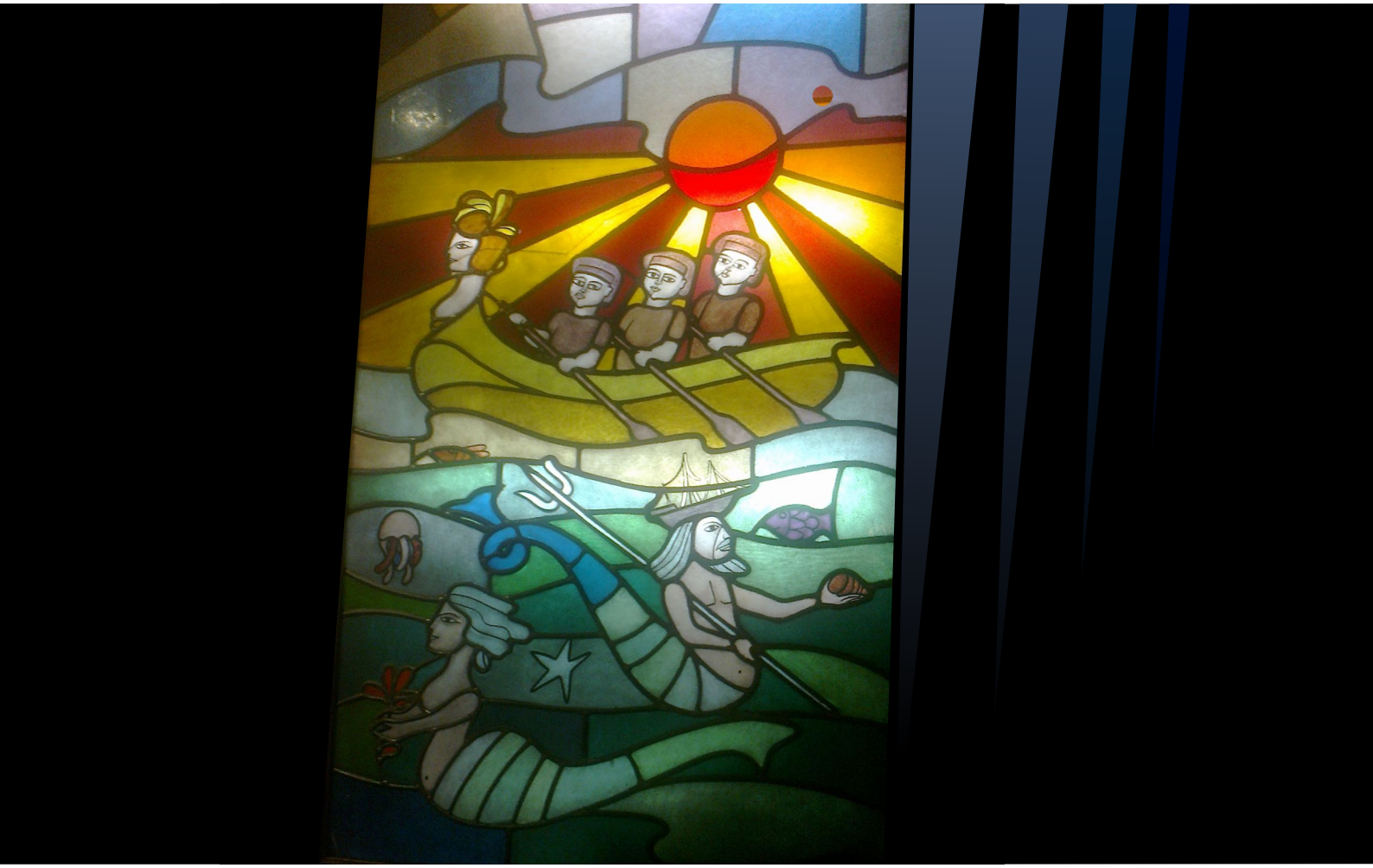

Key findings and recommendations on

Education and training in patient safety across Europe Work of the Education and Training in Patient Safety Subgroup of the Patient Safety and Quality of Care Working Group of the European Commission

The report includes the analysis of the programs, modules, courses, workshops, schemes and seminars as they have been provided by the members of the European Commission Working Group on Patient Safety and Quality of Care in the task, coordinated by the Education and Training in Patient Safety Subgroup of the PSQCWG. The reported initiatives are used at different levels (local, regional, national, other), focus on different concepts of safe care delivery and are aimed at the diverse types of learning audience. As such, they serve to inform the public, educational environment and policy makers more than influence or serve as example. Each requires adaptation to national setting, expectations and financing.

