online Courses—as Coursera.org and Edx.org—are practical solutions for start-up companies to solve part of the training needs. It also helps to keep the employees motivated, allowing them to pursuit intellectual enrichment during some working hours.

The course offer is becoming more and more diversified with a crescent number of universities joining Coursera and Edx initiatives. Table 1 shows the courses in the areas of writing, statistics and pharmaceutical medicine since September 2012. From those courses, I successfully (every course has an evaluation component) completed:

- Writing in the Sciences from Stanford University.
- Passion Driven Statistics from Wesleyan University.
- Data Analysis from Johns Hopkins University.
- Vaccine Trials: Methods and Best Practices from Johns Hopkins University.

• Drugs and the Brain from California Institute of Technology.

Table 1. Massive Open Online Courses available in Coursera.org and Edx.org relevant to ARC Publishing activity. The courses in the table were available since September 2012.

Writing courses	University	
Writing in the Sciences	Stanford University	
Clinical Terminology for International and American Students	University of Pittsburgh	
Crafting an Effective Writer: Tools of the Trade	Mt. San Jacinto College	
English Composition I: Achieving Expertise	Duke University	
Writing II: Rhetorical Composing	Ohio State University	
Statistics and Data Management courses	University	
Statistics One	Princeton University	
Statistics: Making Sense of Data	University of Toronto	
Mathematical Biostatistics Boot Camp	Johns Hopkins University	
Passion Driven Statistics	Wesleyan University	
Introduction to Statistics (3 courses) ^a	University of California, Berkeley	
Computing for Data Analysis	Johns Hopkins University	
Data Analysis	Johns Hopkins University	
Data Management for Clinical Research	Vanderbilt University	
Health in Numbers: Quantitative Methods in Clinical & Public Health ^a	Harvard University	
Network Analysis in Systems Biology	Mount Sinai School of Medicine	
Other courses related to Pharmaceutical Medicine	University	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization	University University of California, San Diego	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development ^a	University University of California, San Diego University of Texas, Austin	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development ^a Fundamentals of Pharmacology	University University of California, San Diego University of Texas, Austin University of Pennsylvania	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development ^a Fundamentals of Pharmacology Introduction to Pharmacy	University University of California, San Diego University of Texas, Austin University of Pennsylvania Ohio State University	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices	University University of California, San Diego University of Texas, Austin University of Pennsylvania Ohio State University Johns Hopkins University	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines	University University of California, San Diego University of Texas, Austin University of Pennsylvania Ohio State University Johns Hopkins University University of Pennsylvania	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of Technology	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain Neuroethics	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of Pennsylvania	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain Neuroethics Generation Rx: The Science Behind Prescription Drug Abuse	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State University	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain Neuroethics Generation Rx: The Science Behind Prescription Drug Abuse Health Informatics in the Cloud	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of Technology	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain Neuroethics Generation Rx: The Science Behind Prescription Drug Abuse Health Informatics in the Cloud Interprofessional Healthcare Informatics	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of Minnesota	
Other courses related to Pharmaceutical Medicine Drug Discovery, Development & Commercialization Take Your Medicine - The Impact of Drug Development ^a Fundamentals of Pharmacology Introduction to Pharmacy Vaccine Trials: Methods and Best Practices Vaccines Drugs and the Brain Neuroethics Generation Rx: The Science Behind Prescription Drug Abuse Health Informatics in the Cloud Interprofessional Healthcare Informatics Epidemiology: The Basic Science of Public Health	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of MinnesotaUniversity of North Carolina	
Other courses related to Pharmaceutical MedicineDrug Discovery, Development & CommercializationTake Your Medicine - The Impact of Drug Development aFundamentals of PharmacologyIntroduction to PharmacyVaccine Trials: Methods and Best PracticesVaccinesDrugs and the BrainNeuroethicsGeneration Rx: The Science Behind Prescription Drug AbuseHealth Informatics in the CloudInterprofessional Healthcare InformaticsEpidemiology: The Basic Science of Public HealthEpidemics - the Dynamics of Infectious Diseases	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of MinnesotaUniversity of North CarolinaPennsylvania State University	
Other courses related to Pharmaceutical MedicineDrug Discovery, Development & CommercializationTake Your Medicine - The Impact of Drug Development aFundamentals of PharmacologyIntroduction to PharmacyVaccine Trials: Methods and Best PracticesVaccinesDrugs and the BrainNeuroethicsGeneration Rx: The Science Behind Prescription Drug AbuseHealth Informatics in the CloudInterprofessional Healthcare InformaticsEpidemiology: The Basic Science of Public HealthEpidemics - the Dynamics of Infectious DiseasesRationing and Allocating Scarce Medical Resources	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of MinnesotaUniversity of North CarolinaPennsylvania State University	
Other courses related to Pharmaceutical MedicineDrug Discovery, Development & CommercializationTake Your Medicine - The Impact of Drug Development aFundamentals of PharmacologyIntroduction to PharmacyVaccine Trials: Methods and Best PracticesVaccinesDrugs and the BrainNeuroethicsGeneration Rx: The Science Behind Prescription Drug AbuseHealth Informatics in the CloudInterprofessional Healthcare InformaticsEpidemiology: The Basic Science of Public HealthEpidemics - the Dynamics of Infectious DiseasesRationing and Allocating Scarce Medical ResourcesGlobal Health: Interdisciplinary Overview	UniversityUniversity of California, San DiegoUniversity of Texas, AustinUniversity of PennsylvaniaOhio State UniversityJohns Hopkins UniversityUniversity of PennsylvaniaCalifornia Institute of TechnologyUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of MinnesotaUniversity of PennsylvaniaOhio State UniversityGeorgia Institute of TechnologyUniversity of PennsylvaniaUniversity of PennsylvaniaUniversity of North CarolinaPennsylvania State UniversityUniversity of PennsylvaniaUniversity of Geneva	

^aCourse in edx.org; the majority of the courses are from coursera.org

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3 Editorial Management: the results

3.1 Publications (open-access)

3.1.1 International Journal of Clinical Neurosciences and Mental Health The IJCNMH is an open-access journal published online by ARC Publishing. It aims to publish high quality articles in the areas of Psychiatry, Mental Health, Medical Psychology, Neurosurgery and Neurology. The Editor-in-Chief is Rui Coelho (MD, PhD), assisted by 3 Associate Editors for each medical specialty:

- Rui Mota-Cardoso, MD PhD (Psychiatry and Mental Health)
- Carolina Garrett, MD PhD (Neurology)
- Rui Vaz, MD PhD (Neurosurgery)

Our aim was to: select the members of the editorial board to be invited; develop a database of contacts for dissemination and marketing activities; plan (and manage the production) of the journal website and peer-review platform; and write guidelines for authors and reviewers, and website contents.

One of the very first tasks—with the definition of the journal's scope in hand—was to define the types of articles the journal will publish. The categories list and a brief explanation of each article type can be seen in Table 2.

Categories	Content overview
Original research articles	Original work reports within the scope of the journal. The manuscripts should follow author's instructions and CONSORT or STROBE guidelines ^a (when appropriate).
Reviews	Review articles within the scope of the journal (by invitation or unsolicited).
Drug reviews	Review articles on central nervous system related drugs (by invitation or unsolicited).
Case reports	Highly meaningful case reports, including major educational content or major clinical findings.
Case snippets	Case snippets are short case reports, describing a diagnosis or therapeutic challenge.
Viewpoints	Viewpoints provide an expert opinion on important topics for medical research or practice (including social and policy aspects); it encourages dialogue and debate.
Letters to the Editor	Letters to the Editor share views on published articles; it can also present materials (within journal's scope) insufficient for an original research article.
Editorials and guest editorials	Authors are invited by the Editor-in-Chief to comment on specific topics and express their opinions.

Table 2. Description of the categories published by the International Journal of Clinical Neurosciences and Mental Health.

^a CONSORT: Consolidated Standards of Reporting Trials; STROBE: STrengthening the Reporting of OBservational studies in Epidemiology;

The next step was to identify the stakeholders of the project. In that group we included potential editorial board members, reviewers, authors, medical societies, patient groups

and educational institutions. The identification of stakeholders' contact information (for dissemination and journal development activities) was performed via internet benchmarking and generated a large database of contacts. The next section explains the process to select and invite an editorial board based on the contact list.

3.1.2 From a contact list to an editorial board

With a contact list in hand and some key opinion leaders pre-identified, the job was now to select and invite members for the journal's editorial board. Editorial board members provide overall guidance on the IJCNMH development. Members will receive periodic correspondence documenting the journal activities and will be asked to provide their feedback. IJCNMH philosophy is that editorial board members' contributions are the key to improve the quality and reputation of the journal. Engaging board members may also edit and approve manuscripts on their expertise area.

