

Transparency of Clinical Trial Data – Where Does Medical Writing Fit In?

Report on the 2nd European Medical Writers Association Symposium



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2nd European Medical Writers Association
Symposium:
Transparency of Clinical Trial Data –
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Transparency Initiatives Open New Doors for Medical Writers

A symposium held on 15 May 2014 at the Hilton, Budapest, Hungary, as part of the 38th European Medical Writers Association Conference, with European Medicines Agency, industry, and interest-group participation.

This topical event was the first ever to bring together the medical writing community in Europe to explore not only the recent rapid developments in the areas of clinical trial disclosure and clinical trial data transparency, but also the implications for medical writers as those who most often prepare the documentation concerned.

Editors: Kathy B Thomas and Alistair Reeves

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On behalf of the EMWA Executive Committee, Kathy Thomas and Alistair Reeves thank all those who contributed to this report and to the success of the 2nd EMWA Symposium in Budapest.

Editorial

'Clinical Trial Disclosure' is a topical subject being discussed not only in the editorials and commentaries of high ranking clinical journals and those addressing legal and drug regulatory professionals, but also in the popular press. Demands for greater openness in communicating clinical trial findings have fuelled the introduction of new legislation and regulations and the evolution of clinical trial disclosure and data transparency in the pharmaceutical industry.

Martin Harvey Allchurch provides the regulatory agency perspective and reminds the reader that the European Medicines Agency (EMA) "has been spearheading transparency since its creation in 1995". Many initiatives have been introduced by the EMA to promote data access, and major new legislation is anticipated to come into force in 2016, which will further expand access to clinical trial data. Initiatives including new clinical study registration, protocol posting, and clinical result disclosures on specialist internet sites are now well accepted; access by individuals to redacted protocols, clinical trial reports, and patient-level data is being increasingly sought. Such openness will allow researchers, healthcare practitioners, and patients greater access to clinical trial data, which will ultimately help to promote research, discussion, and improve disease management.

David Gilbert and Mark Doughty, Co-Directors of the Centre for Patient Leadership recognise that increased data availability is helping to change the patient-doctor relationship. However, although individual patients can make informed decisions and openly discuss their own treatment options, patient input into broader issues, such as treatment strategy and data generation, remains limited. Nevertheless, examples of patient leaders who are creating roles and opportunities to benefit health management are emerging and are shared, as highlighted in their presentation.

Whilst the benefits of 'Clinical Trial Disclosure' on public health are not in question, the initiative has wide-ranging implications for pharmaceutical companies, which as a minimum must keep up-to-date with changing international and national environments and legally binding regulations. Furthermore, disclosure is complicated by the need to maintain patient privacy whilst protecting commercially-sensitive information and contract rights. Disclosure teams have been established in the pharmaceutical industry to help meet external regulatory requirements and internally defined company commitments.

Susan Forda, providing an industry perspective, proposes a 3D approach to disclosure. As suggested by recent communications from Pharmaceutical Research and Manufacturers of America (PhRMA) and the European Federation of Pharmaceutical Industries and Associations (EFPIA), the pharmaceutical industry needs to Diligently pursue new initiatives. In turn, new regulatory and legislative Developments should take into account the ongoing efforts of the industry. It is likely that different bodies will propose Divergent approaches, but for overall success, alignment from the stakeholders will be needed.

Even in the EU, several countries have their own legally binding national databases. Sponsors performing global clinical studies have to keep up with both national and global requirements. In considering clinical trial disclosure from the medical writers' perspective, **Kathy B Thomas** presents a useful overview of the legislation and documentation surrounding this complex area. It is staggering to read that over 40 countries have national initiatives over and above the US and EU initiatives.

Medical writers already prepare regulatory documents, such as study protocols and clinical study reports, that until now have been predominantly 'unseen' by the external world, as well as the publications in peer-reviewed journals. New opportunities to prepare protocol and clinical trial summaries for posting on external databases already exist. However, as Kathy Thomas and Hans-Juergen Lomp concur, a critical role for writers is to ensure the quality and consistency all of the documents relating to an individual trial. **Tatjana Poplazarova** and **Uma Swaminathan** describe the pivotal role that medical writers have in advocating transparency and patient rights. Furthermore, as medical writers sit uniquely between data generators and data endusers, they are ideally placed to facilitate change within this fast-moving area.

How all the data available because of increased transparency will be used is explored by **Hans-Jürgen Lomp**. Although the expected benefits of patient-level data are difficult to assess, greater access to trial results will facilitate systematic reviews and summary-level meta-analysis and enhance the quality and completeness of peer-reviewed publications.

Medical writers have many new opportunities in the disclosure complex: preparing documentation; ensuring consistency and quality; providing advice and guidance to other team members participating in clinical drug development. Active awareness and vigilance are essential in this dynamic and developing area that supports both the regulatory requirements of clinical development and ethical publication of results.

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Clinical Trial Disclosure and Transparency: The Medical Writer's Perspective

Background

Although the concept has been around worldwide for more than 20 years, 'Clinical Trial Disclosure', with its efforts to increase the transparency of clinical trial results and their timely publication, is very much in the public view at present. The reason for this current interest are calls from numerous legislative, academic, and public stakeholders who are requesting even greater access to details of clinical trials. The latest demands are for the availability of participant-level data for reanalysis and reevaluation of the original claims. Particularly active regions have been the United States of America (US), European Union (EU), and European Economic Area (EEA).

While voluntary disclosure of details on clinical studies has been promoted by some sponsors from the pharmaceutical industry for some time, such attempts turned out to be incomplete and not sufficiently transparent. Over time, this led to loss of public trust in the clinical research community and the eventual need for a legislative requirement for public disclosure of clinical trial information.¹⁻⁴ There have been several cases in which sponsors disclosed positive results from clinical trials in their publications and failed to include negative results. When exposed, these were seen as clear misrepresentation of information to the medical community and general public. The concerns included publication bias and a potentially serious impact on the interpretation of data from published studies, both on the individual clinical study level as well as large meta-analyses, and on the choice of medical treatments.⁵⁻⁹

The European medical writer community has been kept informed about the developments of 'Clinical Trial Disclosure' by several contributions and presentations;¹⁰⁻¹² and other relevant publications are also available.¹³⁻¹⁶ This paper focuses on the current situation of 'Clinical Trial Disclosure' in the US and EU in particular, with a description of key implications for medical writers.