April 2014

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1. BACKGROUND

In 2013 The Patient Safety and Quality of Care Working Group[1] (PSQCWG) took an initiative to develop recommendations on education and training in patient safety. The decision was guided by the low compliance of Member States with the requirements of the Council Recommendation 2009/C 151/01[2]. The Recommendation envisaged that Member States:

Promote, at the appropriate level, education and training of healthcare workers on patient safety by:

(a) encouraging multidisciplinary patient safety education and training of all health professionals, other healthcare workers and relevant management and administrative staff in healthcare settings;

(b) embedding patient safety in undergraduate and postgraduate education, on-the-job training and the continuing professional development of health professionals;

(c) considering the development of core competencies in patient safety namely, the core knowledge, attitudes and skills required to achieve safer care, for dissemination to all healthcare workers and relevant management and administrative staff;

(d) providing and disseminating information to all healthcare workers on patient safety standards, risk and safety measures in place to reduce or prevent errors and harm, including best practices, and promoting their involvement;

(e) collaborating with organisations involved in professional education in healthcare to ensure that patient safety receives proper attention in the higher education curricula and in the ongoing education and training of health professionals, including the development of the skills needed to manage and deliver the behavioural changes necessary to improve patient safety through system change.

The European Commission Report 2012[3] on the implementation of the Council Recommendation showed that the area of education and training is the least implemented among all areas envisaged by the Recommendation, together with patient empowerment and establishing reporting and learning systems on adverse events. This document, in the form of recommendations provides a guidance for the Member States, aiming at introducing and implementing education and training in patient safety for healthcare professionals and managers, as it is required by the Council Recommendation 2009.

The recommendations take into account the reported initiatives of education and training in patient safety, illustrated with examples and experience from 27 European countries (26 EU Member States and Norway) and 9 European professional associations (NGOs) and are based on the previous experience of the work done by the education workgroup of the European Union Network for Patient Safety (EUNetPaS[4]) project and takes into account the WHO Multi-professional Patient Safety Curriculum Guide.

The recommendations describe the experience of reported education and training activity and list factors necessary to their implementation – this part is based on the agreed characteristics as defined in the annexed template.

[1] http://ec.europa.eu/health/patient_safety/policy/index_en.htm
[2] http://ec.europa.eu/health/patient_safety/docs/council_2009_en.pdf
[3] http://ec.europa.eu/health/patient_safety/docs/council_2009_report_en.pdf
[4] http://ns208606.ovh.net/~extranet/

2. METHOD

The report has been prepared in several phases under the guidance of experts:

Prof. Cordula Wagner, NL

Prof. Doris Østergaard , DK

Prof. Brian Capstick, UK.

The work started with mapping the recent activities and good practice examples regarding European experience in education and training in patient safety.

For this purpose, a draft template for reporting on education and training was sent out for comments of the subgroup on education and training (ET subgroup). The amended version taking into account the subgroup's comments was then sent out not only to the members of the ET subgroup, but also to other members of PSQCWG. Responses were discussed during a teleconference on 29 October 2013 and presented during the PSQCWG meeting on 4 November 2013.

The outcome of this work has been discussed on the subgroup meeting on 13 February and presented to the PSQCWG at the meetings on 14 February and 13 March 2014.

27 countries (26 Member States and Norway) and 9 European professional associations have shared the rich plethora of examples related to education and training in patient safety. Still, it needs to be realised, that the report does not present the complete spectrum of educational and training activities related to patient safety in Europe.

In the light of discussion held at the PSQCWG meetings, a decision has been taken about the types and categories of activities/initiatives included in the report: namely, whether should be listed the on-the-job trainings provided in primary and hospital care, dentists' practice and continuing professional education (CPD), presuming that training on infection control, medication safety, resuscitation, aggression or falls are regularly provided to inter - professional staff audience within the internal education schemes in all Member States and Europe. Thus, it was decided to retain some contributions of the intra-organization training activities provided by Member States and professional associations in the annexed tables to exemplify the areas covered by such activities and as recognition of contributors to this report. Point need to be made tough, that due to the inability of regulating such trainings, we do not endorse the very training activities reported in this recommendation.

Principle: The report does not intend to provide an exhaustive picture of all education and training activities/initiatives on patient safety in Europe but it includes practical solutions on how to implement the provisions of the Council Recommendation and it is illustrated with the reported examples and examples of good practice in education and/or training in patient safety from European countries. This includes education and training activities/initiatives offered within the higher education (HE) curricula; formal and informal continuous professional education (CPD) activities offered by various organising bodies; and activities provided within internal healthcare settings.

Furthermore, the report includes issues such as: organization/institution resources needed to perform the education activity, faculty capacities; importance of focus on students as future health professionals; importance of including training for healthcare managers and professionals as lifelong learning opportunity; patient involvement (e.g. how to use patient experience or patient stories as educational tools); communication between professional groups and between professionals and patients, values such as accountability and compassion.

3. THE PURPOSE AND ROLE OF EDUCATION AND TRAINING IN PATIENT SAFETY

Healthcare professionals, including doctors, dentists, nurses and midwifes and pharmacists follow an extensive education before they are allowed to diagnose, treat and care for patients. The basic education of these professionals in the European countries is partly comparable in its content for patient safety, which would encourage supporting exchange of professionals learning across borders and allows automatic recognition of qualifications of professionals moving to another EU MS.

Recently, not much is known about patient safety education that the professionals receive during their basic education, or later on when they follow continuous education.