The selection of the editorial board members was based on expertise and scientific contributions in the field of Clinical Neurosciences and Mental Health, namely: editorial experience, relevance of their professional background and the authorship of papers in peer-review journals and of book chapters. The target number of editorial members was estimated between 30 and 60, with a maximum of 20 specialists for major scientific area—Psychiatry and Mental Health, Neurology, and Neurosurgery. The maximum proportion of Portuguese members was set to 20%. After selection, by the Editor-in-Chief and Associate Editors, the members were formally invited by e-mail. The invitation included 2 steps when mediated by Associate Editors, firstly by an informal invitation and secondly by formal invitation by the Editor-in-Chief. This stepwise approach was performed to achieve a first nucleus of editorial members, which allow us to present a more solid project to potential editorial members that did not have a close professional relationship with the Editor-in-Chief or Associate Editors (the majority of the potential members were in this category). In the described process I built the contact database and wrote the formal letters and e-mails of invitation.

The contact list included experts (approximately 800) in several areas, including: neurosurgery, dementia, movement diseases, neuro-image, addiction, affective disorders, bio-psychiatry, child psychiatry, community and social psychiatry, forensic psychiatry, genetic and psychiatry, post-traumatic stress, psychopathy, psychosomatics, psychotherapy, schizophrenia, sexology, stigma, and neuropsychiatry. Until March 2013, 33 experts accepted our invitation and are members of the editorial board of the IJCNMH—please refer to the Appendix 7.4 for the full list of members and their expertise areas. The majority of the editorial board members currently work in Europe (73%). Nevertheless only Asian continent is not represented; geographical locations include North America (N=4; 3 from USA and 1 from Canada), South America (N=2; from Brazil), Oceania (N=2; from Australia) and Africa (N=1; from Morocco). European members' geographical distribution is show in Figure 6. The number of Portuguese members accounted for roughly 1% (N=2, with an additional Portuguese member working in Netherlands). The majority of the editorial board members are from UK, Italy and Spain.



Figure 6. European members (N=24) of the editorial board of the IJCNMH per country.

The majority (64%) of the editorial board members hold a MD, PhD degree, which is a common combination of degrees in physician scientists (Figure 7). Since the selection of members was qualitative, the number of publications was not the main factor of choice and it is not explored in this report. Using the Appendix 7.4 information it is possible to verify that board members combine their academic degree with extensive research and editorial experience, holding an impressive number of publications in peer-review journals.



Figure 7. Academic degree distribution of IJCNMH editorial board members. Doctor of Medicine (MD); Doctor of Philosophy (PhD); combined MD and PhD (MD, PhD) doctoral degrees;

3.1.3 Author and reviewers guidelines

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A major task in journal development is the writing of guidelines for authors and for reviewers. The complete set of author's instructions is available in the Appendix 7.1. The reviewers' guidance is not transcribed to this report since it is part of the journal's internal documents: only a brief overview of peer-review process and of the general guidance is provided. In the Appendix 7.2 it is also included a template for cover letter developed during the internship.

3.1.3.1 Review process and guidelines

We adopt the most usual peer-review process (presented in Figure 1) in double blind mode. The reviewers are blinded to author's identity and the authors have only access to reviewer's comments through editor's feedback. To assure a consistent review process it is asked the reviewers to use a template and evaluate a set of points—in line with ICJME, Consolidated Standards of Reporting Trials, and STrengthening the Reporting of OBservational studies in Epidemiology guidance—and to give their feedback in terms of: minor concerns; major concerns and overall assessment (accept the manuscript as submitted; accept after revision; resubmit after major revision; reject). This feedback is provided in a template form that was developed during the internship.

3.1.3.2 Authors' guidelines

Guidelines and templates for authors are based on ICJME guidance. Furthermore the choice of reference style was of Vancouver style, because it is the current standard for medical journals and it is intimately connected with the ICJME formation: the Vancouver group (1978) was formed by a small group of medical journals editors; it adopted (1979) a reference format developed by the National Library of Medicine—the Vancouver style; that small group of Vancouver editors grew into what is currently the ICJME (13).

The set of instructions for authors (full text in appendix 7.1) is structured in the following sections: type of papers, manuscript submission and overview of the editorial process. In the section type of papers the authors are instructed about journal's scope and which type of documents will be considered for publication. The section of manuscript submission details the submission process, including: templates to be used, manuscript preparation (length, format, etc.), information to be included, and submission checklist. In the last section of the instructions we can find an overview of the editorial process including the process to appeal editor's decision.

The set of templates available for authors include also the cover letter template (in appendix 7.2) and the conflict of interest disclosure form from ICJME. The cover letter template is intended to streamline author-editor first interaction. It also includes statements about the originality, authorship and ethics, which replaces the use of multiple forms. Due to the importance of disclosing interests in medical journals, we adopt the standard disclosure form from ICJME (available at the ICJME's website) (35).

3.1.3.3 Templates to communicate editorial decisions to the author

The internal guidelines on communication with authors include a large group of text used as standard replies for the outcomes of the review process. Those texts function as a template to be altered by the editor. It allows to accelerate the editor's feedback times and to improve journal image. The templates include emails for the following outcomes: manuscript accepted, manuscript to be reconsidered after author's revision, manuscript rejected after peer-review round, and manuscript rejected immediately. For immediate rejection there are sub-templates for each of the most common reasons to reject a paper:

- The research topic is outside journal's scope.
- The research does not provide meaningfull novelty when compared to previous publications.
- The research study is unlikely to represent any clinical/scientific practice (and/or lacks external validity).
- The study design is not suited to answer the research question and therefore lacks scientific validity.
- The research presents a major methodological error (e.g. insufficient study population, inadequate study design).
- The report needs major revisions in English grammar and scientific writing style.

3.1.4 Website and peer-review platform

This section of internship results is referent to the development of the websites related to the IJCNMH. The websites can be found in the following addresses:

- https://ijcnmh.arc-publishing.org/ (IJCNMH main website).
- https://ijcnmh.manuscripts.arc-publishing.org/ (submission platform).

ARC subcontracted an Information Technology (IT) company to develop the journal website and the article submission platform. To manage the production and test of the websites I developed the set of requirements and worked closely with the IT project manager. Since the company was not experienced in testing websites for publication purposes, I also developed a test plan to monitor quality.

Requirements for the journal website included:

- Back-office to handle site information and image.
- Database for handling articles in pdf format, categorized by issues and type of article.
- User registry system, which is shared with the submission platform.

Requirements for the submission and peer review system included:

- User registry system.
- File handler and communication interface from author's perspective.
- File handler and communication interface from reviewer's perspective.
- Control and managing of process and communications from editor's perspective.
- Capacity to generate new installations (new instances of the program to be used by other ARC's journals or clients).

The development of the website registered a considerable delay in production. The IT company estimated (and budgeted) a development time of 1 month. The first version of the web-site was delivered in the second month and the final version was only approved in the sixth month. The major issues found were inconsistencies and programming errors, which required several cycles of quality control.

The submission and peer-review platform was named "Manuscripts" and it is defined as a web-service optimized for managing scientific materials, capable of handling academic journals and conferences' publications. After registration, the user can act as an author or a reviewer. Both the author and reviewer menus allow the user to keep track on their submissions/revisions. The editor has the choice to allow or forbid re-submissions of an article, and when re-submitted it can go through the same or through new reviewers.

Figure 8 shows a screenshot (taken from the Manuscripts user guide) of the software. Since the IT company was not familiar with development of manuals for scientific audiences we decided to write those on our own. The manuals were written by the medical writer trainee; I revised for content and for writing quality. It is a set of 3 documents that includes the guides for Author, Reviewer and Editor. Since it is a long document, with a large number of images and examples to help the user, it was not included in Appendices. Nevertheless the guides are available at the IJCNMH website.

USER AREA MANUSCRIPTS			LOGOUT
1 2 Name	3 4 5	Submit a Manuscript Authors & Institutions Authors Email	
User, Example	ARC Publishing, IT	exampleuser@arc-publishing.org	
	* Email		
	Salutation		
	* First name		
	* Last name		
	* Institution		
	* Department		
	* Country		
	State		
	* City		
Corre	esponding author 🔲		

Figure 8. Example of menu from Manuscripts (submission and peer-review platform), image available on the Author guide.

3.1.5 Graphical identity and article layout

The IJCNMH graphical identity was developed together with a design and IT Company. The IJCNMH logo (top left corner at Figure 9) emphasis the main areas of publication "Clinical Neurosciences and Mental Health", shortening the otherwise long name. The website design choice was based on the usability by clinicians, giving preference to high contrast text and white background. Those preferences allow a clean design, which is also better suited for printing. The logo and website format were approved by the Editor-in-Chief and Associate Editors.

To launch the websites and promote submission to IJCNMH, we prepared a call for papers newsletter. This newsletter was published in the home page of IJCNMH website (Figure 9), it was distributed by email, and it was published as an advertisement in the 2013's March Edition (n^o 54) of Nortemédico (magazine published by the north section of the Portuguese Medical Association—*Ordem dos Médicos*).