Current requirements

The current requirements for the registration of clinical trials and disclosure of summary results of clinical trials in the US and EU/EEA are listed in [Table 1](#). It should be noted that in addition to the US and EU initiatives and requirements, national legislation, regulations, and guidelines regarding disclosure of clinical trial information exist currently in more than 40 countries worldwide. At present, there is no official list or electronic database of the national requirements for 'Clinical Trial Disclosure'. Often, such information must be painstakingly retrieved from the national health regulatory departments or purchased from commercial vendors who specialize in maintaining and updating this information. National databases in most cases require entries in the national language

and some also allow entries in English. Not all of the national rules are legally binding; some are recommendations. Furthermore, national rules do not match with regard to the information required or timelines. Thus, some national requirements on 'Clinical Trial Disclosure' expect registration of a clinical study protocol only, while others also require disclosure of results after a prescribed time of clinical study completion. All this makes updates and consistency of information in national and international databases a challenge.

'Clinical Trial Disclosure' and public databases

Two key instruments in the 'Clinical Trial Disclosure' efforts are the separate legal provisions that apply to clinical studies performed in the US and EU (Table 1).

In the US, the law that governs this is the FDA Amendment Act of 2007, section 801 (FDAAA Section 801).¹⁷ The law is administered by the Food and Drug Administration (FDA), managed by the US National Library of Medicine (a service of the U.S. National Institutes of Health), and uses the database ClinicalTrials.gov (www.clinicaltrials.gov), which is informally also known as CT.gov. Although specifically applicable by law to clinical studies performed in the US (or as part of an FDA regulatory drug application), this database is open to all clinical trials regardless of country of origin, sponsor, or clinical phase. It should be borne in mind, however, that when sponsors decide to use this database as their overall, global 'Disclosure' platform, release of results is expected for all registered studies, even for those that do not fall under the FDAAA Section 801. The database is the most frequently used site for clinical trials disclosure and contains registration details on 173,199 studies with locations in 187 countries (August 2014).

In the EU/EEA, the relevant law is the new Regulation No 536/2014 of the European Parliament and of the Council on clinical trials on medicinal products for human use, which will repeal the previous law – Directive 2001/20/EC.¹⁸ The new regulation falls under the responsibility of the European Medicines Agency (EMA), using the EudraCT database (www.clinicaltrialsregister.eu). In contrast to the CT.gov database, this database can only be used for clinical studies performed in the EU/EEA or for studies associated with regulatory applications in the EU/EEA. Nevertheless, the scope of the database is very broad and encompasses the most exhaustive list of clinical studies of any other database in the EU/EEA, particularly studies involving paediatric patients.

The new regulation in the EU/EAA entered into force on 16 June 2014 and is expected to apply no earlier than 28 May 2016. Until then, the Clinical Trials Directive 2001/20/EC of the European Parliament and of the council of 4 April 2001 will still apply. The EudraCT database contains details on 23,522 clinical studies (August 2014).

The new law in the EU/EEA has the legal form of a 'Regulation' and replaces a 'Directive'. The differences between these legal forms and their implications can be summarized as

follows: for the newly passed law on clinical trial disclosure in the EU (i.e. the new Regulation) – most of the discussion on the interpretation of the law has already occurred among the EU member states; the Regulation will be adopted as it stands and will be implemented in the same harmonized way by all EU member states. A Directive is not unequivocally applicable under EC Law, as member states are required to implement Directives by choosing the form and methods of how they are implemented nationally.

Registration of new clinical studies

The initial intentions of 'Clinical Trial Disclosure' were to provide:

- information on planned and ongoing clinical trials for patients, their families, and treating physicians regarding the investigated indication, recruitment criteria, study locations, and contact details to enter such trials. The purpose is to test the new medicinal products with the hope of a cure.
- an overview of all clinical trials performed in a particular country in a central register.

Because voluntary registration of clinical studies by sponsors proved incomplete and several cases of misrepresentation or omission of results from clinical trials were discovered, several countries and world regions decided to go for law enforcement to make registration of the clinical trial protocol in a public domain a legally binding obligation. Registration of a clinical study, as specified by the several national and international laws, generally requires information items (dataset) that contain substantial detail on each clinical trial, including the clinical indication, primary and secondary outcomes, and the estimated time of completion of these outcomes. Regular updates of the registration database entries are also obligatory.

The registration of clinical trials in an appropriate public database is enforced in different ways. For example, in the US, the onus to register a clinical study is on the sponsor; proof of compliance has to be supplied by completing Form FDA 3674 (Certification of Compliance) that has to be submitted to the FDA with most drug regulatory applications.¹³ In the EU, selected information fields about a new clinical study are released to a public view site automatically by the EMA authorities after sending an application for or notification of performing a clinical study.¹³ Furthermore, in some countries, ethics committees dealing with an application for clinical trial approval require proof of registration of the clinical trial in a public database. Finally, the International Committee of Medical Journal Editors (ICMJE) has set strict conditions regarding registration of clinical trials in a publicly accessible database (at or before the start of the clinical trial) as a condition for publication of the trial results in a substantial and growing number of professional journals.^{11, 13, 19, 20}

Disclosure of summary results for completed clinical studies

In addition to the requirement to register new clinical trials, several national and international laws on 'Clinical Trial Disclosure' also require mandatory disclosure of results of a clinical trial within a specified time after the completion of the clinical trial. So far, disclosure of results of a clinical trial applies to the overall summary with regard to efficacy and safety of the tested product. Such a summary is similar in the depth of detail to that found in the synopsis of an ICH E3-compliant clinical study report.

Interestingly, the US law requests results disclosure of clinical studies only when the product has been approved by the FDA, whereas in the EU/EEA, the law requires that results are disclosed for any medicinal product used in a clinical trial (i.e. approved and investigational). This implies that sponsors performing a clinical study with a product in the US and EU/EEA will have to disclose the results of the clinical trial in the EudraCT database before disclosing them in the US database. Obviously, it would be better if the requirements in these two world regions could be aligned.

Disclosure of participant-level clinical trial data

In addition to the public availability of summary results, calls for disclosure of clinical trial participant-level data have been made. The reason for such detailed level of data disclosure is to ensure that complete evidence is available for a possible additional unbiased and independent evaluation of the complex data gained through clinical trials. Not unexpectedly, concerns about such disclosure have been raised and these include issues such as violation of clinical trial participant privacy, misinterpretation of the clinical trials due to inappropriate analysis of the data, and the risk of disclosing commercially confidential information.

