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A European strategy for targeted education in hematology

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Developing the evidence base: the H-Net project

As described in previous editions of *Haematologica*, the European Hematology Association was the lead partner in the European Union (EU)-funded project H-Net 2008-2011. The goal of the H-Net project was a harmonized curriculum for European hematologists as expressed through the document called the CV Passport,¹ developed in 2006 within a previous project and revised in 2011. The existence of this agreed curriculum enabled the EHA and its partners in the H-Net project to move forward in identifying training needs and gaps (whether on an individual, national or European-wide basis), and thus to improve strategic planning of educational provision and resources.

Within the H-Net project, a key first step was the implementation of a survey based on the 2006 CV Passport.² Data from the survey, national figures and European graphs for comparison were reported back to the national societies through the H-Net linkers and the societies were requested to consider these and to produce Preliminary Strategy Reports. These reports were extremely helpful in interpreting the survey findings. Not all data were robust on a national level due to small sample sizes or insufficient information on the nature of the sample. The national societies recognized this, but nevertheless they were able to comment on trends and indications in relation to their knowledge of national curriculum practices and organization of care for hematology patients, and, in many cases, to offer a valuable interpretation of the survey findings. This additional information enabled the H-Net project team to confirm some findings from the survey and to treat others with caution.

European-wide findings

The final step before the compilation of a general strategy document was to examine the entire dataset to identify strengths and gaps on a European level, comparing

these when possible with regional data. All items were identified for which 50% or under of respondents assessed themselves as being at the competence level recommended in the CV Passport, and, similarly, all those items for which 30% or under made this assessment. These items were carefully scrutinized by an experienced hematologist to see if any possible explanations suggested themselves. For example, in the *Clinical Hematology* section of the CV Passport, most deficits were seen in the context of:

- rare conditions normally handled by pediatricians/pediatric-hematologists;
- rare conditions normally referred to obstetricians/gynecologists;
- items commonly referred to departments of genetics;
- conditions with considerable variation in geographical occurrence.

This filtering allowed for the following items to be identified as potential educational priorities: spherocytosis and deficiency of G6PD, acquired platelet function disorders, interpretation of results of genetic and molecular biology tests.

Similarly, for the *Diagnostics* section of the CV Passport, the items identified as potential priorities were: morphology skills, interpretation of trephine bone marrow biopsy, sickling process, examination for RBC parasites, general principles of disease-oriented antibody panels, major genetic features in hematologic diseases.

For the *Thrombosis and Hemostasis* section, the items were: familiarity with staff performance management and appraisal, advising on use of blood products, taking a relevant case history, management of thrombotic thrombocytopenic purpura, interpretation of screening tests for primary hemostasis, clinical/laboratory tests for antiphospholipid antibodies, use of D-dimer assay and imaging, and diagnosis/management of heparin-induced thrombocytopenia. For the *Transfusion* section, there was only one item identified regarding autoimmune hemolytic ane-

mias. Data from the *General/Professional Skills* section is discussed in more detail below.

To summarize, the analysis of the European-wide dataset pointed towards competence gaps in two important areas: benign hematology including pediatric conditions, and diagnostics. The latter, in particular, showed considerable variation between countries.

Responding to this analysis, the group of national societies linkers offered the following reflections: i) the availability of training opportunities is greater within the field of malignant hematology, probably due to considerable financial support from the pharmaceutical industries; and ii) the competence in diagnostics is challenged both by organizational structures (in some countries) and by the growing curriculum needed to manage modern diagnostic procedures.

National findings

As indicated above, data on a national level were treated with great caution due to both known and suspected variations affecting its robustness. Nevertheless, comments from national societies based on the data they received were extremely helpful in throwing light on national perspectives on training needs. Issues identified most frequently by national societies were variation throughout Europe in the overall organization of specialties, and variation in the length of training required to specialize in hematology. For example, in relation to the organization of medical specialties:

- in Belgium and Sweden, hematology is not a separate specialty but a sub-specialty or competence related to internal medicine;
- in Poland, the Netherlands, Switzerland, Slovakia, Hungary and Turkey, pediatric hematology is a separate specialty and/or is part of pediatrics; in Bulgaria it is one of three hematologic specialties with different training routes;
- in Portugal, the Netherlands and Sweden, transfusion medicine is a separate specialty; in Bulgaria it is one of three separate training routes;
- in Switzerland, malignant hematology is separately covered by medical oncology;
- in Estonia, medical oncology, internal medicine and

hematology are all separate specialties, although hematology includes transfusion medicine and pediatric hematology;

- in Denmark and Sweden, severe coagulation disorders, and in particular hemophilias, are dealt with separately;

- in Italy, Poland and Portugal, laboratory testing and lab management are the responsibility of technicians/paramedical staff.