The article layout (In Appendix 7.5) was developed using InDesign. It includes the layout for the first page, abstract, body and references. The first page contains the journal logo, journal section, article title, Digital Object Identifier number, author's names and affiliations, and a structured abstract (in 2-columns format). The body is divided in the main sections and sub-sections. The body header contains the running title (pair page) and the first author name (odd page); the footer holds the page number, the ARC Publishing logo (pair page) and the IJCNMH logo (odd page).

HOME THE JOURNAL - AL	JTHORS REVIEWERS SERVICES	_
SEARCH FOR	Call for papers	LOGIN
Author(s)	We are proud to announce that our journal is now accepting submissions.	Login
Article title	Submit Manuscript	Password
Issue Nr Page	Advantages of publishing with Us	
GO ADVANCED SEARCH	The International Journal of clinical Neurosciences and Mental Health offers:	Remember me
	Trusted peer review process Fast submission-to-publication time	Sign in
The Journal	Open-access publication without author tees Multidisciplinary audience and global exposure	Sign Up
Authors		Recover Password
Reviewers	ADOULTING JOUTHAI The International Journal of Clinical Neurosciences and Mental Health is an open-access online journal published by ABC Publishing. It aims to publish	e
Editor in Chief	high quality articles in the areas of:	Sponsored by:
Rui Coelho, MD PhD View full list of editors	Psychiatry Mental Health Medical Psychology	
Open-access publication ISSN 2182-570X	Neurology	- JENVIEN
	Submit manuscripts in your favorite format With an international editorial board of recognised experts in Clinical Neurosciences and Mental Health areas, we publish peer-reviewed articles in the following categories:	

Figure 9. Screenshot (April 2013) of the IJCNMH website home page: call for papers.

3.1.6 Open-access and copyright license

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IJCNMH adopted an open-access model for copyright management. All publications are available for free to every user in the internet. The access to the scientific materials is not subjected to user registration or to subscription of journal newsletters. The publishing of materials is not subject to payment of any fees by the author. We believe that this model is the most effective for a new peer-review journal, which despite being too recent to be indexed and receive an impact factor, allows the authors to disseminate their results throughout the scientific community.

We implement a copyrights license identical to the Creative Commons Attribution License - cc.3.0. The authors are the copyright holders but grant everyone (a third party) the right to: display, copy, and distribute the work; make derivative works; and make commercial use of the work. Nevertheless the third party must reference (give credit) the original author, and disclose the license terms for any reuse or distribution. The full license agreement is available in appendix 7.3.

3.1.7 Edition of books and book chapters

During the internship I participated in the edition of books and sections on pharmaceutical medicine and drug development, and on photodynamic therapy. The photodynamic therapy book section was a minor activity, consisting in proofreading and editing of a small book section. The major activity regarding book edition was related to the edition of a book in the pharmaceutical medicine topic. The draft book sections were written by medicine students, as part of a work from a medicine course, and were edited by ARC Publishing. Our job was to edit the sections for consistency in content and writing style. The total work duration was of 1 month (15 book chapters), in which we (me and the junior writer) performed a double revision—each editor revised the first revision from the colleague. This was one of my last tasks at ARC Publishing and because of that I did not follow the next planned publication steps: communication with authors, proofreading and copyright management.

3.2 Medical writing

3.2.1 Scientific manuscripts

3.2.1.1 Writing of scientific publications for pharmaceutical industry (bipolar disorder). During the internship we wrote a paper on bipolar disorder. This paper was based on 3 clinical study reports. The objective was to write a manuscript that combined the results of a drug tested in bipolar disorder. The project was divided in the following steps: 1) outline of the manuscripts, 2) selection of the tables and figures from each study report, 3) combination of information in new figures, 4) writing of the first draft, and 5) manuscript revision.

Writing of articles based on study reports it is *per se* a demanding task, but this one presented additional constrains: it was a combination of studies (in which the report was not consistent and some variables were missing), and it was a report of negative results. As seen in the introductory section, reports from negative results suffer from a publication bias. The task was performed by 2 writers in 4 weeks (this period was not full time, a full-time equivalent of 0.8 may represent a good approximation).

3.2.1.2 Statistical analysis and writing (smoking cessation)

The smoking cessation study aimed to characterize the socio-demographic and psychological characteristics of a group of smokers enrolled in an urban primary healthcare setting. To this paper I contributed with database recoding, statistical analysis (SPSS), and writing of all sections of the manuscript (including figures and tables). The main author (general practitioner) collected observational, cross-sectional data from 200

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smokers and characterized the socio-demographic and smoking habits of 2 health units. The Fagerstrom test was used to assess smoking dependence and the Richmond test (plus a visual analogue scale) to measure motivation for smoking cessation. The State-Trait Anxiety Inventory and Beck Depression Inventory were used to assess anxiety and depression. To make group comparisons we used Mann-Whitney/Wilcoxon and Chi-square tests; to test relations between variables we used Spearman's correlation. We concluded that smoking cessation interventions should be tailored for patients' socio-demographic and psychological characteristics, and should be promoted as early as possible in smokers' life.

The study was submitted to an open-access journal but unfortunately was rejected after peer-review. To the date no further efforts were made to publish the work since it requires major methodology modifications (related to the non-novelty of the scientific question).

3.2.2 Oral communications: medical writing course

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We developed a medical writing course for use in face-to-face and e-learning activities. The course is divided in 10 slide presentations (course topics, Table 3). It includes topics on sentence and paragraph level, at document level, reaching also publication and presentation management.

Course topic	Summary of contents
Mind the reader	 Basic medical writing concepts. Message definition and adjustment to the audience.
Effective writing I: simple and direct English	How to cut unnecessary text.Writing in clear and concise English.
Effective writing II: active voice and verbs	 Importance of the use of active voice in scientific documents. The power and importance of verbs.
Structure and organization (sentence and paragraph level)	 Punctuation rules. Phrases with parallel structures. Organize, write and craft paragraphs.
Writing process	 Macro level structure of scientific documents. 3 main phases of the writing process. Methodologies to improve writing efficiency.
Data presentation	 Types of data presentation: tables, flow-charts, and graphs. Basic rules for effective data presentations.
Publication strategy	 Defining the target audience and criteria for journal choice. Strategies to improve publication impact.
Scientific manuscripts	 Guidelines and authors' instructions. Original manuscripts and other types of publications.
Peer-review process	 Submission process and steps of peer-review process. Outcomes of the peer-review process.
Posters and oral presentations	- Basic rules for poster presentations and oral communications.

Table 3. Medical writing course topics and summary of the contents.

3.2.3 Translations

Although translations between English and Portuguese are those ARC Publishing is specialized, we performed a translation of regulatory documents from Spanish to Portuguese. The translation was performed recurring to a professional translator. Our role was to adapt and correct scientific terms and verify the consistency of the documents for submission to data protection authorities. The *Comissão Nacional de Proteção de Dados* (CNPD) is the Portuguese authority for data protection.

The list of translated and submitted documents included: study protocol, patient information, informed consent, CRFs (patient and investigator version), and contractual agreements between hospital, investigator and sponsor. The approval time was of 40 (working) days, with 7 days of clock-stop in which CNPD asked further clarifications. The reply to the clarifications request was also written by ARC Publishing.

				CONFIDENTIAL
Randomization	Number		ADDI	TIONAL FORMS
CONCOMITAN	T MEDICATION	S		
Adverse e	vents ocurred?	yes		
		no 🗌		
	Staffs	ignature and date:		
	orano	ignatare and date.		
·· Event.				
S	eriousness:	Severity: R	elationship: Ac	tion taken: Outcome:
			t time Stop date	Stop time
	Stall S	ignature and date.		
Seriousness:	Severity:	Relationship:	Action:	Outcome:
1. Non-serious 2. Serious	1. Mild 2. Moderate 3. Severe 4. Not applicable	 Not related Possible Definitely related Not assessable 	1. None 2. Dosing interrupted 3. Dosing stopped 4. Other medication	1. Resolved without any sequela 2. Resolved with sequela 3. Ongoing 4. Lost to follow-up

Figure 10. Example of the layout of the Case Report Forms (CRF): report of adverse events due to concomitant medications.

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3.2.4 CRF design

The design of CRFs can be seen as the most regulatory writing task in the scope of ARC Publishing. It is a complex activity that integrates writing and data management skills. To streamline the preparation of CRFs we developed templates for a variety of forms, including: informed consent, inclusion/exclusion criteria, demography, medical history, physical examination, electrocardiogram, vital signs, blood sampling, urine sampling, eligibility on admission, drug administration, concomitant medications (Figure 10), and study termination. Those forms can be used to gather patient data in the different periods of the clinical study: screening, admission, treatment, discharge and follow-up.

The CRF layout was created in InDesign and allows data entry in printing version and in electronic version. The electronic version uses data fields in pdf format and it is compatible with the majority of the operating systems (including portable devices). The layout was created to reduce the operator error rate, providing a clear and intuitive format for entering subject data.