A recent publication shows that rigorous reanalysis of previously published randomised clinical trials is infrequent.²¹ Searching the literature from 1966 to present, the authors found only 37 reports that met their criteria of reanalysis. Of these few reanalyses performed, the majority (84%) had overlapping authors from the original report. Thus, reanalyses are not only rare, but the majority that were reported were not fully independent of the original research group. Furthermore, about a third (35%) of the published reanalyses led to changes in findings that implied conclusions different from those of the original article about the types and number of patients who should be treated.²¹ As pointed out in an editorial to that publication, there are public benefits to be gained by the availability of study protocols, analytical plans, and detailed data for reanalysis of clinical trial results. The editorial concludes *"Rather than the rare exception, open science and replication should become the standard for all trials and especially those that have high potential to influence practice"*.²²

Other professional groups that are calling for further transparency include the Organization for Economic Cooperation and Development (OECD), National Institute for Health and Care Excellence (NICE), World Health Organization (WHO), US National Institutes of Health, US Congress, European Commission, European ombudsman, journal editors,

The Cochrane Collaboration, and several funders (for example, the UK Medical Research Council, the Wellcome Trust, the Bill and Melinda Gates Foundation, and the Hewlett Foundation).^{4, 23, 24} In the UK, NICE has recently urged the pharmaceutical industry to release more data so it can better assess the costs of new medicines. In line with this, NICE is updating its guidance on how much data it wants to see from pharmaceutical companies; according to the report, *“if NICE does not get what it wants, NICE says it will bypass the (pharmaceutical) company altogether and go straight to regulators”*.²⁴ Although progress on disclosure of clinical trial participant-level data has been relatively slow, the demands are reaching the regulators. The latest stage of transparency efforts, currently considered by the EU in particular as part of the EMA Draft Policy 070, is aiming for the disclosure of anonymised (i.e. personal identifiable information removed) individual participant data from clinical trials of approved products. In this context, the EMA Draft Policy 070 is not limited to data from conventional randomised controlled studies, but is meant to also include other types of interventional or observational clinical research methodologies, such as large simple trials, cohort studies, case control studies, or registry data.²⁵ It is proposed that such data would *not* be open access but rather made available under ‘controlled access’ and that defined ‘commercially confidential information’ would *not* be released; the definitions of the various terms used are explained in the Draft Policy 070, available on the internet.²⁵ A large number of responses were received after the draft policy was released to the public for discussion and comments; the decision to finalize the policy is expected to be announced after 2 October 2014.²⁶ Participant-level data disclosure such as the Draft Policy 070 is being actively debated by regulators, politicians, physicians, scientists, pharmaceutical trade associations, the industry, journal editors, and patient advocacy groups.^{4, 15, 20, 23, 27-40}

In parallel to the discussions on the EMA’s Draft Policy 070, some pharmaceutical companies have come forward with plans to voluntarily share de-identified participant-level clinical study data in a controlled and organised way. At the time of writing, 10 pharmaceutical companies have committed to share de-identified participant-level data, by using a common internet-based site called “clinical study data request”. The site allows individuals or organizations to request access to de-identified participant-level data and supporting documents from clinical studies; the requestors proposals are reviewed by an independent panel that decides whether permission should be granted.⁴¹ The results of re-evaluations are expected to be published. Another voluntary project by some major pharmaceutical companies is to make clinical trial data available through an academic clearinghouse for scientific information known as the Yale University Open Data Access (YODA), which will independently review and make decisions about requests to access de-identified, patient-level data from the clinical studies.²² Such efforts are broadly in line with the proposals of the pharmaceutical associations the Pharmaceutical Research and Manufacturers of America (PhRMA) and European Federation of Pharmaceutical Industries and Associations (EFPIA), who have prepared a common document dealing with disclosure and transparency of clinical research data.³⁷

Implications for medical writing professionals

Medical writers participate at most stages of clinical drug development and play a key role in preparing documents that may soon be available to new and previously unintended audiences. Documents such as study protocols, amendments, clinical study reports, modules of the Common Technical Document, publication of clinical study results in peer review journals, are essential for 'Clinical Trial Disclosure'. Most of these documents are likely to become available to the public and the content and conclusions will be easy to compare. Therefore it is important to ensure a clear and concise writing style, and consistent presentation of data across all such documents. To warrant consistency across documents, it may be prudent to adjust internal workflow and standard operating procedures that deal with these documents.

Another example is the involvement of medical writers who prepare clinical study protocols in the teams concerned with public clinical study registration entry; and further, those preparing clinical study reports should be part of the team dealing with the public clinical study results disclosure. It would also be wise to prepare some of the documents in parallel (i.e. study protocol and database registration entry; clinical study report and summary result disclosure entry); such an approach would allow for effective and parallel review, approval, and sign-off procedures, while the topic is still fresh in the minds of people concerned with these documents and processes. Informing study investigators, clinical research organisations, and any other business or legal partners involved in the clinical development programme of the 'disclosure and transparency' intentions and activities, and compliance and legal implications, is also recommended.

Increased quality control measures should also be ensured to check for consistency between source documents and modules of the CTD and of any other aggregate regulatory documents. Publications of clinical study results in journals should be fully consistent with clinical study reports and public database entries. This applies for example to the number of participants in the various study or analysis groups as well as to the number of subjects affected by adverse events. Recent external independent analysis of a sample of 400 randomly selected studies showed numerous discrepancies between published papers and information available in public databases, indicating room for improvement in consistency and quality control.⁴²

Another important item in the disclosure and transparency efforts which has great implications on medical writers and project managers is the timing when summary results of clinical studies are expected to be released to the public databases. As shown in [Table 1](#), in the US database, the results for applicable trials with FDA-approved products are required after the primary outcome of the study is complete. In the EU/EEA, summary results of the paediatric clinical studies with any tested medicinal product and all phases are required within 6 months of 'last patient last visit'. There are also new, legally-binding requirements that are likely to become part of the medical writers' tasks. These include the preparation of documents, using lay language, in documents such

as the 'Patient informed consent' and 'Summary of clinical study results'. Expressing complex results of clinical trials in 'lay language' is not as easy as it may sound. Several international working groups and professional associations are busy preparing recommendations and standards for such documents.

Final remarks

Clinical trial disclosure and transparency efforts by numerous stakeholders worldwide have given rise to a wealth of information on clinical studies. This information has now become free to all and benefits everyone. It is up to each group of professionals, private groups or individuals, to use and learn from this freely available source of knowledge. Clinical trial disclosure is a fast-changing environment, with demands for the release of further clinical information.

Medical writers are an essential group of professionals, who through their knowledge on how to prepare regulatory documents and publications during clinical drug development as well as through their integral role in clinical development teams, should take on important leading roles in the activities dealing with clinical trial disclosure and transparency.

