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CONFERENCE REPORT

Towards a single VOICE for European clinical pharmacology: proposals for future developments

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In June 2012, 30 clinical pharmacologists from 19 different European countries met in the Ettore Majorana Foundation and Centre for Scientific Culture in Erice, Sicily, for an intensive 3-day meeting to discuss the future of clinical pharmacology in Europe. Here we summarize the main conclusions of that meeting. The countries from which the participants came are listed in Table 1. Although individuals from other countries were invited, they could not attend. Individuals from Belgium, Eire (the Republic of Ireland), and Russia sent written contributions.

Differences and similarities

During 2 days of discussions, individuals from different countries presented details of how clinical pharmacology is practised in their countries. Minor differences emerged between countries concerning details on teaching and training programmes, funding (e.g. reimbursement systems), employers (universities and health-care systems), and legal and regulatory practices. However, there was no clear evidence that any one method for promoting clinical pharmacology is likely to be more successful than another; different methods are likely to be effective in different ways in different countries. Although many details of difference were recounted during the meeting, the participants agreed that it would be more productive to concentrate instead on similarities.

It was agreed that all clinical pharmacologists in all the countries represented do some or all of the following:

- teach medical students and others the principles of clinical pharmacology and practical therapeutics;
- undertake a wide range of pharmacological and therapeutic research projects, including clinical trials;
- provide clinical services, caring for patients, and laboratory and information services;
- serve locally, nationally, and internationally on committees involved with drug therapy and drug policy, including regulation;
- prepare and edit written teaching materials, including journal articles, didactic textbooks, reference books and e-learning materials.

A recent survey of 53 UK clinical pharmacologists revealed that the median amount of time they spend on these activities is 50 h per week, broken down as follows: teaching 10 %; research 40 %; clinical work 30 %; policy and administration 12 %; editorial work and writing 8 % [2]. We do not know to what extent this distribution of activities is quantitatively mirrored elsewhere, and we encourage clinical pharmacologists in other countries to carry out similar surveys.

One VOICE for European clinical pharmacology

All of the participants responded to the two-part question: "What, in your opinion, is the single most important practical action that we should all take to improve (1) the visibility and (2) the influence of clinical pharmacology in our countries?". From their responses the VOICE paradigm, previously discussed in relation to UK clinical pharmacology [3], again emerged. The VOICE paradigm has five components:

- Visibility of the subject
- Outreach
- Integration with other disciplines
- Coverage of neglected areas
- Emissaries to spread the word

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Table 1 European countries and recognition of clinical pharmacology and therapeutics in those that are members of the European Union

Country	Represented at the meeting	Member of the EU [1]	CPT formally recognized (EU countries only)
Austria	No	Yes	No
Belgium	No	Yes	No
Bosnia Herzegovina	No	No	NA
Bulgaria	Yes	Yes	Yes
Croatia	Yes	Joining in 2013	Yes
Cyprus	No	Yes	No
Czech Republic	Yes	Yes	Yes
Denmark	Yes	Yes	Yes
Eire	No	Yes	Yes
Estonia	Yes	Yes	No
Finland	Yes	Yes	Yes
France	Yes	Yes	No
Germany	Yes	Yes	Yes
Greece	No	Yes	No
Hungary	Yes	Yes	Yes
Italy	Yes	Yes	No
Latvia	No	Yes	Yes
Lithuania	No	Yes	No
Luxembourg	No	Yes	No
Malta	No	Yes	No
Netherlands	Yes	Yes	Yes
Norway	Yes	No	NA
Poland	Yes	Yes	Yes
Portugal	No	Yes	No
Romania	No	Yes	Yes
Russia	No	No	NA
Serbia	Yes	No	NA
Slovakia	No	Yes	Yes
Slovenia	No	Yes	No
Spain	Yes	Yes	Yes
Sweden	Yes	Yes	Yes
Switzerland	Yes	No	NA
Turkey	Yes	No	NA
UK	Yes	Yes	Yes

CPT, Clinical pharmacology and therapeutics; NA, not applicable (because not a member of the European Union (EU)

This paradigm is described in detail in Table 2.

Of these five items, the participants regarded outreach as the most important activity. Integration with other disciplines was also considered to be important. The importance of all the activities that clinical pharmacologists undertake (teaching, research, clinical and laboratory duties, policy-making, and other scholarly activities) was also stressed, with particular emphasis on the importance of the translational nature of clinical pharmacology as a research discipline.