3.3 Managing activities

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3.3.1 Standard Operating Procedures

ARC Publishing's SOPs can be classified as: General Procedure (GP), when defining global working rules; Specific Procedure (SP), when describing a procedure in great detail; and Operative Procedure (OP), when characterizing a given program/equipment and the conditions of its installation, operation, calibration, and maintenance. The following include the list (under development) of SOPs:

- SOP of SOPs (GP)—to establish the process of the preparation, approval, review, distribution, tracking, withdrawal, archive and training of every SOP.
- Information Technologies (GP)—to define instructions to manage information technologies, including: security, license management, databases, websites and privacy.
- Manuscripts Website Management (SP)—to instruct workers how to manage Manuscripts platform licensing and client installation and interaction.
- Documentation Management and Communications (GP)—to establish conventions for identification of workers, documentation codes, and communication channels.
- Project's Workflow (GP)—to define the activities of the project manager and workflow for medical writing, statistics and publishing services.
- Interactions with Clients (SP)—to specify the preferred channels, conventions and templates for client interaction.
- Service Outsourcing (SP)—to establish the selection process, communications, confidentiality and quality control for services outsourced to third parties.
- Statistical Analysis (SP)—to define the standard methodology for choosing the adequate statistical analysis for a given data set.
- Data Management (SP)—to specify internal (data produced by ARC) and external (data delivered to ARC) data management tasks, quality control and data base lock.

- OpenClinica (OP)—to instruct workers how to install, validate, and operate OpenClinica (an open-source electronic data capture software).
- Glossary (SP)—to define medical terms, drugs identifications, and disease Identifications standards.

During the internship we developed a detailed SOP structure (outline), with defined processes, and wrote complete versions (in draft) for the: SOP of SOPs; Statistical Analysis; Information Technologies; and Documentation Management and Communications.

3.3.2 Marketing materials

We wrote the marketing text for ARC Publishing's website, including: mission statement, description of each service, and contact information. We also developed the privacy police and terms and conditions, which are legal documents crucial to website operation. Privacy police includes information on internet cookies (and their use), how we store information, how information is used and disseminated, and the user rights. Terms and conditions describe the website general provisions, the access to the website and restrictions of use, the submissions, security and liability/indemnity, copyrights and trademarks, and the main provisions of the governing law. Those documents served as basis for the privacy police and terms and conditions of the IJCNMH and the Manuscripts website.

Newsletters were written to disseminate ARC Publishing services through the potential clients. Commercial newsletters were developed in html format by the medical writer trainee and I revised for content and design. The trainee also built a contact list (similar to the one made for the IJCNMH) in which the main contacts were identified.

3.3.3 Brand protection

When developing a new company based on a brand—ARC Publishing—it is important to register that same brand to protect and prevent the misuse from third parties. Brands can be registered on international or national level. We decided to register ARC Publishing at national level only. The Portuguese entity for brand protection is the *Instituto Nacional de Proteção Industrial*. The registry is submitted online and the cost depends on the number of service classes that the brand protection covers. 1 service class may include multiple services. The basic registry (1 service class) costs 120€, each additional service class costs 30€. The brand can be registered as text, image or mixed (both image and text) element. ARC Publishing was registered as a mixed element brand—this way we could also include the logo. The protection is valid for 10 years and can be renewed after this period. We chose to register ARC Publishing in service class we selected the services that were adequate to the company activity.

To guarantee that the brand was not already in use, I performed an international and national benchmarking of brands using the name ARC. The benchmarking included the study of the text "ARC Publishing" and the format of ARC's Logo. Although some brands already held a part of the name ("ARC"), no brand was identified with the complete text, and none of the brands with "ARC" on their name were registered for the service class n^o 41. There was no marked similarity between logos.

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3.3.4 Supervision of medical writing internship

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Training is part of the mission of ARC Publishing, and that is extended to the training of new medical writers. In this context I was asked to assist in the training of a junior medical writer (September 2012), which major topics of interest (for the trainee and for the company) were medical writing and data management. During this report I've been using massively the word "We". The use of "We" is related to the preference for active voice, but also because all work performed was done with the collaboration of my colleague in the medical writer trainee position.

One of the first tasks was to integrate and understand how to take the most of the junior collaboration. The trainee main interests were (apart from writing) the development in data management processes. Since I already had some experience with OpenClinica—a fast expanding open-source platform for data management in clinical trials—we selected this platform for the use in clinical research from investigator initiative. The job of the trainee was to install, manage this platform and create the appropriate SOPs.

Medical writing activities benefited from a common basis of formation we (me and the trainee) shared. The first training session in medical writing was during the module of the pharmaceutical medicine master program. The second one was an online formation in Coursera.org (Writing in the Sciences from Stanford University). The common formation and the level of close interaction allowed smooth processes and consistent quality control.

My evaluation of trainee's work is extremely positive. He achieved all the internship goals, showing professional and efficient solutions to each task assigned. Furthermore the trainee was asked to continue as company staff, which is the best indicator of a proper developed work.

4 Discussion

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The main technical objectives of my internship were to develop the IJCNMH and to perform medical writing tasks. Bound with those objectives, and as result of the empowerment in the first months, I was invited to actively manage ARC Publishing activities and to promote the company growth. Both primary and secondary goals were achieved. We were able to build a solid editorial board for the journal and an IT infrastructure to warrant the journal publication, manuscript submission and peer-review process. As medical writer I participated in the writing of 2 original manuscripts, revised and executed statistical methods, edited book chapters, prepared CRFs, and wrote instructions for authors and marketing texts (among several other works). In management we were able to register ARC Publishing brand, to promote it among our clients and to build internal resources (by staff training and quality procedures) to guarantee ARC Publishing endures as a reference in medical writing for private clinicians.

4.1 Comments on publishing results

The internship was centred in the development of the IJCNMH. Therefore the bulk of the work was concentrated on this part. Looking back, in 9 months we were able to identify the key opinion leaders in clinical neurosciences and mental health, to invite them to our editorial board, to write all the necessary texts for the journal launch and to have the journal site and platform in place. All of those activities demanded a high level of commitment by the collaborators to surpass the daily challenges.

To look for contacts in internet, and to comprehensively list their details (contact name, surname, institution, address, academic title(s), publications, address, e-mail and phone number) was time-consuming. Not every expert likes to expose contact information publically, and even those who do, are not always directly reachable by an internet search—sometimes it is necessary to dig in the institutions webpages to look for a single detail of 1 contact. That detail can make the difference between a successful and failed invitation. The selection of experts depended on the richness and organization of the database of contacts. First impressions count, and to make them efficient a lot of attention was given to the image and contents of journal communication. The editorial board invitations texts passed through numerous cycles of revision and the final version was revised by all ARC Publishing collaborators and the journal Editor-in-Chief. It was more than one "spam" letter version; it was tailored for position and for the existence of previous contact from Associate Editors. The final list of the editorial board achieved our objectives: more than 30 members in total (and not more than 20 experts by scientific area), a large diversity of expertise and geographical locations, and a small proportion of Portuguese members.

The websites texts (marketing, legal and scientific) and the integrity of the informatics platform represented also a great deal of effort. We wrote and revise all marketing and legal documents (copyrights, privacy police, terms and conditions, etc.) according to the best writing methodologies and being always attentive to detail. Although those activities were crucial, we allocate more resources to the writing of scientific materials—as the instructions for authors and journal templates—and to monitor the quality of the

submission and peer-review platform. The instructions for authors follow the highest standards of the ICMJE.

The instructions although revised several times, were also dependent on the development of the submission and peer-review platform. Each time the website programmers acknowledged a needed change in the original plan (e.g. the impossibility of placing the line numbers automatically in the document) it implicated a change in the author's submission workflow. As referred in the results section, the submission platform experienced a considerable delay in production. Much of the delay was caused (to our benefit) by ARC's strict quality control and constant test of the several beta-versions. Those quality routines test not only the website infrastructure and robustness but also our patience and soft skills. 2 users performed the routines independently, with a total duration ranging from 2 to 6 hours (depending on the step of the submission/revision where the errors were found and excluding the reporting and communication with the IT company). Indeed those test routines were not thought to repeat more than 2 times; if we anticipated the large delay and problems in website production it would be more fruitful to develop automatic routines—out of the scope of my skills and internship goals. But even automatic testing routines could not predict all the errors found, which were sometimes related with the misinterpretation of our needs as clients. The use of interpersonal skills as communication, team collaboration and negotiation were crucial to "survive" to this development process. We had to compromise to achieve the best solution possible.

During my internship it was not feasible to launch the first edition of the IJCNMH. Meanwhile (April 2013) the journal has emitted a call for papers, which in collaboration with the papers submitted by the editorial board research teams, will surely make the first edition possible in the following months. Any new open-access journal strives to have a steady publication output. The regularity of publication for 2 years is crucial to allow the IJCNMH to be indexed in the major scientific databases.