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Table 1 - Clinical Trial Disclosure: Summary of the main requirements in the US and EU/EEA

<p style="text-align: center;">US www.clinicaltrials.gov</p>	<p style="text-align: center;">EU/EEA www.clinicaltrialsregister.eu</p>
<p>Register all applicable clinical studies ongoing or started after September 2007 in US or as part of US regulatory application</p>	<p>Register and disclose all interventional clinical studies with EudraCT number, studies ongoing or started:</p> <ul style="list-style-type: none"> • After May 2004 for studies in adults • After May 2006 for studies in children
<p>Applies to clinical studies:</p> <ul style="list-style-type: none"> • Phase 2, 3, 4 in children and adults 	<p>Applies to clinical studies:</p> <ul style="list-style-type: none"> • Phase 1, 2, 3, 4 in children • Phase 2, 3, 4 in adults [§]
<p>Disclose summary results for:</p> <ul style="list-style-type: none"> • Approved products 	<p>Disclose summary results for:</p> <ul style="list-style-type: none"> • Any tested investigational medicinal product, regardless of the regulatory approval stage
<p>Timeline for disclosure of summary results for completed clinical studies depends on the FDA approval status of the product:*</p> <ul style="list-style-type: none"> • Approved product and approved use/indication: 12 months after trial completion • New product with new use/indication: 30 days after approval has been granted • Approved product and new use/indication: 30 days after application approval, denial, or withdrawal[#] 	<p>Timeline for disclosure of summary results:</p> <ul style="list-style-type: none"> • Studies in children within 6 months of LPLV • Studies in adults within 12 months of LPLV

EU=European Union; EEA=European Economic Area; LPLV=Last patient last visit; US=United States of America

* Completion date of an applicable clinical trial is defined as the date that the final subject was examined or received an intervention for the purposes of final collection of data for the **primary outcome**, whether or not the clinical trial was completed according to the study protocol or was terminated.

For cases when the sponsor withdraws an application to the FDA, the disclosure of results for the relevant clinical trials is due within 240 days of application withdrawal, if there is no resubmission during that period.^{13, 16}

§ The interpretation of the new EU/EEA Regulation (2014) suggests that in some cases the disclosure (public database) of Phase 1 studies performed with adults will also be a requirement.

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Transparency of Clinical Trial Data: The European Medicines Agency perspective

Background

The debate over transparency and access to clinical trial data has been near to the top of the pharmaceutical sector's policy agenda since the European Medicines Agency (EMA) launched its draft policy proposal in November 2012 – Draft Policy 70 on publication and access to clinical trial data.¹ Information regarding the Draft Policy 70 is the main topic of this article.

The adoption of the clinical trials regulation in April 2014 further spurred discussions regarding clinical trial disclosure and transparency. In addition to improvements to the approval of clinical trials, the regulation introduces important new requirements for transparency of summaries of clinical trial data. These changes, which will come into force in 2016, are not covered in this article.

With attention now focussed on Draft Policy 70, it is easy to forget that the Agency has been spearheading transparency since its creation in 1995. Furthermore, almost 20 years on, it is easy to overlook quite how radical some of the early initiatives were for the pharmaceutical world used to high levels of secrecy and confidentiality. These initiatives included publication of EMA assessment reports; the names, CVs and declarations of interests of our experts and staff; the international non-proprietary names of orphan drug applications and indications; and the protocols and results of paediatric clinical trials and paediatric investigation plan opinions.

Access to documents

As the EMA gathered a higher profile in the drug approval process, it was not long before academics and others became interested in the work of the Agency, and the documents and data that it held. While there had been EMA rules on access to documents since 1997, a high-profile challenge to the European Ombudsman by researchers in 2008 led to significant changes in the Agency's policy on access to documents in November 2010.²

The new access to documents policy saw access being granted to a wide range of interest groups including academics and researchers, the general public, lawyers, media, and the pharmaceutical industry. Once again, the EMA policy was challenged, this time by pharmaceutical companies before the European courts in 2013. The Agency successfully won appeals against temporary injunctions that the companies had requested, and at the time of writing one of the two companies had withdrawn its case.

Access to clinical trial data

The Agency launched its public consultation on the Draft Policy 70 on the publication of and access to clinical trial data in June 2013. The stated objective of the draft policy was to increase transparency, not just about the Agency's own deliberations and actions, but also about the data and results from clinical trials on which regulatory decisions are based. The policy, once approved, will apply only to applications for medicinal products submitted for centralised review through the EMA; products approved nationally are not included. Draft Policy 70 foresees access to clinical trial data for products once they have completed their decision-making process – whether the outcome is positive or negative.

The Draft Policy 70 seeks to enable public scrutiny and secondary analysis of clinical trial data, and defines which data could be made available and how, while respecting both the protection of personal data of individuals involved in clinical trials and the protection of commercially confidential information.

After the Draft Policy 70 was made available for public comment, the Agency received an exceptionally high level of contributions from stakeholders, with over 1,100 different comments. While contributions from the pharmaceutical industry were expected, the majority of responses came from patients, healthcare professionals, researchers, and academics. Comments and views received were divergent and fell broadly into three categories: issues on protection of patient confidentiality, rules of engagement for access to the data, and further legal aspects.

The Draft Policy 70 was submitted to the Agency's Management Board on 12 June 2014. While there was general agreement on the policy, including wider access to academics and non-commercial researchers, formal adoption of the policy was held back to the Board's following meeting on 2 October 2014, to allow for further clarifications on the wording and practical implementation. The EMA Management Board unanimously adopted the policy at that meeting. The policy will enter into force on 1 January 2015.³ It will apply to clinical reports contained in all applications for centralised marketing authorisations submitted after that date. The reports will be released as soon as a decision on the application has been taken. The EMA also issued a 'Question and Answers' document regarding the policy.⁴

Transparency in the pharmaceutical sector – what have we learned?

Since the creation of the Agency in 1995, more and more information about pharmaceuticals has been released into the public domain, either as a consequence of legislation or policy. This effort has been in line with increasing societal and political demands for more transparency of both regulators and the industry, and other sponsors of clinical studies.

The debate over the EMA Draft Policy 70 regarding clinical trial data policy may have

obscured, at least for some observers, the fact that the Agency has been releasing documents and data in response to access to documents requests for a number of years. The draft policy was never intended to replace the rights of all EU citizens under the 2001 access to documents EU legislation⁵. The key point of the Draft Policy 70 is to facilitate access for any interested party to clinical trial data by publishing it proactively, once the decision-making phase had been concluded.

In parallel to the Draft Policy 70, the new EU clinical trials regulation, expected to come into force in 2016 at the earliest, will improve not only the way in which clinical trials are approved and conducted but importantly also provide a clear legal framework for transparency of clinical trial data in the EU. The challenge for all parties seeking product approval in the EU seems clear: ensure now that submission dossiers are disclosure-ready and be prepared for the future changes.