Table 2 The VOICE (Visibility, Outreach, Integration, Coverage, Emissaries) paradigm for the further development of European clinical pharmacology

Endpoint	Description
Visibility	Improving and maintaining the visibility of the specialty among clinical colleagues, many of whom do not know what the discipline entails or what its practitioners do
Outreach	Advertising the attractiveness of the discipline to potential trainees and creating a public image for the specialty
Integration	Integration of pharmacology and clinical pharmacology; collaboration of clinical pharmacologists with other prescribers
Coverage	Extension of activities of clinical pharmacologists into neglected areas
Emissaries	Encouraging younger members of the discipline to promote it, both within medicine and in the wider world

The ways in which outreach could be improved, as suggested by the participants, are listed in Table 3. Some of these activities also involve integration with other disciplines and the use of research as a method for both achieving such integration and stressing the importance of the discipline. The roles of the European Association for Clinical Pharmacology and Therapeutics (EACPT) [4] and national societies in all of these activities were particularly stressed, as was the place of specialist journals [5, 6].

A major priority is the registration of clinical pharmacology and therapeutics (CPT) as a recognized discipline in the European Union. For this to happen, CPT needs to be formally recognized as a specialty in at least two-third of the countries in the EU; with the entry of Croatia into the EU in 2013, CPT will be formally recognized by the governments of 16 of 28 countries. Individual countries should make efforts to increase this number. However, at present we do not know why clinical pharmacologists have been successful in achieving recognition in some countries and not in others, nor in which countries clinical pharmacologists are most likely to succeed in gaining recognition where none currently exists.

The Eu2P programme in pharmacovigilance, which involves seven universities and 15 pharmaceutical companies, with involvement of The European Medicines Agency and the French Medicines Agency [7], could be a model for the

Table 3 Improving outreach in European clinical pharmacology and therapeutics—suggestions for future developments

Targets	Other professionals (doctors and other prescribers)
	The public
	Politicians (national, EU, WHO)
Education	Students
	-undergraduate prescribing assessment [11]
	Junior doctors and senior colleagues
	-postgraduate prescribing assessment (e.g. as part of revalidation, where relevant)
	-bolt-on courses for other specialists in training and as refresher courses (every doctor should be a clinical pharmacologist)
Promoting balanced prescribing	Development of guidelines and decision tools
Promoting research	Emphasizing the fact that clinical pharmacology is a translational discipline, connecting basic science and clinical practice, and affecting both drug development and practical therapeutics
Public education/information	Directly—lectures, meeting the public, social networking
	Through pharmacovigilance and related activities—via the press and broadcast media; commenting on breaking news
Roles of EACPT, national societies, and journals	Promotion of all aspects of clinical pharmacology and therapeutics, including teaching, research, health-care service, and policy making
	Webpages
	Networking (through Facebook, Twitter, etc.)
	Expanding the roles of Presidents of national and European societies and their colleagues
Influencing the EU	Obtaining approval for the specialty and pan-European training/ accreditation
	Educational credits
	Influencing EU Directives (e.g. regulation, pharmacovigilance)
	Promoting transnational mobility
Demonstrating the cost-effectiveness of clinical pharmacology and therapeutics	HTA-style cost-effectiveness calculations
	Taking part in clinical trials and other evidence-gathering activities
	Development of clinical research units and translational research activities
Clinical service	Patient care
	Medicines and therapeutics committees
	Balanced prescribing/use of medicines
	Medicines management
	Adverse drug reactions, drug abuse, dependence, teratogenicity
	Drug–drug interactions
	Cost-effective prescribing/formularies
	Monitoring therapy (interactions with laboratory services)
	Information services (interactions with clinical pharmacists)
Laboratory service	Drug-related consultations
	Drug concentration monitoring
	Pharmacogenetics
	Pharmacodynamic measurements (interactions with other laboratories)

EACPT, European Association for Clinical Pharmacology and Therapeutics; WHO, World Health Organization; HTA, health technology assessment

development and dissemination of other activities in European clinical pharmacology.

Conclusions

This meeting built on current initiatives for the further development of clinical pharmacology in Europe, including the publication of manifestos [8–10]. The observations that the participants contributed form the foundations of potential efforts in further developing and maintaining European clinical pharmacology and therapeutics as a strong discipline.

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