4.2 Comments on medical writing results

The majority of the efforts on medical writing were focused on 2 publications: a paper on bipolar disorder for a pharmaceutical industry client and a paper on smoking cessation for a private client. The paper on smoking cessation was performed previously to 2-team formation (i.e. previously to the recruitment of the medical writer trainee) and thus did not follow the workflow of parallel processing. The major challenges in this task were related to the late intervention on the statistical analysis and data management by ARC Publishing. The writing task was delivered to us with a poor statistical analysis and database already performed by the authors. After revision of the statistical methodology we observed the need to re-code the database and perform an improved statistical analysis. The activities for the smoking cessation paper demonstrated the inefficiency of not planning thoroughly the methodology, which to the writer may originate a complex puzzle with several missing pieces.

The paper on bipolar disorder benefited from early intervention. We planned the figures and tables and since the source was the report of randomized controlled trials the methodologies were consistent, which was translated in a consistent manuscript. The

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major challenge in this task was to assemble the (negative) results from 3 large trials. 2 of the trials were referent to prevention of manic episodes (early bipolar drug therapy), the successful patients of those 2 trials merged in a third trial with the aim to prevent the recurrence of manic or depressive episodes (late bipolar drug therapy: mania and depression are the 2-poles experienced by unstable bipolar disorder patients). This complex design and the different patient groups had to be grouped in flowcharts, tables, figures and integrated in a final report. Another challenge of this task was related to the inconsistency in the clinical study reports (source documents for this task). The clinical study reports were prepared by different medical writing companies, and although it followed the same regulatory format, the writing styles and the choice of figures/tables differed. Furthermore the reports were of negative results, which means that they were not useful to approve the tested drug, and naturally the rigor of the report was affected.

From the remaining medical writing tasks I underline the efforts in the CRF design, regulatory translations and oral communications. The CRF design allowed me to develop both my data management and design skills. Regulatory translations, although less challenging from the writer perspective, allowed me to understand the requirements of CNPD to approve a clinical study. The development of the medical writing course was perfect to integrate all the knowledge from the internship and from medical writing formations. It offered the perspective of the medical writer lecturer that has the task to teach a skill for which a vast hands-on experience is needed.

4.3 Comments on managing results

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I divided the results of the managing activities in ARC Publishing in quality, brand-related and supervision categories.

The development of an internal quality system supported by SOPs was only partially achieved during the internship. Although we were able to outline (in detail) the structure of the different SOPs, it was only possible to write some of those procedures. The SOP that received most of my attention was the SP on statistical analysis. This procedure details the basics on classification of study variables and scientific questions, and the analysis (including decision trees) needed to answer the questions for the most common configurations of study variables. The focus on other ARC Publishing tasks was the main reason to not write the full version of the remaining outlined SOPs.

A brand is more than a registry or a marketing text, it needs a soul—the mission statement. One of the key aspects to achieve a commitment and synchronism in all collaborators was to write the company mission statement as a group. This text summarizes the brand objective and ideals, which are essential to develop the remaining website texts, the newsletters and other marketing communications. To protect the brand was the next logic step and the culmination of the brand-management process. It allowed me to learn the mechanisms of national and international brand protection and registry.

Great part of managing work is to interact with colleagues, clients and suppliers. One of my tasks was to present projects to clients and to develop business networks. In some cases, as with the journal, the client (Editor-in-Chief) close relation allowed the development of a strong partnership. By suppliers I refer to companies or individuals that

provide us a service that allow us to improve our services. In that class I interacted with translators, and the companies responsible for providing us marketing and informatics services. In interactions with suppliers it is important to watch for our quality standards and company ideals while not degrading professional relationships. Colleagues' interactions in start-up companies are likely to be strong. A small company requires constant communication, originating high levels of trust and effectiveness. Participating in the supervision of a junior writer was a rewarding experience that allowed me to develop leadership skills, essential to motivate and train the company staff.

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5 Conclusion

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"Think global and act local" is probably a good phrase to convey ARC Publishing strategy. We act mainly in 2 fronts, medical writing and publishing. We have seen that although (globally) the medical writing market is growing by a justified increase in demand, some of that demand has an origin in publishing industry. And if some authors point that peerreview publications (in the current paradigm) are insupportable for states and reviewers, one also cannot ignore that each day more and more journals are created. Those new journals are important for pharmaceutical industry and scientists, because an increase in publisher offer will boost their chances of publications (even with negative results). ARC Publishing was born in a local environment, with few scientific vehicles to achieve Portuguese key-opinion leaders, and an increasing demand for medical writing services.

Beyond medical writing tasks, we were able to structure a company with the quality standards, workflow and infrastructure needed to guarantee a prosperous future. And future is an adequate word for ARC Publishing, since its workflow is not based on face-to-face but virtual interactions. The virtuality of the company allows scaling up its resources without huge investments (e.g. by recruiting freelance writers that would adopt the company procedures), and at the same time presents an opportunity for employees to work home-based.

During my internship I improved my medical writing and editorial skills. But my greater gains were in terms of interpersonal and management skills. I was not experienced in such a level of independent managing work, which allowed me to understand company, client and suppliers needs. Indeed motivation and empowerment are easy to find in small start-up companies. Large companies often try to artificially grow ownership culture in their staff (by providing bonus for productivity and empowerment for local decisions), but the ownership in start-ups is authentic and easily achieved for all collaborators. The sense that the company is ours generates trust and aligns the staff goals.

Writing is hard, if in doubt always remember Hemingway's quote: "There is nothing to writing. All you do is sit down at a typewriter and bleed." It is a demanding activity and the work environment must be flexible to the individual. Some writers write best in awkward places: I prefer busy trains, airplanes and shopping malls, but you cannot run a company from a train, or can you?

Globally, I am happy with the results achieved during these 9 months. I grew as professional and I contributed significantly for ARC Publishing growing as company.

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7 Appendices

7.1 IJCNMH Instructions for authors

1. Types of papers

The International Journal of Clinical Neuroscience and Mental Health publishes scientific articles in the following categories:

- Original research articles.
- Reviews.
- Drug reviews.
- Case reports.
- Case snippets.
- Viewpoints.
- Letters to the editor.
- Editorials and guest editorials.

1.1. Original research articles

The International Journal of Clinical Neurosciences and Mental Health welcomes original clinical research related with psychiatry, mental health, medical psychology, neurosurgery and neurology.

Reports of randomized clinical trials should follow the CONSORT Guidelines and reports of observational studies should comply with STROBE Guidelines.

Body text of an Original Research Article should have no more than 4000 words (word count excludes title page, abstract, acknowledgments, references and tables). A maximum of 6 illustrations (figures or tables) are allowed. Supplementary online material may be submitted at the editor discretion.

1.2. Review articles and Drug Reviews

Review articles on CNS-related drugs, psychiatry, mental health, medical psychology, neurosurgery and neurology topics are welcome. Both invited and unsolicited submissions are accepted.

Manuscripts should be limited to a maximum of 4,500 words, excluding title page, abstract, acknowledgments, references and tables.

1.3. Case reports and case snippets

Case Reports and Case Snippets should have no more than 750 words (word count excludes references) and can include one figure or table.

Only highly meaningful Case Reports are accepted, including major educational content or major clinical findings. Case Snippets should describe a diagnosis or therapeutic challenge.

1.4. Viewpoints

Viewpoints should provide an expert opinion on important topics for medical research or practice, with possibility for covering social and policy aspects. This section encourages dialogue and debate on relevant issues with expert views based on evidence.

Viewpoints are limited to 750 words (word count excludes references) and can include one figure or table.

1.5. Letters to the Editor

Letters to the Editor should share views on published articles, any findings insufficient for a research article or present ideas of any subject in the scope of the journal. Letters to the Editor have a maximum of 600 words (including references) and can include one figure or table.

1.6. Editorials and Guest Editorials

Authors are invited by the Editor-in-Chief to comment on specific topics and express their opinions. Editorials and Guest Editorials have a maximum of 1,000 words and can include one figure or table.

2. Manuscript Submission

These instructions advise on how the manuscript should be prepared and submitted. Manuscripts that do not comply with the guidelines will not be considered for review. All manuscripts should be prepared in A4-size or US-letter size, in UK or US English. Manuscripts should be submitted in *.doc and *.pdf formats, in the appropriate section of the journal website: IJCNMH online submission.

2.1. Cover Letter

A cover letter should be submitted together with the manuscript, in *.doc or *.pdf format, addressed to the Editor-in-Chief.

A template for the cover letter is available for download.

The cover letter should contain statements about originality of your publication, Ethics Committee approval and informed consent (if applicable), conflicts of interest and why in your opinion your manuscript should be published.

2.2. Manuscript Preparation

The manuscript must be divided in 2 files: the Title page (submitted in *.doc format and *.pdf formats) and the Manuscript body (submitted in *.doc and *.pdf formats).

2.2.1. Title page

This should be submitted as a separate file from your manuscript (to assure anonymity in the peer review process) and should include:

- Article title.
- Authors' names, titles (e.g. MD, PhD, MSc, etc.) and institutional affiliations.

- Corresponding author: name, mailing address, telephone and fax numbers.
- Keywords (maximum of 10).
- A running head (up to 50 characters).
- Abstract word count (up to 250 words).
- Body text word count.
- The number of figures and tables.