Patient safety education focuses on the acquisition of knowledge, attitudes and skills to support changes in behaviour to deliver safer care. Patient safety principles involve non-technical skills, which are not discipline-specific and therefore relevant to all healthcare professionals, although the knowledge provided is sometimes linked to the specialisation of professionals. Examples of patient safety educational topics are: reporting incidents, human factors engineering, and information transfer between health care professionals and towards patients (Jansma, 2011[5]). Reporting incidents have demonstrated their use in high-risk sectors like the airline industry or the petrochemical industry. An effective reporting system depends on healthcare professionals who recognize risky situations, are aware of the importance of reporting and learning from incidents, and knowing how to report an incident in the system. Education might be helpful in meeting these conditions and achieving an active reporting culture. Human fallibility shown in human factors science is another important topic healthcare professionals need to understand, but which is often not part of the basic education and curricula. Communication with patients is included in some syllabuses, but communication among healthcare professionals and the underlying causes of communication failure and insufficient multidisciplinary collaboration are not yet part of the regular curricula.

Multidisciplinary collaboration consists of several elements and requires specific attention in patient safety education (Jansma, 2011[6]):

- Be a team player, also outside your own working environment
- Involve patients and their carers as partners actively in the care team and invite them to contribute to safe care
- Speak up
- Discuss conflicts
- Use all qualities in your team
- Contribute to coordination of tasks and team communication
- Perform situational leadership or let others do so, regardless of hierarchy

[5] Jansma JD, Wagner C, Bijnen AB. A patient safety curriculum for medical residents based on the perspectives of residents and supervisors. Journal of Patient Safety 2011, 7(2), 99-105

[6] Jansma JD. Patient safety education for medical residents. PhD thesis. Amsterdam, VUmc, 2011

- Use all resources in the team and the environment (such as information, team members, patient, medical devices, and supportive facilities) to work safe and effective

The World Health Organization (WHO) has developed the patient safety curriculum guide:

http://www.who.int/patientsafety/education/curriculum/tools-download/en/index.html

(the inter - professional edition). The guide is designed to be integrated into existing healthcare educational curricula, but despite that, there are barriers to its implementation. The guide contains 11 topics (Box 1) for patient safety education. For educators, a number of educational approaches are presented, including lectures, small group learning, case-based discussions, role playing and simulations.

Box 1

Topic 1: What is patient safety?

Topic 2: Why applying human factors is important for patient safety.

Topic 3: Understanding systems and the effect of complexity on patient care

Topic 4: Being an effective team player.

Topic 5: Learning from errors to prevent harm.

Topic 6: Understanding and managing clinical risk.

Topic 7: Using quality improvement methods to improve care.

Topic 8: Engaging with patients and carers.

Topic 9: Infection prevention and control.

Topic 10: Patient safety and invasive procedures.

Topic 11: Improving medication safety

4. ORGANISATION OF EDUCATION AND TRAINING PROGRAMMES IN EUROPE

4.1 Ownership and governance

Members of the ET subgroup and the remaining members of the PSQCWG described the actors, who hold the main responsibility for education and training of undergraduates, health professionals and health managers. The response options included:

- Ministry of Health
- Ministry of Education
- Administrative units e.g. regions
- Scientific medical societies
- Healthcare organisations
- Others (please specify)

Most of the reported education and training activities in EU are organized on the national (ministerial, university and healthcare/professional associations) and local (healthcare organisation) levels. Regions as administrative units hold responsibility for the postgraduate and continuous training in some Member States and Norway (Table 2 in the Annex). Education on patient safety at the national level stems mostly from the ministries of health and education universities, healthcare colleges, national institutes, professional organizations, national agencies for quality and patient safety, national accreditation bodies, national regulatory bodies**,** scientific medical and nurse societies and associations and from the consultancy organizations. Local level training is related to the intra - organizational education scheme in hospitals and other healthcare organizations and institutions.

Box 2 below presents the more detailed information and commentary on governance and ownership.

Box 2

Austria: all these institutions (Ministry of Health, Ministry of Education, Administrative units e.g. regions, scientific medical societies, healthcare organizations, have some responsibilities, as well as the universities who have certain autonomy in devising their curricula. The Ministry of Health provides the legal framework for the education of doctors and other health care workers. Health managers do not fall in the competency of the Ministry of Health.

Belgium: the federal (national) government decides upon the basic contents but the regions/communities organise and manage the different programmes in the universities and higher education institutes (nursing, etc.).

Bulgaria: the responsibility for healthcare professionals' education is with the Ministry of Health; Ministry of Education and healthcare organizations, at their local level.

Croatia: Ministry of Science Education and Sports; scientific medical societies (training for health professionals); healthcare organisations and the Chambers of Doctors, Nurses and Midwifes. Also the Agency for Quality and Accreditation in Health Care and Social Welfare is responsible for education and training in patient safety.

Cyprus: The Ministry of Education is responsible for the undergraduate education; for the healthcare professionals and healthcare managers the responsibility lies with the Ministry of Health as well as Scientific Societies and Health Professional Associations and regulatory bodies

Denmark: Universities and medical faculties are responsible for undergraduate education (also in patient safety), whereas healthcare professionals' training is the responsibility of the National Health Board, the regions and healthcare organizations. The responsibility of training medical specialists is divided between regions, specialists and the public administration body.