Several national societies, notably in Belgium, Spain, Bulgaria, Italy and Estonia, felt that the data helped to underscore a problem with the *length of specific specialist training* in hematology in their own system. Other useful issues raised by the national data included restrictions, for a range of reasons, on trainee rotations in sub-specialisms (most notably a relative *shortage of specialist facilities* in stem cell transplantation in some countries), variations in *specific disease incidence* (notably hemoglobinopathies and thalassemy) which restricted trainees' opportunities to experience them, and variability created by the *autonomy of training centers* to organize their own training programs.

General professional skills

It was felt that Section 5 of the CV Passport (*General/Professional Skills*) raised rather different issues from the other sections. In the overall data, only three items were identified as showing any significant deficit: skills in addressing appropriately socio-economic needs, responding appropriately to different cultural origins, and participating in or initiating multi-professional discussion on ethical dilemmas. However, the scores showed significant variation across countries. Generally, countries in Western Europe showed confidence in having a particular strength in general professional skills training; several countries to the east of Europe appeared to be much less confident, possibly with End of Life Skills being a particular issue.

It was recognized that trainees might well have particular problems in accurate self-assessment of competence in relation to some general/professional skills items in comparison with other sections of the CV Passport. Nevertheless, certain national society linkers confirmed the impression given by the data that training in such

Table 1. Recommendations.

1. The CV Passport should remain a key tool for individual self-assessment, enhanced by: the introduction of the revised CV Passport: and support for more accurate self-assessment through the linking of online training materials and self-assessment questions to each item.
2. Hematology trainees across Europe should be offered the opportunity to register with this centralized web-based CV Passport with its links to training materials and medical literature.
3. Aggregated anonymized national data from completion of the CV Passport by all trainees/junior specialists should be returned to National Societies, who should be encouraged to use the data to identify training needs.
4. The Master Class should be repeated, offering the opportunity to learn about rarer conditions, complexities in presentations and controversies around management.
5. 'Bite-size' (single case or condition) versions of the Master Class format should be trialled, and considered for use in CME as well as for trainees.
6. All trainees would benefit from having an individual record of training containing evidence to demonstrate competences and an Action Plan of future training needs.
7. Training resources for general professional skills to be further considered
8. Translation of the CV Passport into other languages to be further considered

issues in their own countries could really benefit from further support. This seemed to be fruitful area for targeted knowledge exchange across countries.

Future directions

The boundaries of hematology and its relationship to other specialties and/or sub-specialties such as internal medicine, pediatric hematology and highly specialized diagnostics remain an issue for the process of harmonization, and in particular where this affects national policy and practice concerning the length of specialist training. While there is broad agreement on the content of the curriculum across national societies, many remain concerned that such a curriculum cannot be adequately covered in the time available for training within their country. National societies agreed that a training period in hematology (excluding internal medicine and other training) shorter than three years and a total training time shorter than five years is not consistent with acquiring sufficient competence according to the CV Passport.

The CV Passport itself is a powerful tool that offers national societies, and indeed individuals, the opportunity to identify specific training needs and gain access to educational material via tags. Some of these may be met through access to existing educational resources or through requests for new training materials and opportunities, both virtual and face-to-face, received and collated by the EHA. Some very rare conditions may best lend themselves to training opportunities through online materials (as in the Master Class format).

The Master Class will continue to be supported by the EHA. To gain maximum benefit from the Master Class format, cases will be carefully chosen to offer the trainees opportunities to learn about rarer conditions, as well as complexities in presentations and controversies around management. Trials will be carried out with 'bite-size' (single case or condition) versions of the Master Class format. As well as their use with trainees, it is recognized that such opportunities could be offered to established specialists for Continuing Medical Education (CME) purposes. Training in general professional skills is clearly an area of need in some countries, and careful thought is being given as to the best ways to achieve this, whether

face-to-face or online, and if online, which tools and media to use.

Some areas of training, however, which the survey has revealed as a deficit in some countries, need to be addressed through practical, hands-on experience. In these situations, the use of online training materials would only be a first step. The relative shortage or concentration of specialist facilities in some countries, most notably in stem cell transplantation, could suggest a pan-European response of exchanges between countries, with those better supplied with training locations offering rotations to trainees from countries with fewer facilities. A beneficial side effect of such exchanges would be the strengthening of European-wide professional networks.

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