2.2.2. Manuscript body

The Manuscript body must be anonymous, not containing the names or affiliations of the authors. Manuscript body must be structured in the following order: title, abstract, body text, acknowledgements, references, tables, and figures captions/legends.

The text must be formatted as follow:

- Arial fonts, size: 11 points.
- Single line spacing (see paragraph menu).
- Aligned to the left (not justified).
- Showing continuous line numbers on the left border of the page. For MS Word you can add line numbers by going to: Page Layout -> Line Numbers -> select "Continuous"; for OpenOffice: Tools -> Line Numbering -> tick "Show numbering".

2.2.3. Title

A descriptive and scientifically accurate article title should be provided.

2.2.4. Abstract (250 words maximum)

An abstract should be prepared for Original Research Articles, Review Articles and Drug Reviews.

Should be structured and include: background/objective, material and methods, results, and conclusions. These sections should be separated by the respective headings.

If the publication is associated with a registered clinical trial, the trial registration number should be referred at the end of the abstract.

2.2.5. Body text

Original research articles

Original research articles should be structured as follows:

Introduction: Should present the background for the investigation and justify its relevancy. Claims should be supported by appropriate references. Introduction should end by stating the objectives of the study.

Methods: Should allow the reproduction of results and therefore must provide enough detail. Appropriate subheadings can be included, if needed.

Results: Should include detailed descriptions of generated data. This section can be separated into subsections with concise self-explanatory subheadings.

Discussion and Conclusions: Should be brief but comprehensive and well argued, summarise and discuss the main findings, their clinical relevance, the strengths and



limitations of the study, future perspectives with suggestion of experiments to be addressed in the future.

Review articles and Drug Reviews

These types of articles should be organized in sections and subsections.

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This section should name everyone who has contributed to the work but does not qualify as an author. People mentioned in this section must be informed and only upon consent should their names be included along with their contributions. Financial support (with grant number, if applicable) should also be stated here.

Any conflict of interests should be declared. If authors have no declaration it should be written: "The authors declare no conflict of interests".

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References citation in the text should be numbered sequentially along the text, within brackets.

The use of a reference management tool (such as Endnote or Reference Manager) is recommended. References must be formatted in Vancouver style.

Only published or accepted for publication material can be referenced. Personal communications can be included in the text but not in the references list.

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Tables should be smaller than a page, without picture elements or text boxes. Tables should have a concise but descriptive title and should be numbered in Arabic numerals. Table footnotes should explain any abbreviations or symbols that should be indicated by superscript lower-case letters on the body table.

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Each figure file shall not be larger than 30MB.

Figures should be tested and printed on a personal printer prior submission. The printed image, resized to the intended dimensions, is almost a replication of how the picture will look online. It shall be clearly perceived, non-pixelated nor grainy. Only flattened versions of layered images are allowed. Each figure can only have a 2-point white space border, thus cropping is strongly advised. For text within figures, Arial fonts between 8 to 11 points should be used and must be readable. When symbols are used, the font information should be embedded.

Photographs should be submitted as *.tif or *.eps at high-resolution (300 dpi or more). Graphics should be submitted in *.eps format. MS Office graphics are also acceptable.

All figures, tables and graphics should have white background and not transparent. Lines, rules and strokes should be between 0.5-1.5 points for reproducibility purposes.

2.3. Supporting Information

2.3.1. Code of Experimental Practice and Ethics

The minimal ethics requirements are those recommended by the Code of Ethics of the World Medical Association (Declaration of Helsinki). Authors should provide information regarding ethics on research participants, patient informed consent, data privacy as well as competing interests. If the authors have submitted a related manuscript elsewhere should disclose this information prior submission.

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All units should be in International System (SI). Drugs should be designated by their International Non-Proprietary Name (INN).

2.4. Submission Checklist

Please ensure you have addressed the following issues prior submission:

- Details for competing interests.
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- Details for authors contribution.
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- Manuscript body does not contain the names or affiliations of the authors.

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3. Overview of the Editorial Process

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The International Journal of Clinical Neurosciences and Mental Health aims to provide an efficient and constructive view of the manuscripts submitted to achieve a high quality level of publications. The editorial board is constituted by expert leaders in several areas of medicine particularly in Clinical Neuroscience and Mental Health. Once submitted, the manuscript is assigned to an editor which evaluates and decides whether the manuscript is accepted for peer-review. At this initial phase, the editor evaluates if the manuscript fulfils the scope of the journal according to the content and minimum quality standards. For peer-review, one or two additional expert field editors will comment on the manuscript and decide on whether it is accepted for publishing with minor corrections or not accepted for publishing. The editor may ask authors to resubmit after major revision. Decision is based on technical and scientific merits of the work. Reviewers can be asked to be disclosed or stay anonymous. Authors can exclude specific editors or reviewers from the process, upon submission, a rational should be provided.

Upon evaluation, an email is sent to the corresponding author with the decision. If accepted, the manuscript enters the production process. It takes approximately 6-7 weeks for the manuscript to be published.

3.1. Appeal Process

The editors will respond to appeals from authors which manuscripts were rejected. Their interests should be sent to the Editor.

Two directions can be followed:

- If the Editor does not accept the appeal, further right to appeal is denied.
- If the Editor accepts the appeal, a further review will be asked. After the new review, the editor can reject or accept the appeal. If rejected, nothing else can be done, if accepted the author is able to resubmit the manuscript.

The reasons for not accepting a manuscript for consideration can be:

- The manuscript does not follow the scope of the journal.
- The manuscript has potential interest but there are methodological concerns after peer-review or editorial examination.

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[Cover Letter template: the contents should be adapted by the author to the context of the publication. Declarations about originality and single submission, authorship, conflicts of interest and ethics committee approval/informed consent (if applicable) should be present.]

Dear Editor-in-Chief International Journal of Clinical Neurosciences and Mental Health Professor Dr. Rui Coelho

Why the manuscript should be published in the IJCNMH:

Originality and single submission: The results presented in this paper have not been published previously in whole or in part, and were not submitted or are not under active consideration elsewhere prior IJCNMH decision. The manuscript is authentic and does not contain plagiarism.

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Anthony David	
Degrees	 MSc in Cognitive Neuropsychology. Specialist in Neurology and Psychiatry. MD, Glasgow University.
Affiliations	 Current: Professor of Cognitive Neuropsychiatry and Head of Section, King's College London, UK. Consultant Psychiatrist, King's College London, UK. Honorary consultant at the Maudsley Hospital, London. Personal chair form the Institute of Psychiatry and GKT School of Medicine.
Areas of Interest	 Schizophrenia, especially the concept of insight. Neuropsychiatry. Medically unexplained syndromes. Neuroimaging.
Antonio Pérez-Sár	nchez
Degrees	Speciality in Psychiatry.MD.
Affiliations	 Current: Private practice in psychoanalysis and psychotherapy. Training and supervisor analyst of the Spanish Psychoanalytical Society. Past: Psychiatric hospitals and Director of a mental health centre in Barcelona for many years. Director of Barcelona Institute of Psychoanalysis.
Areas of Interest	 Clinic matters, both in psychoanalysis as well in psychotherapy. Private and public care.
Ayrton Massaro	
Degrees	 Phd in Neurology, Universidade de São Paulo, USP, Brasil. Msc in Neurology / Neurosciences, Universidade Federal de São Paulo, UNIFESP, Brasil. MD, Universidade Federal do Rio de Janeiro, UFRJ, Brasil.
Affiliations	 Current: Post-graduation coordinator. Universidade de São Paulo, USP, Brasil. Clinic activities in Instituto de Reabilitação Lucy Montoro, IRLM, Brasil. Past: Associate Professor, University of Kentucky (UK), Estados Unidos. Professor / Post-graduation coordinator, Universidade Federal de São Paulo, UNIFESP, Brasil. Investigator, Department of Neurology/Neurosurgery, Universidade Federal de São Paulo, UNIFESP, Brasil.
Areas of Interest	 Neurointensivism. Neurovascular. Cerebrovascular accident (Venous thrombosis). Treatment of acute CVA.

Bernhard Rosengarten

Destress	Destricted are grown. Institute of Developting in London, Columbia
Carlos Zubaran	
Areas of Interest	Information not available.
Affiliations	Information not available.
Degrees	Information not available.

Degrees	 Postdoctoral programs, institute of Psychiatry in London, Columbia University. and Mount Sinai School of Medicine (Cultural Psychiatry) in New York. PhD, Biological Sciences, Institute of Psychiatry in London. Speciality in Psychiatry, Institute of Psychiatry in London. MD, Federal University of Rio Grande do Sul.
Affiliations	 Current: Consultant Psychiatrist at Blacktown Hospital. Conjoint Associate Professor in the School of Medicine of the University of Western Sydney, Australia.
Areas of Interest	 Behavioural Pharmacology. Substance Use. Cultural Psychiatry.