Estonia: Ministry of Education, healthcare organizations.

Finland: Ministry of Health is responsible for the postgraduate education for physicians and dentists; the Ministry of Education for the undergraduate studies; administrative units e.g. regions, scientific medical societies are responsible for the continuing professional education.

France: the Ministry of Higher Education is in charge for doctors, pharmacists, dentists and mid-wives. The Ministry of Health is responsible for the other healthcare professionals (including technical and management functions). Other bodies cooperate, among which the National Authority for Health**.**

Germany: Ministry of Health holds the main responsibility for education and training of undergraduates: doctors, dentists, pharmacists and physiotherapists. The Ministry of Health also holds the main responsibility for education and training of nurses and midwives. They undergo a sort of vocational training at schools of nursing.

Hungary: responsibility held by the Ministry of Human Resources (includes secretary of higher education responsible for undergraduates, and secretary of healthcare responsible for the training of health professionals and health managers).

Italy: Ministry of Education and universities are responsible for education and training of undergraduates. After the university degree it is mandatory for all health professionals to participate in the Continuous Education Program to get a defined number of credits every year, on specific issues defined at the national, regional and local level; patient safety is one of these topics. The Ministry of Health since last year verifies how many courses are organized according to these specific issues, a part of them are on patient safety**.**

Latvia: the responsibility for medical education of undergraduates, health professionals and health managers lies with the Ministry of Health and the Ministry of Education. Universities are responsible for undergraduate education and training process.

Malta: this is a shared responsibility between Ministry of Health, scientific medical societies, healthcare organizations and university, regarding the postgraduate training programs.

Norway: Responsibility for education and training of healthcare professionals lies with the Ministry of Education and Research. Recently changes are introduced in the system of education. The Directorate of Health is revising the structure and content specialist medical training, and patient safety will probably be a part of this. Today patient safety is mandatory in one of the four medical schools (University of Oslo). There is also a five year national program on patient safety including quality improvement and focusing on patient safety in healthcare delivery.

Poland: overall responsibility of the Ministry of Health, also of the universities for the undergraduate programs. The Centre for Postgraduate Healthcare education (CMKP) is responsible for postgraduate and life-long learning. Patient safety is not yet a directly voiced module at all levels of education and training.

Romania: The Ministry of Education holds the responsibility for the undergraduates; health professionals and health managers are under the Ministry of Health and scientific medical societies' responsibility.

Slovakia: Ministry of Education, Science, Research and Sport have the responsibility for the education of healthcare professionals in higher education in universities and colleges. Patient safety in health care provision is incorporated in the selected subjects in particular, focused on practical skills, such as infection prevention and control, quality improvement tools provided health care, including nursing care, the risks of invasive procedures and practices, adverse drug reactions. Ministry of Health is responsible for the undergraduate education on patient safety. Safety and quality of health care is included in the minimum standards of education published in the decree of the Ministry of Health no.12422/2010 - OL laying down minimum standards for specialized study programs, minimum standards for certification programs, and minimum standards for programs of continuing education and their structure, as amended. There is no separate national curriculum for patient safety. Professional organizations in the health sector deal with this issue in the context of continuous lifelong learning.

Spain: The Ministry of Education is in charge of the undergraduate education of health professionals. The Ministry of health (in some aspects) and the regions are in charge of the continuous training of health professionals.

Sweden: The state is responsible for higher education at undergraduate and graduate level. However, the educational institutions have a relatively high degree of independence in developing the curricula, as long as the general requirements (of each degree) in the Higher Education Ordinance are met. There are several medical and nursing schools. In Swedish health care, the health care provider is responsible for in-service training. Sweden has 21 independent county councils/regions that finance and organise the health care, also involving private health care providers. The above makes it complicated to describe education and training in patient safety for different health professional and student categories. The answers below should be seen in light of this complexity and should be regarded as a general account and examples.

Ministry of Health: and Social Affairs through the National Board of Health and Welfare issues regulations for healthcare personnel.

Ministry of Education and Research has the responsibility for education of undergraduates through different universities and nursing schools. There is no formal national curriculum in patient safety for the different student categories. Nevertheless, all medical and nursing schools have patient safety on the agenda but the way the topic is taught differs.

Administrative units e.g. regions: county councils' responsibility for providing health care encompasses ensuring patient safety and in-service training for all healthcare employees.

Scientific medical societies: The Swedish Society of Medicine and the Swedish Society of Nursing have initiated collaboration on core competencies in healthcare. Core competencies for teamwork and improvement work have been described. Core competencies for patient safety and patient cantered care will be described during 2014.

Healthcare organisations also provide training activities for the staff.

United Kingdom: the responsibility is of the Department of Health; administrative units; scientific medical societies; healthcare organisations and others.

Undergraduate and junior doctors: the General Medical Council (GMC) publishes every 5 years a document currently called "Tomorrow's Doctors" which sets out the required Learning Outcomes that doctors have to demonstrate in order to practice. Each medical school uses these to devise their own curriculum.