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Transparency of Clinical Trial Data: The Industry Perspective

Introduction

This paper describes the development and implementation of a comprehensive approach to clinical trial (CT) disclosure transparency efforts at Boehringer-Ingelheim (BI), a world-wide operating pharmaceutical company. The impact of transparency on internal company processes and functions is also discussed, as well as the potential influence of document and data access on protocols, reports, publications, and secondary data analysis.

It is important to note that transparency of CT data is composed of seven basic aspects for BI:

1. Protocol registration in a structured, fixed format (CTgov, EudraCT)
2. Results disclosure in a structured, fixed, tabulated format (CTgov, EudraCT)
3. Disclosure of textual summary results (e.g. ICH E3 study synopsis) on the sponsor's web-page
4. Disclosure of textual summary results in non-scientific language on the sponsor's web-page
5. Scientific publication of main results in peer-reviewed journals
- 6. Provision of access to redacted and de-identified full Clinical Trial Reports (CTRs) and other clinical documents**
- 7. Provision of access to anonymized, analyzable patient-level data**

Although CT transparency policy at BI covers all seven aspects mentioned above, only the last two are presented here.

Implementation of clinical trial transparency policy at Boehringer Ingelheim

BI's approach to CT transparency fully agrees with the joint EFPIA/PhRMA principles for responsible CT data sharing¹, and extends even further for some important aspects. Most importantly, BI decided to include retrospective transparency, covering also past CTs for document and data access. In particular, BI will provide data and document access for CTs of approved or terminated BI drugs going back to 1998.²

The prerequisite for document and data access is drug approval in USA or EU – or termination of drug development. The administration of requests for document access is straightforward, requiring only the signing of a brief document-sharing agreement. In contrast, provision of access to BI-owned CT data must respect strict data protection laws. In addition, BI also intended that its data access procedure should include measures to enhance the scientific value and allow the public to benefit from the results of secondary research based on data access.

BI therefore decided very early to join the transparency efforts of GSK, Roche, and other companies in sponsoring a common data-sharing environment, which has two components:

- ClinicalStudyDataRequest.com (CSDR)³, a public multi-sponsor web-page to allow professional researchers to request controlled data access to perform scientifically-sound secondary analysis.

The CSDR webpage is based on a common workflow, common principles for request access, listings of available studies, data-sharing agreements, data anonymization and posting research plans, and status of research proposals.

As a key principle of CSDR, the review and decision upon research proposals is taken by an Independent Review Committee and all approved research proposals are posted – as are any decisions for non-approval. Therefore CSDR is designed to be transparent.

- The Multi-user Analysis System (MAS), a shared, secure, closed analysis environment for conducting independent secondary research on anonymized data from CTs of approved drugs.

It is important to note that the MAS is currently being expanded to allow for across-trial, across-project, and even for across-sponsor analysis of CT data. Furthermore, although researchers can import their analysis tools (the common analysis software packages SAS and R are provided by default) and can export summary results files, the MAS has built-in measures to prevent export of the CT data. This is an essential system feature, as it protects against uncontrolled data dissemination and also against electronic combination of anonymized data with other web-data, e.g. from social networks, in attempts to re-identify or break the anonymization.

Overall, the processes and technical environment provide three independent layers of data protection: i) data anonymization, ii) identification of the requesting researcher, combined with a legally binding data-sharing agreement, and iii) the provision of a closed, secure, controlled analysis environment without the option of downloading CT data. As is documented on the BI webpage, the BI approach to data access has been reviewed by the Office of Data Protection and Freedom of Information of the State of Rhineland-Palatinate and is in line with legal requirements for data protection and freedom of information in Germany.⁴

The development of such a broad transparency policy at BI is based on a clear commitment by the management, involving all key stakeholders – Clinical Research, Biometry & Data Management, Medical Writing & Document Management, Legal, Patents & Corporate Communications. The implementing efforts – in particular with regard to redacting of legacy documents and anonymization of legacy data for approx.

800 BI-sponsored CTs since 1998 – were elaborate and required setting-up of new functions and developing new SOPs. From a company perspective, implementing data transparency and integrating it in clinical development activities constitutes a major long-term commitment in money and resources.

Impact of document transparency

The first major impact of transparency stems from the legal requirement to disclose key protocol elements (incl. any updates during study conduct) and tabulated results on www.clinicaltrials.gov (CTgov) in a standardized format. Based hereon, it has become standard practice in the peer-review process for all major medical journals to verify submitted study manuscripts against the information available in CTgov. In addition, to ensure compliance with the strict and formal CTgov reporting requirements, many pharmaceutical companies have already implemented more rigorous definitions and handling rules for primary, secondary, and further or exploratory endpoints in CTs. As an example, the number of secondary endpoints in current clinical trials is much smaller than several years ago. Finally, because the CTR textual summary information disclosed on the sponsor webpage, e.g. using the ICH-E3 summary format, has to match CTgov data, this will also enforce stricter standardization of the CTR synopsis.

Providing full document access as the next level of transparency will allow all interested readers to fully verify all trial publications. It will also enable researchers and public health professionals to perform systematic reviews and summary-level meta-analysis based on full reports instead of publications. Thereby, the long-standing concern about the impact of publication-bias and biased-publications is likely to become less relevant.

Full document access is also expected to be used commonly by pharmaceutical industry competitors, CROs, and academic research institutes for study planning and for across-trial comparison of procedures and results. Availability of such information will promote further standardization of CT protocol elements, study procedures, monitoring approaches and analysis strategies. This is already evident in existing initiatives such as SPIRIT⁵ and Transcelerate.⁶

All together, the document access part of the transparency efforts will likely provide the most benefit to public health. It enforces standardization of protocols and reports, increases the quality and completeness of peer-reviewed publications and allows secondary research to be based on the full report rather than on restricted publication information.

Impact of patient level data transparency

The impact of patient level data transparency is more difficult to predict. Researchers may be interested in access to data from a single study with the aim to explore new scientific questions or to verify the sponsor's analyses. In this context, it is difficult to envisage how such analysis might provide a major benefit to the public. We should recognize

that exploring new questions via such analysis is based on results knowledge at a very detailed level; therefore a secondary analysis plan seems inherently 'results driven' and 'post hoc' and cannot generate confirmatory evidence in the same manner as results based on the original protocol specified analysis – at least not at the single trial level.

From the viewpoint of a 'big pharma' study team, reporting a CT implies, amongst other things, working with highly-trained professionals according to SOPs, strictly following and a detailed statistical analysis plan, incorporating various software and program validation steps and applying independent quality control of the results. In addition, during the registration process, the key sponsors' analysis will be reproduced by regulatory statisticians and a variety of additional analyses are requested by regulators to access robustness of results. It therefore seems highly unlikely that 'verification of sponsor's analysis' will detect major analysis errors and thereby become an important aspect of data transparency. Applying the same logic, it is also hard to imagine that secondary research based on data access will be an important tool for exploring 'robustness of sponsor's analysis' or 'signal detection' at a single trial level.