Driss Moussaoui

Degrees	– PhD. – MD.	
Affiliations	 Current: Professor of Psychiatry and Psychological Medicine. Ibn Rushd University Psychiatric Centre in Casablanca, Morocco. Director of a World Health Organization (WHO) Collaborating Centre in Mental Health. President-Elect of the World Association for Social Psychiatry (WASP). Past: Moroccan Society of Psychiatry and of the Arab Federation of Psychiatrists. World Psychiatric Association (WPA). 	
Areas of Interest	Depression.Schizophrenia.	
Farzaneh A. Sorond		

Degrees	PhD.MD.
Affiliations	 Current: Assistant Professor of Neurology, Harvard Medical School. Associate Neurologist, Brigham and Women's Hospital.
Areas of Interest	 Cerebral Autoregulation. Neuroprotective Agents. Intracranial Hypotension. Cerebrovascular Circulation. Ultrasonography, Doppler, Transcranial. Middle Cerebral Artery. Blood Flow Velocity. Gait.

	 Posterior Cerebral Artery.
Federica Agosta	
Degrees	 PhD in Experimental Neurology, Vita-Salute San Raffaele University, Milan, Italy.
	 Neurology specialisation, Vita-Salute San Raffaele University. MD, Vita-Salute San Raffaele University.
Affiliations	 Current: Researcher, Neuroimaging Research Unit, Institute of Experimental Neurology, Division of Neuroscience, Scientific Institute San Raffaele, Milan, Italy. Past: Research fellow at the Neuroimaging Research Unit, and clinical fellow at the Department of Neurology, San Raffaele Scientific Institute, Milan, Italy.
	 Visiting Post-Doctoral Fellow at the Memory and Aging Center, Department of Neurology, University of California San Francisco.
Areas of Interest	 Neuroimaging of Neurodegenerative Diseases.
Fernando Lopes da	a Silva
Degrees	PhD, University of Utrecht.MD, University of Lisbon.
Affiliations	 Current: Emeritus Professor of the University of Amsterdam, and free-lance contract with the Swammerdam Institute for Life Sciences. Past: Director of the Institute of Neurobiology of the University of Amsterdam, and member of the Scientific Directorate of the Graduate School Neurosciences Amsterdam. Full Professor of General Physiology at the Faculty of Science at the University of Amsterdam. Head of the Brain Research Group, University of Utrecht. Scientific staff of the Brain Research Group of this Institute as assistant researcher, University of Utrecht.
Areas of Interest	 Biophysical aspects of electrical activity of the brain and the functional organization of neuronal networks, namely of the cerebral cortex and the limbic system. Generation and functional significance of brain rhythmic activities. Generation of epileptic phenomena, both at the cellular/molecular level, and at the neuronal network level.
Franco Borgogno	
Degrees	 PhD (Psychology).
Affiliations	Current: – Full Professor in Clinical Psychology (University of Turin). – Psychoanalyst of the Società Psicoanalitica Italiana.
Areas of Interest	 Clinical Psychology.
Giorgio Racagni	
Degrees	- PhD.

Affiliations	 Current: Professor, Department of Pharmacological Sciences, Center of Neuropharmacology, Faculty of Pharmacy, University of Milano.
Areas of Interest	CNS Pharmacology.Neuropsychopharmacology.

Joanna Shapland

Degrees	 PhD. M.A., D.Phil. (Oxon). Dip. Criminology (Cantab). Chartered Forensic Psychologist.
Affiliations	 Current: Professor of Criminal Justice / Head of School, University of Sheffield's School of Law.
Areas of Interest	 Criminal justice. Victimisation, victimology and victims in the criminal justice system. Restorative justice. Business and crime. Offending, desistance and offending careers.

Jonathan Rohrer

Degrees	 PhD, University College London, U. of London. MRCP. Member of the Royal College of Physicians. MA, Master of Arts University of Cambridge. MBBS, Bachelor of Medicine/Surgery, University of London. BA, Hons Bachelor of Arts (Honours) University of Cambridge.
Affiliations	 Current: Neurology SpR at UCLH. Senior Clinical Research Associate, Neurodegenerative Diseases, Institute of Neurology, Faculty of Brain Sciences.
Areas of Interest	Frontotemporal dementia.Primary progressive aphasia.

Jose-Henrique O'Connor

Degrees	 PhD in Pharmacy at the University of Valencia.
Affiliations	 Current: Full Professor, Universidad de Valencia. Head, Laboratory of Cytomics, Centro de Investigación Príncipe Felipe. Past: Professor, Universidad de Valencia. Investigador, Instituto de Investigaciones Citológicas de Valencia.
Areas of Interest	 Flow Cytometry. Cell-based High Content Analysis. Biochemistry. Immunology. Cell Biology.

Josep Dalmau

- PhD, Autonoma University of Barcelona, Spain.

	 MD, Autonoma University of Barcelona, Spain. B.S., Instituto Nacional de Enseñanza Media, Ausias March, Barcelona, Spain.
Affiliations	Current: – Adjunct Professor of Neurology.
	 Associate Investigator, Abramson Comprehensive Cancer Research Institute, University of Pennsylvania.
Areas of Interest	- Neuro-oncology.
Julien Mendlewicz	
Degrees	 PhD, Free University of Brussels, Special Licence in Psychiatry, Free University of Brussels.
	 PhD in Human Genetics and Development, Columbia University. Neuro-Psychiatry, Speciality, Belgian Ministry of Health. MD, Free University of Brussels.
Affiliations	Current:
	 Chairman of the Department of Psychiatry, University Clinics of Brussels, Erasme Hospital, Free University of Brussels. Director of the Laboratory of Bsychiatric Besearch, of the Eaculty of
	Medicine, Free University of Brussels.
	 Full Professor of Psychiatry at the Faculties of Medicine, Psychology and Law, Free University of Brussels.
Areas of Interest	 Molecular Neurobiology and Behavioural Genetics. Chronobiology and Sleep
	 Brain imaging.
	N a cura a la marca a cala au c
	Neurophramacology.Biological Psychiatry.
Julio Arboleda-Flor	 Neurophramacology. Biological Psychiatry.
Julio Arboleda-Flor Degrees	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology).
Julio Arboleda-Flor Degrees	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE.
Julio Arboleda-Flor Degrees Affiliations	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry.
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Julio Arboleda-Flor Degrees Affiliations	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology.
Julio Arboleda-Flor Degrees Affiliations	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor. Universidad de Chile.
Julio Arboleda-Flor Degrees Affiliations	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor, University of Ottawa. Visiting Professor, Universidad El Bosque, Bogotá, Colombia.
Julio Arboleda-Flor Degrees Affiliations Areas of Interest	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor, Universidad de Chile. Adjunct Professor, Department of Psychiatry, University of Ottawa. Visiting Professor, Universidad El Bosque, Bogotá, Colombia.
Julio Arboleda-Flor Degrees Affiliations Areas of Interest	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor, Universidad de Chile. Adjunct Professor, Department of Psychiatry, University of Ottawa. Visiting Professor, Universidad El Bosque, Bogotá, Colombia. Forensic psychiatry. Epidemiology. Public mental health and mental health services research. Psychiatric ethics and human rights.
Julio Arboleda-Flor Degrees Affiliations Areas of Interest Luísa Figueira	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor, Universidad de Chile. Adjunct Professor, Department of Psychiatry, University of Ottawa. Visiting Professor, Universidad El Bosque, Bogotá, Colombia. Forensic psychiatry. Epidemiology. Public mental health and mental health services research. Psychiatric ethics and human rights.
Julio Arboleda-Flor Degrees Affiliations Areas of Interest Luísa Figueira Degrees	 Neurophramacology. Biological Psychiatry. rez PhD (Epidemiology). MD. Other: ECFMG, LMCC, DLF, D. PSYCH., FRCPC, FAPA, DABFP, FACFP, FABFE. Current: Professor Emeritus and Head, Department of Psychiatry. Professor and Chairman, Forensic Division. Professor, Department of Community Health and Epidemiology. Adjunct Professor of Psychology. Chief-of Psychiatry, Queen's Affiliated Hospitals, Queen's University. Rectoral Medal and Honorary Professor, Universidad de Chile. Adjunct Professor, Department of Psychiatry, University of Ottawa. Visiting Professor, Universidad El Bosque, Bogotá, Colombia. Forensic psychiatry. Epidemiology. Public mental health and mental health services research. Psychiatric ethics and human rights.
	 Professor of Psychiatry, Faculty of Medicine, University of Lisbon. Head of Psychiatric Department – Hospital Santa Maria – University of Lisbon.
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Areas of Interest	Clinical and experimental psychopathology.Clinical Psychopharmacology.
Mario Maggi	
Degrees	Specialization in Endocrinology.MD.
Affiliations	 Current: University of Florence—Chief of Sexual Medicine and Andrology Department of Clinical Physiopathology, Viale Pieraccini.
Areas of Interest	 Sexology. Andrology. Endocrinology.
Mark Edwards	
Degrees	 PhD Doctor of Philosophy London. MBBS Bachelor of Medicine/Bachelor of Surgery London. BSc Hons Bachelor of Science (Honours) London.
Affiliations	 Current: Department of Health Clinician Scientist Fellowship, Motor Neuroscience & Movement Disorder, Institute of Neurology, Faculty of Brain Sciences, University College London.
Areas of Interest	 Pathophysiology of Human Movement Disorders Movement disorders. Parkinson's disease. Tremor and dystonia.
Miguel Castelo Bra	inco
Degrees	 PhD, University of Coimbra, Portugal and Max-Planck Institute for Brain Research, Germany. MD.
Affiliations	 Current: Assistant Professor of Biophysics, Faculty of Medicine, University of Coimbra, Portugal. Past: Assistant Professor at the University of Maastricht, the Netherlands. Postdoctoral fellow at Max-Planck Institute for Brain Research, Department of Neurophysiology, Frankfurt, Germany.
Areas of Interest	 Visual Neuroscience. Human Psychophysics. Functional Brain Imaging in Humans and Animals. Human and Animal Neurophysiology.
Myron Belfer	
Degrees	 M.P.A., John F. Kennedy School of Government, Harvard University. A.M. (Hon), Harvard University. MD, Albert Einstein College of Medicine. B.A. (Psychology), U of Rochester.