Specialist doctors / Consultants: every 5 years their Royal College (regulatory body) publishes a specialist curriculum – this does not happen at the same time but is staggered. Some of this is delivered by the Royal Colleges and some by other providers but the latter have to be accredited by the Royal College.

Nurses and AHPs: similar – their regulatory body publishes learning outcomes and providers devise curricula to include these.

Managers: much more ad hoc. Initial training for graduate entrants in to the NHS – some managers are clinicians who have moved from their clinical field – responsibility for their training therefore tends to vary.

4.2 National regulation

The national legislation and regulation do not directly address education and training activities in patient safety, yet the related concepts and issues are frequently reported as dispersed in different normative acts and regulations of the Member States. These are mostly linked to quality as such and to the infection control.

Food for thought: The issue has been raised, whether Member States do need a national legislation for establishing and developing education and training in patient safety and whether this should be regulated by law at all. As it is different from changing the curricula. In Denmark and some other countries, patient safety is a part of the specialisation for a few specialties.

Box 3 includes the detailed information on the national regulation of patient safety programs.

Box 3

Does education and training in patient safety fall under the national legislation and regulation?

YES:

Austria: (Education and training is the legal competency of the Ministry of Health and is regulated).

France: Education and training is the legal competency of both the Ministry of Higher Education of the Ministry of Health and patient safety and quality of care tuition is regulated

Germany: education and training in patient safety of about 20 health professions - among others doctors (basic medical training), dentists, pharmacists, nurses and midwives - fall under the national legislation and regulation. For all other health professions - among others specialist doctors (specialist medical training) -, education and training in patient safety fall under the legislation and regulation of the 16 DE "Bundeslaender" (Federal states).

Slovakia: The patient safety education is partially included in several curricula of postgraduate education issued by Decree of Ministry of Health no. 12422/2010-OL which estableshes minimal standrads for study programs, minimum standrads for certification programs, and minimum standrads for programs of continuing education and their structure, as amended. The issues of patient safety are included in undergraduate education regulated by governement regulation No.296/210 on competence to exercice the medical profession.

Sweden (Patient Safety (2010:659) Act clearly states that health care providers have a responsibility for patient safety.

United Kingdom (It varies from profession to profession – indicators can be found in every curriculum but the extent and detail differs).

NO:

Belgium (Patient safety is not specified directly in curicula of doctors and nurses. However the federal public service of health developped a national guidance and support program about topics related to patient safety. This program consists of workshops on basic skills for patient safety (such as RCA and HFMEA) and on more specific themes related to the second multiannual program on quality and patient safety (2013-2017), such as high risk medicaton, safe surgery, patient identification, deprivation of liberty, patient and family empwerment and integrated care. For these activities a close collaboration with 8 Belgian universities was established).

Bulgaria (Elements of education and training for patient safety is dispersed in various normative acts and programs, yet there is no single document, dealing with education and training in patient safety).

Croatia (Patient safety education is partly included under the national legislation: Act on Quality of Healthcare and Social Welfare).

Cyprus (Partially: patient safety education is noted in the regulations of the act "the nursing & midwifery act 1988-2012". in the regulations is clearly stated that nurses and midwives must have the knowledge and education to preserve patient safety. In the same act, renewal of licence to practice for nurses and midwives is mandatory every 4 years. This ensures CPD with the ulterior motive of patient safety).

Denmark (From 2015, patient safety will be part of the curriculum for medical students at one of the universities in DK. In the specialist training of doctors, we address the 7 roles of a doctor (modified from the Can Med roles). These roles include the role as collaborator, communicator, leader and professionel. These roles compass patient safety and the non technical skills are embedded in these roles. Non technical skills involve situation awareness, decisionmaking, communication, team work and leadership. Specialist training is under the National Board of Health).

Estonia

Finland

Hungary (Patient safety training is not specified directly in medical education curricula. But institutes are allowed to organise training courses (e.g. in patient safety) if accredited by the Hungarian Accreditation Committee (within higher education) or the Adult Education and Training Accreditation Board (out of higher education).

Italy (Education and training in patient safety do not fall under the national legislation and regulation, at this moment there are no rules governing the education on these issues. Nevertheless, with the new Agreement between State and Regions 20/12/2012, the Italian MoH gives clear directions to the Regions regarding the presence of training plan about patient safety. Moreover, some universities provide for the definition of master on this issue).

Latvia (Partially. It might be useful to have legislation on patient safety education and training and accreditation of programs).

Malta

Norway (A recent White Paper on the future organisation and structure of certain health and care related educations identified a need to make certain changes in order to ensure that these educations are in line with the health and care needs of the population. Several measures were proposed, and are in the process of being implemented. One measure is to give the different actors in the health and care services a larger and more structured influence on the contents of the different educations. In addition, there are processes which try to improve the quality of the practical training for different professions. This requires cooperation between the education institutions and the health and care sector, where the practical training takes place).

Poland (Except training in infection control.)

Portugal

Romania

Slovakia (The patient safety education is partially included in several curricula of postgraduate education issued by Decree of Ministry of Health no. 12422/2010).