A special aspect of data access concerns landmark trials or mega-trials. Typically, such landmark trials involve collaboration between a sponsor and an independent academic institution that cover long-term access rights for analysis and for publications. Therefore, providing data access to independent researchers for such trials is expected to be a very controversial topic. In contrast to the single trial level, secondary analysis across trials – and most importantly across drugs of the same class – are likely to provide the most benefit of data access to public health. Shared data access models such as those from CSDR provide independent researchers with an environment to perform clinical prognosis research⁷ and drug-class analysis on a new and previously inaccessible scale.

If teams of professional analysts work together using modern statistical methods for network-meta analysis, statistical data-mining, and signal detection, a new level of clinical evidence may be established which will be of great benefit to public health. For this to happen, there seems to be two pre-requisites. First, data access standards need to be available together with analysis environments that allow for multiple sponsors from industry and academia. And second, the research infrastructure incl. professionally trained analysts need to be available in the academic sector, to allow systematic practical execution of such across-drug analysis. At present the first steps in the right direction have been made and the willingness and readiness of the pharmaceutical industry towards practical implementation of data transparency is clearly apparent.

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A 3D View of Responsible Clinical Data Sharing: The European Federation of Pharmaceutical Industries and Associations Perspective

Substantial progress has been made towards responsible clinical trials data sharing in the past years. Last year, Pharmaceutical Research and Manufacturers of America (PhRMA) and the European Federation of Pharmaceutical Industries and Associations (EFPIA) announced new industry principles towards responsible clinical trial data sharing. More information on this is available on EFPIA's Responsible Transparency Platform: <http://transparency.efpia.eu/>.

The industry very much recognises the important public health benefits associated with making clinical study information publicly available to healthcare practitioners, patients, and others. Such disclosure, however, is complicated because it must maintain protection for individual patient privacy, intellectual property including commercially confidential information, and contract rights. There are important duties of care with any data that is released to ensure that it is not misinterpreted or misused.

Imagine how devastating it would be for harm to come from some well-meaning, but misleading, interpretation of data that is released. As such, data sharing should not be considered a "free-for-all". Safeguards are needed to protect patient privacy, maintain trust in the regulatory system, safeguard against misinterpretation, and protect future biomedical research.

A 3D perspective should be taken when reflecting on the topic of clinical trial data sharing, assessing the:

1. **Diligent** ongoing industry efforts
2. **Developments** of external regulatory and legislative, and
3. The need to align **Divergent** approaches.

Diligent, ongoing industry efforts towards increased data-sharing are exemplified by the EFPIA-PhRMA Principles for Responsible Clinical Trials Data Sharing. These Principles outline steps for:

- Enhancing data sharing with researchers: a dramatic expansion of data is being made available to researchers, through provision of anonymised patient-level data, study-level data, protocols and Clinical Study Reports (CSRs) to qualified requesting researchers. Each company will establish a scientific review board, consisting of non-employees, to safeguard against public health risks of "junk science" from invalid interpretation or dissemination of data. To protect patient privacy, patient-level data will not be provided if there is any reasonable chance of re-identification.

- Enhancing public access to clinical study information: following approval in the US and EU, companies will post CSR synopses, as a minimum, and will supplement data required to be posted on the website (www.clinicaltrials.gov) and the parallel on EC/EMA site (www.clinicaltrialsregister.eu).
- Sharing results with patients who participate in clinical trials: provide factual summaries of clinical trial results to research participants.
- Certifying procedures for sharing clinical trials information: companies will certify on a public website that they have established policies and procedures to implement data sharing commitments.
- Reaffirming commitments to publish clinical trial results: all company-sponsored trials should be considered for submission, irrespective of results.

Developments in new regulatory approaches to data-sharing must take on board existing measures in place. It is simply not true to state that the pharmaceutical industry is not sharing its data. The fact is that it is, and in abundance. If sharing of data in the industry were not happening, the industry would not flourish in the ways it has and certain discoveries and innovations would not be brought to the world. The concept of 'Open Innovation' has been around for decades and has allowed the industry to thrive from expanding brainpower and investigation of data. 'Open Innovation' provides platforms for idea-sharing and reduces barriers for collaborations between investigators working inside and outside an organisation. Free exchange of ideas between investigators across traditionally impregnable organisational walls contributes to the advancement of science.

Divergent approaches in determining the best way to expand clinical trials data-sharing are to be expected – however, we will see the best success when industry and other data-generators come together to decide on a unified approach. Across the globe, governments, health ministries, and regulatory agencies are exploring this issue. By converging policies, we can streamline resources and align systems, ultimately helping to ensure greater efficiency.

There is already a lot of information in the public arena. Indeed, the debate should now shift from a 3D to a 4D perspective and address how available data can be best used, allowing **Determination** to make life better for people around the world.

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Patients and Data – Changing roles and relationships: The Patient Perspective

*“And don’t criticize
What you can’t understand
Your sons and your daughters
Are beyond your command”
(Bob Dylan, The Times They Are A-Changin’)*

Data and changes in roles and relationships

We live in a world awash with data. From decisions about the unit price per sheet of toilet paper, to price plans for smart phones, every day we navigate through a data and information minefield. Whatever one’s attitude – whether you welcome more data, or feel threatened by it, the data-age is here to stay. And it is changing our relationship to services.

In healthcare, the availability of more data can help change the role of patients vis-a-vis relationships with health professionals. A friend researched the risks and benefits of various treatments, which hospital delivered best quality care and which surgeon she could trust. She made those decisions alongside her loved ones and general practitioner (GP). Another with a long term condition said granting his trust to a GP is based on professional willingness to share and discuss data honestly and in the context of his life and values. Patients becoming knowledgeable about data make healthcare more of an equal relationship – or it should do.

The wide availability of data is also enabling patients, users, and carers to change their relationships with each other. Peer-to-peer support, a growing phenomenon both on- and off-line is about people sharing their own ‘data’, derived from their own sense of what works, their own lives, and their own healthcare experiences. Meanwhile, people having access to their own medical records is becoming part of mainstream healthcare – changing relationships between patients and the health system and enabling professionals and patients to have different sorts of conversations – though not without a fight from some professionals who still regard themselves as data custodians.

With the advent of digital technologies, patients are generating and using their own personal data, effectively changing intrapersonal relationships (i.e. with themselves). The world of the ‘quantified self’ reveals a world of people using wearable devices to provide feedback on physiological processes so as to be more in control of the way they live and behave.