Affiliations	 Current: Professor of Psychiatry in the Department of Social Medicine, Social Medicine, Boston, MA. Past: Senior Advisor/Consultant, World Health Organization, Geneva, Switzerland.
Areas of Interest	 Stress and somatic illness. Stress and immunological dysfunction. Body image development in children with craniofacial abnormalities. Longitudinal development of children with psychiatric disorders and normal children subject to stress. The impact of substance abuse on functioning across the lifespan.
Nancy Pachana	
Degrees	 Ph.D. in Clinical Psychology from Case Western Reserve University, Cleveland, Ohio.
Affiliations	Current: – Associate professor in the School of Psychology at UQueensland , AU.
Areas of Interest	 Clinical assessment of cognitive decline in older adults. Measurement and treatment of anxiety and mood disorders in later life. Functional assessment in later life, interventions with older populations, and general health and well-being in later life.
Paulo Belmonte d	le Abreu
Degrees	 PhD, Schizofrenia risk factors, Universidade Federal do Rio Grande do Sul, UFRGS, Brasil. Master of Health Sciences, the Johns Hopkins University School of Hygiene and Public Health. MD, Universidade Federal do Rio Grande do Sul, UFRGS, Brasil.
Affiliations	 Current: Associate professor, Faculdade de Medicina, Departamento de Psiquiatria e Medicina Legal. Universidade Federal do Rio Grande do Sul, UFRGS, Brasil. Past: Hospital de Clínicas de Porto Alegre, HCPA, Brasil. Coordenador do Programa de Esquizofrenia e Demências. Coordenador do Núcleo de Estudos do Morador de Rua de Porto Alegre.
Areas of Interest	 Schizofrenia and Psychosis. Attention defficit and Adult Hyperactivity. Transtorno de Défico de Atenção e Hiperatividade do Adulto. Mental Health of risk populations. Neuropsychiatic AIDS. Schizofrenia and Dementia.
Peter Fonagy	
Degrees	 PhD, Medical Research Council Fellowship University College London. BSc. Psychology, First Class Honours University College London. Other: Diploma in Clinical Psychology British Psychological Society.

	 Training in Adult Psychoanalysis British Psychoanalytic Society. Training in Child Psychoanalysis Anna Freud Centre.
Affiliations	 Current: Freud Memorial Professor of Psychoanalysis, Head of Research Department, Research Department of Clinical, Educational and Health Psychology, University College London.
Areas of Interest	Borderline psychopathology.Violence.Early attachment relationships.
Pietro Cortelli	
Degrees	 PhD, Neurology. Speciality in Neurology, Università di Bologna. MD, Università di Bologna.
Affiliations	 Current: Associate professor, Department of Neurology, Università di Bologna. Past: Associate professor, Dipartimento Integrato di Neuroscienze dell'Università di Modena e Reggio Emilia, Investigator, Istituto di Clinica Neurologica, Università di Bologna.
Areas of Interest	– Neurology.
Raimundo Mateos	
Degrees	 PhD with the Project "Community Psychiatric-Epidemiological Study on Galicia. MD, University of Santiago de Compostela.
Affiliations	Current: – Coordinator of the Psycho-Geriatrics Unit of the Santiago de Compostela Area.
Areas of Interest	 Psychogeriatrics: prevalence of mental disorders among senior citizens, and assess the needs of those suffering psychiatric disorders and their caretakers.
Simon Wilkinson	
Degrees	 MA, MB, BChir, MD, Medicine and Psychology, Cambridge University. MRCPsych, Royal College of Psychiatrists.
Affiliations	Current: – Consultant Adolescent Psychiatrist, Oslo universitetssykehus HF.
Areas of Interest	Attachment theory.Illness language.Adolescent psychiatry.
Sophia Frangou	
Degrees	 Post-doc, postgraduate psychiatry training at the Maudsley Hospital in London. PhD, Neuroscience, University of London, UK. MSc, Neuroscience, University of London, UK.

	 MD, University of Athens, Greece.
Affiliations	Current: – Reader in Psychiatry at the Institute of Psychiatry of Kings College. – Consultant Psychiatrist at the Maudsley Hospital.
Areas of Interest	 Aetiology and pathophysiology of psychosis. Bipolar Disorder. Mood and Anxiety Disorders. Neuroimaging.

Vesna Brinar	
Degrees	 PhD, in neurophysiology, Medical Faculty, University of Zagreb. MSc, in neurophysiology, Medical Faculty, University of Zagreb. Specialty in neuropsychiatry, Clinical Hospital Centre in Zagreb. MD, Medical Faculty, University of Zagreb.
Affiliations	 Current: Professor, Neurology, Medical Faculty, University of Zagreb. Leader of referral center for Demyelinating Diseases, Ministry of Health and Social Welfare. Head of the department for dizziness and balance disorders, Neurological Clinic, Medical Faculty and University Hospital Centre Zagreb. Past: Head of the Department of Neurology, Medical Faculty, University of Zagreb. Associate Professor, Neurology, Medical Faculty, University of Zagreb. Assistant Professor, Neurology, Medical Faculty, University of Zagreb. Postdoctoral studies in University Clinic in Berlin and St Thomas's Hospital in London.
Areas of Interest	 Neurology. Clinical psychology. Family medicine. Multiple sclerosis. Parkinson's disease. Vertigo.

Wissan El-Hage

Degrees	 PhD, University François Rabelais of Tours, France. MD, University François Rabelais of Tours, France,
Affiliations	 Current: Senior Research Associate of the Team 4 affective disorders at the University François Rabelais of Tours, France. Medical Practitioner at the Department of Psychiatry, University Hospital of Tours, France. Past: Visiting Associate Researcher at the Institute of Psychiatry, King's College London. Research Associate of the team EA3248 Psychobiology of Emotions at the University François Rabelais of Tours, France. Senior Registrar Assistantship in Psychiatry.
Areas of Interest	 Neurocognitive and cerebral correlates of depression and posttraumatic stress disorder at adulthood.

Xavier Montalban Gairín	
Degrees	 PhD, Universidad Autónoma de Barcelona. Specialist in Neurology, Universidad Autónoma de Barcelona. MD, Doctor of Medicine and Surgery specialist, Universidad Autónoma de Barcelona.
Affiliations	 Current: Director of the Multiple Sclerosis Center of Catalonia. Director of the Unit of Clinical Neuroimmunology, Vall d'Hebron University Hospital, Barcelona. Professor of Neurology of the University Autònoma de Barcelona. Past: Research fellow at The Bowman Gray School of Medicine, Wake Forest University, North Carolina.
Areas of Interest	 Immune mechanisms in MS. Cognitive dysfunction in MS. New intervention strategies. Genetic characterization. Pharmacogenomics treatment response. Design and execution of several phase II and phase III clinical trials: member of safety and steering committees.
Yasin Temel	
Degrees	 PhD, Maastricht University. Neurosurgery training. MD, Maastricht University.
Affiliations	Current: – Professor, MD, Department of Neurosurgery Maastricht University Medical Center.
Areas of Interest	 Neurodegeneration. Neuroplasticity. Skull base tumors.

CLINICAL NEUROSCIENCES

Original Article D0I:10.1123/J.1468-1331.2001

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N Surname¹, N Surname² and NN Surname³

Abstract

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Department of Pharmacology and Experimental Therapeutics, Thomas Jefferson University, Philadelphia, Pennsylvania, USA. Correspondence: N Surname (email@adress.com).

²Department of Pharmacology and Experimental Therapeutics, Thomas Jefferson University, Philadelphia, Pennsylvania, USA. ³Department of Modern Art, Thomas Jefferson University, Philadelphia, Pennsylvania, USA.

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Introduction

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Author 1 Surname, et al.

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Conclusion

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