Spain (Some universities have included patient safety modules for medical studentes. There is not specific regulation on this issue).

The above findings mirror the issue of positioning education and training in patient safety as mandatory: none of the Member States acknowledges it is an obligation - see Box 4 for details.

Box 4

Is education and training in patient safety mandatory in the country?

YES: Austria (to some extent), Denmark (some regions require that caseworkers who handle adverse events have completed a basic course in patient safety. Patient safety is part of the curriculum in the specialist training program of medical doctors.). France (patient safety has been mandatory for non-medical education for several years. It has been thoroughly reinforced lately in medical studies - national regulation, April 2013. Germany (education and training in patient safety is implicitly mandatory in Germany; the overall aim of all training courses for health professions in DE is patient safety. Although the wording "patient safety" is not explicitly mentioned in the different acts concerning training and exams of the health professions, there are subject-matters in the acts that cover patient safety. This is, for example, the case for the subject-matter "quality assurance). Portugal (in health organizations and in certain health professions.) Slovakia (patient safety is a part of curricula in undergraduate education and continuing education of health care professionals).

NO: Belgium, Bulgaria, Croatia, Cyprus, Finland, Hungary; Italy,Latvia (except training in infection control); Malta, Norway, Poland, Romania, Slovakia, Spain, Sweden (There are no formal requirements to include specific patient safety modules or training in the education of undergraduates, health professionals or health managers. However, increasingly this is done both at undergraduate and postgraduate level. Courses are given in medical simulation, root cause analysis, risk analysis, medical record reviewing, safety culture measurement, etc. A national course for chief medical officers has recently been launched by the Swedish Society of Medicine). United Kingdom (patient safety not mandatory but found in the curricula).

Food for thought: In Norway, there are processes to modify healthcare education, yet it is mandatory for the health-services organisation to work systematically with patient safety and quality, which means that the health-professionals and leaders need to learn how to do this. Thus, perhaps Member States need no regulation but the national program as a tool?

4.3 Type of education in patient safety

Most of the reported education and training activities are provided on the postgraduate level and within the continual education modules.

Guides on undergraduate education have been provided only by 8 Member States and Norway, which calls for the necessity to ask further for examples of education modules on undergraduate level and learning from the remaining Member States that have it in place.

In Germany there is an ongoing, broad initiative called “Nationaler Kompetenzbasierter Lernzielkatalog für die Medizin” (Gesellschaft für Medizinische Ausbildung/ GMA, Medizinischer Fakultätentag/MFT). One of the aims here is to integrate patient safety at university level/ medical schools.

Table 3 summarises types of education in patient safety as sent by the respondents.

Food for thought: Lacking are inputs presenting the examples of education and training on cultural changes – how to embed patient safety in the professional culture and cope with PS culture which is not perfect, including the cultural/national differences between both Member States, regions and professionals cultures. This also relates to the experience of tools for building culture. Some countries have already started thinking about it as an on-going process and are involved in the Patient Safety Culture Surveys, e.g. Belgium, Norway, Denmark, UK. Another issue is where it is most powerful to include patient safety.

4.4 Target audience

Information provided corresponds to the types of education listed in Table 4. A majority of the reported education and training activities in patient safety are provided for healthcare managers, rather than nurses, doctors, dentists, midwifes and other healthcare professionals (these include new hospital staff and interested staff; residents; professional clinicians in leadership roles, postgraduates). In Italy the most part of the courses on PS are available for all the health professionals even though some of them are audience targeted and available only for nurses or medical doctors or healthcare managers due to the specific competencies of each category. In many countries, the least education and training activities reported relates to pharmacists.

Food for thought: Regarding communication: the broad learning about communication on patient safety should happen at an early and broad stage. Communication, among others, involves openness in the process of encouraging patients to ask questions. Yet, regarding the undergraduate education, patients' representatives being responsible for educating health professionals is a difficult process, with many barriers, hence of very limited practical interest. Yet, since patients are the ultimate beneficiaries of patient safety training, their involvement in curricula development is essential and should be valued and encouraged at every opportunity.

The role of patients and their organisations

Patients with chronic diseases gain *experiential knowledge* on their condition and treatment, which can be a valuable resource for healthcare professionals in understanding their expectations and perspectives and in developing patient-centred solutions. Their empowerment and involvement at all healthcare levels is crucial for the instilling of a "patient safety culture" in the healthcare system, and to realise safe care both at the individual and collective level.

At individual level, patients' personal experience is a valuable resource to identify gaps and failures in the system, and to function as a "last safety barrier." Key elements of empowerment include high-quality information, health literacy, and respect of patients' rights. Professionals should be trained to listen to patients and communicate effectively with them, recognising the benefits of working in partnership with patients.