From individual decision-making to strategic decision-making

More widely available data is changing patient and professional roles and relationships at a micro-level, but not yet at the macro-level. If we are being ‘trusted’ and encouraged

to make choices at an individual level, surely we have the right to be part of decisions on the way data is being generated and used.

In terms of clinical data information, much of it is still secret. Think Enron or GSK in India or, any number of multi-national scandals. The UK government promotes the benefits of allowing corporate interests and researchers access to data held about patients by GPs, but has not involved patients or patient groups in the development of that policy. While more people use wearable devices and share data online, they have little say in how that data is used and by whom. Some online patient communities base their business model on selling aggregated data. Yet, how many decisions in the pharmaceutical world on data transparency have been based on meaningful involvement of patients and citizens?

The system can't have it both ways: professionals and health regulatory agencies want patients to 'grow up' and take responsibility for individual decisions about data in health and healthcare. But the very organisations seem reluctant to grant them an adult say in decision-making.

Patient Leaders

Meanwhile, patients are doing it for themselves. Many are becoming 'Patient Leaders' – influencing change at system level, by modelling the type of relationships they want to see between patients and professionals. The patients are more than 'representatives' granted 'permission' to sit at the professional table. Patients are creating their own roles and opportunities and are developing the skills needed to change the nature of health-care itself. And they threaten the status quo.

Patient Leaders go the extra mile and take the way they manage their own lives and health to a strategic level. An example is Michael Seres, one of the first bowel transplant patients in the UK. Based on his own experiences and needs, Michael invented The Ostom-i™ Alert sensor – a discrete device that alerts patients as to how full their ostomy pouches are so that they can decide if and when to empty them. The device sends Bluetooth alerts to a mobile phone app device telling the user their pouch is filling up. Denise Stephens, who has multiple sclerosis, created Enabled By Design – a user-led community that promotes and supports user-designed solutions for assisted living. Michael and Denise are patient innovators.

Oli Anderson lives with renal disease, provides coaching and peer to peer support for other (renal and non-renal patients) and promotes shared decision-making locally.

Alison Cameron, a mental health service user, leads co-production work across the UK health system. Nicola Kingston has a son with diabetes; she promotes patient-centred research and recently co-led work on peer-led education for people with diabetes. Trevor Fernandes had a heart attack and is now working alongside professionals to help

change the way inspections happen in the UK. Anya de longh has Postural Orthostatic Tachycardia Syndrome (POTS) and uses her expertise to help the design and delivery of clinical training.

These are just some of the people involved in discussions and decisions about data far beyond their own care and treatment - sharing data with the system to support patients, helping organisations change practice-based on what data matters to patients, working with data to change how inspections happen, and educating professionals on the importance of patient-generated data.

For this to happen, patient leaders require meaningful opportunities to input into joint working initiatives, learning and support – in particular with regard to influencing the system through building better relationships – to be valued for their time and expertise, and also need ways to support each other, e.g. through networks of mutual support.

Beyond this, the future of healthcare needs us – all of us together – to move towards different solutions. In the data realm, the questions around data transparency, generation, ownership, and control require patients and citizens to have an equal say at a strategic level. After all, whose data is it anyway?

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Transparency Initiatives Open New Doors for Medical Writers

The scope of medical writing has increased exponentially in the last 10 years in terms of diversity and complexity of documents. Medical writers have a pivotal role in a wide spectrum of activities from clinical study protocol development, patient information leaflets, protocol amendments, clinical trial reports, modules of the Common Technical Document, documents for the clinical trial disclosure, and publications. Thus, the medical writer is at the crossroads of several key regulatory and transparency documents.

The increasing demands for transparency and public disclosure of clinical trial data for the benefit of science and clinical development of medicines have altered the role of the medical writer, in particular by creating new opportunities and obligations for medical writers to take on increasing responsibilities. Gone are the days when the contribution of a medical writer was restricted to document writing and incorporating changes. At present, medical writers play a pivotal role in ensuring that clinical research findings are presented in a consistent way and shared with patients, regulators, and the wider public in an appropriate and meaningful manner. In this sense, medical writers advocate transparency and patient rights every day. Indeed, 'Good Disclosure Practices' are as important as 'Good Clinical Practice' and the role of the medical writers in promoting transparency cannot be overstated.

Medical writers can and must play a key role in clinical development teams to ensure correct presentation and standardization of disclosure process, practices across industry, regulators, and academia. This is because transparency is a common objective that transcends competitive barriers. Medical writers can take a lead in ensuring that transparency commitments are embedded in the day-to-day culture of organizations, thus filling a gap created by expanding transparency requirements.

Disclosure and transparency processes are not equivalent to information and data dumping. It would be naïve to expect that transparency commitments can be fulfilled by slight adaptation of existing processes. This is because disclosure and transparency involve combination of processes that impose vast changes in ways of working during clinical drug development; the disclosure and transparency process implies a paradigm shift. This is where the writers' knowledge of the whole drug development highlights that medical writers are actually torch bearers who can guide the way in applying the new transparency requirements.

The increasing demands for transparency should go hand in hand with data protection for individual clinical trial participants. Achieving the right balance between efficiency and consistency as well as respecting proprietary information and study participants' privacy when preparing regulatory and disclosure documents requires in depth knowledge of the written documents, meticulous appreciation and understanding of the re-

sults, and consistent presentation of the results and messages throughout all documents relating to the results. Only then can documents be disclosure-ready and privacy of clinical trial participants be protected. Generating such documents requires specific skills based on knowledge of the current regulations and legal obligations regarding transparency and data protection.

The distinction between regulatory and disclosure documents is increasingly blurred. This means that classic documents such as clinical study reports have to be disclosure-ready at the time of creation. This offers a big opportunity for medical writers in the transparency and disclosure environment. The medical writer has the appropriate combination of skills that include: ability to prepare regulatory documents and to interpret statistics and co-ordinate all skills as a basis for good transparency. Nevertheless, to be effective guardians of the transparency process, medical writers need to upgrade their knowledge on this topic. In-depth knowledge of regulatory and disclosure requirements (including details on what needs to be disclosed, how, where, when) is key to success. Acquiring this knowledge is not always straightforward, considering the breadth, depth and frequently changing disclosure requirements. Medical writers need to be content experts of transparency regulations across all documents involved. Organizations such as the European Medical Writers Association (EMWA) are the ideal forum to spread this knowledge and share best practices. The disclosure workshops offered by EMWA are a good forum for medical writers to learn the fundamental disclosure principles. It will be valuable to extend the disclosure curriculum to include more advanced aspects and updates of the relevant regulatory status.