Individual patients can be supported through training on their condition, treatment options and on patient safety. Examples of educational materials developed for patients include the "Patients' Book" by the Danish Society for Patient Safety and the recently published 'Hello Healthcare' or "My hospital is the accredited hospital" by the Polish National Centre for Quality Assessment in Healthcare (NCQA). Patient organisations also provide training. One example comes from Bulgaria where the National Patients' Organisation runs a "University for Patients," which provides information and support adapted to different diseases aiming to empower patients on how to manage the disease and navigate the healthcare environment. Training involves educational information created specifically

for patients, disease-specific training and sharing experiences with other patients[7]. In Spain the recently created School Network for patients includes patients' schools from different regions (Basque Country, Catalonia, Andalusia, Murcia and Galicia). Its objective is: cooperate, share experiences and promote networking, training content and programs to facilitate the acquisition of skills aimed at promoting citizen responsibility in self-care and management of the disease

At collective level, patient organisations play a key role in channelling their members' experiences, representing their views and concerns and ensuring that services are developed to meet patients' needs and preferences. Patient organisations also identify patient representatives to participate in activities such as health professionals' education.[8] The Andalusian School of Public Health provides training to improve patients' knowledge and skills about their chronic disease, quality of life, services use, adherence and lifestyle habits, according to the good practices that have been sent to PaSQ.

Examples of patient participation in training health professionals are available from the United Kingdom, Canada, and USA. They show the experience of patients can be valued in developing and delivering education and training; the degree of patient involvement varies from minimal participation to full partnership as teachers or decision-makers on the educational programmes (Patients as Educators (PaE) Programme, University of Sheffield Medical School, UK; Comensus, University of Central Lancaster (UCLan), UK).[9] Also in Italy there are experiences of patients participation, as for Accademia del Cittadino (Tuscany Region) and some courses organized for the citizens' rights and volunteer associations.

4.5 Faculty capacities

As presented in the Table 5, information about faculty capacities, interest and training is scarce: many Member States did not provide any related information. Lack of adequate faculty capacities is considered to create very important barriers identified when implementing education and training activities in patient safety. Most of the reported education and training activities require faculty with academic qualifications and professionals with expertise in patient safety and quality care. Discussions held during the ET Subgroup meeting confirm that there is too often not enough teaching capacity and the biggest challenge is to have enough teachers to teach patient safety. Thus, Member States would like to identify the "training the trainers" opportunities. Especially that it is a long process- building an academic collegium/recognition takes approximately ten years and can be compared with the process of building the speciality of social medicine.

For these reasons the most knowledge in PS is given and acquired after university degree, while education and training should be encouraged before the graduation.

4.6 Organisation

Most of the reported education and training activities are provided in the classroom and face to face formats, which is also very expensive and sometimes not productive enough. Most important is on the job training as this is where the quantitative training takes place. There are a few examples of E-

[7] http://uni.npo.bg/

[8] The WHO runs the "Patients for Patient Safety" programme, which involves a network of trained patient volunteers and has developed a number of resources, including webinars, on a range of different patient safety topics in different contexts. http://www.who.int/patientsafety/patients_for_patient/en/

[9] The Health Foundation, 2011, http://www.health.org.uk/public/cms/75/76/313/2809/Can%20patients%20be%20teachers.pdf?realName=d6ifzx.pdf

learning, coaching and telephone support; fewer yet are open learning courses. The duration is very different even if education and training activities refer to the same topic, and ranges from 1 hour to 105 hours or 9 months. Some respondents have not been detailed in distinguishing the duration of patient safety focused education and training from the overall postgraduate and continuous education.

Qualifications of participants upon completing the patient safety education and training activities range from none to masters; some assure remuneration for doctors' treating special patients' populations (e.g. patients with *Methicillin-resistant Staphylococcus Aureus*). Other qualifications include diplomas, certificates and education points.

Table 6 shows details about delivery platform, duration and qualification resulted from participation.

4.7 Evaluation

As presented in Table 7, the majority of reported activities undergo evaluation by the participants (16 Member States and Norway).

Accreditation is an emerging important recognition in the field of education and training in patient safety: more than half of Member States already recognize education and training in patient safety with accreditation awards and many plan to introduce it as recognition in the near future. However, it is also important to evaluate not only the education and training but to assess the participants too.

Accreditation refers not only to the recognition of award for the participants but also refers to the providers of the courses that must be identified and registered. The courses providers in fact have to demonstrate their capacities by some characteristics and criteria.

In Italy the system of CPD foresees a specific registration for the providers of the courses, except in the case of masters organized by universities. For health professionals it is possible participate in courses organized at different levels, most of them have and give a specific numbers of credits for each type of profession (nurses, medical doctors, pharmacists, and so on).

Since 2010 a significant number of events have been organized and available for each category of professionals, most of those courses are for free and organized by accredited organizations.

5. CONTENT

The issue of content was approached from two perspectives;

1. Comparing the list of topics in European curricula, as identified through the template questionnaire, with the WHO patient safety curriculum guide (see Box 1);
2. Identify topics which frequently show up in the European curricula, and suggest as additional topics to the WHO patient safety curriculum guide.

The main topics covered by the reported education and training activities were:

Infection control in clinical practice seems to be the most covered topic throughout Europe. Modules or training sessions regarding infection control are provided in university education, in continuous professional education (CPD) as well as on-the-job, in the form of one-shot focused sessions or regular sessions. They are offered in the first place and by and large to nurses, then to doctors and dentists. Other specific topics include: fall prevention, medication safety, radiation safety in oncology and blood safety. This is covered within the WHO patient safety curriculum guide: topic 9

System approach to patient safety and **increasing patient safety culture** are the topics covered by some education activities, in particular in Germany, Denmark and Finland. This is covered within the WHO patient safety curriculum guide: topic 3.