This will be achieved by a robust disclosure curriculum workshop, tailored for medical writers, including skills such as regulatory background, technical aspects of preparing disclosure documents, as well as project management, influencing skills to give the right importance to disclosure. By educating writers through workshops, we would follow the 'train-the-trainer' format. Writers will then confidently share knowledge with others and have the reassurance of a network of skilled colleagues. Medical writers need to be confident that they have the regulatory knowledge and intrinsic skills required for 'disclosure ambassadors' in their professional organizations. This key symposium organised by EMWA was a first step in this process and future educational events will consolidate this role of the medical writer. By upgrading their skills regarding disclosure, medical writers will further reinforce their role in clinical development teams.

Despite enormous progress being made on the transparency front, there is still a school of thought that considers clinical data as the privileged property of the person or entity who conducted the study. Bringing about a change in mindset will require consistent efforts. Medical writers are well placed to play the role of change ambassadors of this fast-progressing topic, as they form a natural bridge between the data generators and the end-data users, such as the regulatory authorities, scientists, physicians, patients, and the general public – which in effect includes all of us.

The views and expressed in this article are the personal opinions of the authors and do not necessarily reflect the position of the organization that the authors are affiliated to.

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Julia runs her own medical communication company (Julia Donnelly Solutions Limited) and works predominantly for the pharmaceutical industry. Previously she has worked as a medical writer, project leader, editorial director, technical director and global resource, training and development director in international medical communications. Julia also worked within medical information and hospital pharmacy. She is an experienced medical writer and trainer, has developed over 40 publication plans and frequently develops the outputs from the plans she manages. Julia served on the EMWA Professional Development Committee (EPDC) 2005–2010. She was elected Vice President of EMWA in May 2013 and is now serving as President until May 2015.

Susan Forda

Sue Forda trained as a pharmacist. After completing a PhD in neuropharmacology, she worked as a post-doctoral research fellow at St George's Hospital Medical School, University of London. She later joined Beecham, subsequently SmithKline Beecham Pharmaceuticals, as a regulatory associate in their Worldwide Regulatory Affairs Department where she held different positions for 9 years. Eighteen years ago she joined the Lilly European Regulatory Group and became its director in 1997. She is now responsible for all International regulatory aspects of Lilly's current and future products. In May 2003, she was awarded an MSc in the Economic Evaluation of Healthcare. Sue participates in industry association regulatory initiatives.

David Gilbert

David Gilbert was a consumer activist with Health Action International and the Consumers Association in the UK helping to campaign for openness in pharmaceutical licensing and against over-promotion of medicines. He was a consumer representative at the EMEA and UK Medicines Control Agency. He then focused on supporting national and local organisations in the UK to better engage with patients and the public, and worked at the Commission for Health Improvement (the UK inspectorate), the Kings Fund, and founded the NHS Centre for Involvement. In 2006, he founded InHealth Associates, a network of engagement specialists, before teaming up with Mark Doughty three years

ago to form the Centre for Patient Leadership that supports patients as influential partners and agents of change.

Hans-Jürgen Lomp

Hans-Jürgen has more than 20 years of pharma industry experience as a statistician. He worked for 10 years for Hoechst (now Sanofi) as a project statistician on diabetes and cardiovascular projects, and was also a statistics manager. He switched to Boehringer Ingelheim (BI) to become Group Head Statistics, covering all statistical aspects from basic research, non-clinical development, pharma production development, clinical development, and medical affairs support. He chaired the Statistics Leader Group in the VFA (Association of German researched-based pharma companies) for several years. In 2013, he was appointed Global Head of Statistics for BI worldwide. He is co-chair of the BI Transparency Initiative.

Tatjana Poplazarova

Tatjana is currently Head of Medical Governance and Bioethics at GSK Biologicals and leads a team of experts promoting industry-leading medical governance and bioethical excellence for GSK. Previously, as Director of Scientific and Public Disclosure at GSK Biologicals, Tatjana was heading an international team with representatives in Asia-Pacific, Europe and the USA which was involved in both Regulatory submissions (writing of protocols, study reports, clinical study summaries) and disclosure activities (both web based disclosure and publications). Tatjana is one of the founders of the disclosure team at GSK Biologicals and spearheads both strategic and operational aspects related to Disclosure of Human Subject Research. Tatjana is also the Biologicals representative at the GSK decision making body on disclosure activities.

Alistair Reeves

Alistair became a freelance writer, editor and trainer in 2002 after 25 years in the pharmaceutical industry in different roles in market research, clinical research, drug regulatory affairs, medical translation, medical writing, case report form design, and document management and publishing. He has extensive writing and editing experience in a wide range of clinical areas including endocrinology, oncology, infectious diseases, cardiovascular medicine, transplant surgery, traumatology and veterinary and laboratory medicine. Over the past 25 years, he has presented courses on many aspects of medical writing for commercial training organizations and regularly holds in-house courses for small and large pharmaceutical companies throughout Europe. He has given more than 50 workshops at almost all EMWA events since 1997 and is an Honorary Fellow of EMWA. He has also been a major contributor to The Write Stuff and Medical Writing with articles on language issues. Alistair served as EMWA Conference Director from 2012 to 2014, and has recently returned to the role of EMWA Freelance Advocate for the next 2 years.

Uma Swaminatham

Uma's passion for medical writing brought her all the way from Bangalore (India) to Belgium. During her Scientific Writing career of over 7 years at GSK, Uma has worked on a wide range of regulatory and disclosure documents across different vaccine projects. Her current role as Manager for Clinical Trial Register and Protocol Posting within GSK has allowed her to further develop her skills in the field of project management and scientific communication. These included such diverse activities as understanding and complying with the complex and ever-changing legal and regulatory requirements for disclosure; planning, tracking and delivery of protocol and results summaries; cross-functional training; and increasing the public disclosure awareness within the company.

Kathy B Thomas

Kathy is an independent consultant with an extensive background in the area of Clinical Trial Disclosure. She has followed the development and consolidation of the law in the US (FDAAA 2007, ClinicalTrials.gov platform) and is currently observing the developments on this topic in the European Union and European Economic Area (EU Clinical Trial Regulation 2014, EudraCT platform). She has a broad knowledge of and experience in preparing entries for registries, and developing internal guidelines and processes to assure compliance with clinical trial disclosure policies. She is an active member of professional international work groups on this topic.

Kathy is also a medical writer, with more than 18 years of experience in the academic and pharmaceutical industry setting, preparing a wide range of clinical and drug safety documents for modules of the Common Technical Document for regulatory submissions, investigator's brochures, aggregate drug safety documents (PSUR, DSUR), abstracts, posters, and slide presentations for international scientific and medical conferences.

Kathy served as the Head of Medical Writing from 2001-2007 at Altana Pharma AG, Konstanz, Germany. Currently, she lives in southern Germany and consults internationally on projects requiring skills in medical writing and in Clinical Trial Disclosure.