Importance of team work and communication with other health professionals are very visible in the described activities. Most of reported examples come from Denmark and Germany and concern communication among doctors. One report mentions an interesting example of a training given to pharmacists on how to communicate with the prescribing healthcare professional. England reported an example of a course, where the participants are encouraged to work as a team to lead, pursue, progress and sustain improvements in patient safety. This is partially covered within the WHO patient safety curriculum guide: topic 4, although communication within the healthcare team is not explicitly cited in the WHO curriculum guide.

Communication with patients is rarely described in the context of patient safety education and training. Examples of such trainings were reported by Germany and Denmark.

In Italy too there are experiences on different courses at local level (regional or at hospital level) to **improve patient knowledge on patient safety**. Moreover, some organizations start an update on better communication with patients and care givers. This represent a new issue related to the "humanization" of the health care process, especially in oncology and paediatric area. Different experiences in Italy demonstrate that it is very necessary to organize the health care process in the way to give the necessary time for the doctors and nurses to communicate with the patients: a dedicated area and time to let them accept the diagnosis and the clear explanation of the care process, as it is provided/foresee in the breast units. This is covered within the WHO patient safety curriculum guide: topic 8.

Correct **record keeping, patient identification and legal issues**. Germany reported a series of short training sessions organised at hospital level on appropriate use of newly introduced software to identify patients. Also from Germany comes an example of a module for medico-legal and liability aspects of incidents analysis. Training course on the legal issues and management of disputes was also reported by Italy. Moreover other courses are frequently organized at different levels to drive surgeons and surgery staff to use in correct way the WHO checklist. Poland reported a module within university education on personal data protection. This is not explicitly covered within the WHO patient safety curriculum guide.

Learning from near misses seems not to be a standard training practice. There are however encouraging examples of such learning, reported for example by Finland with regard to the training of dentists. Example of training on root cause analysis provided by Denmark can be a source of inspiration for those wanting to develop learning from errors or near misses. The described training includes introduction of root cause analysis method and prepares the trainees to facilitate process thinking in root course analysis in their teams or units. Also in Italy there are experiences regarding courses on root cause analysis (RCA), also by e-learning. This is covered within the WHO patient safety curriculum guide: topic 5.

In some cases education and training in patient safety is an integral part of education of quality assurance procedures which is the case in Croatia and Norway. This is not explicitly covered within the WHO patient safety curriculum guide.

Another group includes a **basic on-the-job training sessions** for the new employees of hospitals, with basic general information on patient safety and detailed explanations on patient safety measures employed in a given hospital and on specific procedures to be followed after a mistake or a near miss

have happened. The organization of courses at local level demonstrate the need of information on these topics that is not enough supported by university courses at this time. In addition, regular meetings are organised to give instructions on how to handle certain risky situations. An example of such training can be found in Austria. This is covered within a combination of all the WHO patient safety curriculum guide topics.

Education and training activities seem to be very focused on in-patient care, with a wealth of training sessions offered in hospitals or by hospitals to hospital staff. An exception is a Croatian training on nursing standards of care in primary health care, including multiple patient safety elements. This is not explicitly covered within the WHO patient safety curriculum guide.

Topics identified within European curricula, but which are not overtly covered in the WHO curricula guide, should be considered for inclusion in future iterations of the WHO curricula on the basis that Member States are already using them.

Other topics that may be considered for curricula inclusion, but not identified in either the WHO curricula guide or in European curricula include patient complaints and how to deal with them: some good examples for CPD on dealing with patient complaints are available at: http://www.bda.org/events/1288-ilearn-webcastpreventing-complaints-by-delivering-high-levels-of-patient-satisfaction-.aspx ; http://www.bda.org/events/1662-training-essentialshandling-complaints-and-improving-communication-skillsfriday-18-july-2014london.aspx; http://www.bda.org/events/1600-ilearn-webcastscan-complaints-be-good-for-business.aspx

In addition 'legal issues' should be further explored to ensure it covers relevant areas such as patients' rights.

The reported patient safety education and training activities did not include the trainings in transitions of care among different levels of healthcare delivery, namely handovers. Despite the European Commission funding of the research project HANDOVER (www.handover.eu) and a toolbox on handovers with practical guide and know-how (http://www.handover.ou.nl).

The variety of issues identified would suggest that further work needs to be undertaken to identify what topics are relevant to the needs of individual member states, and correlated with available patient safety data in respective countries.

Balancing the needs of education and training of healthcare professionals in each country based on individual needs, with a consistent approach as advocated by the WHO curricula is difficult but not insurmountable. As such, the WHO curriculum is a good basis for individual national curricula to be developed, but must be adaptable enough to allow the individual needs of Member States to be met. European projects such as Joint Action for Patient Safety and Quality of Care (PaSQ: www.pasq.eu) and European Union Network for Patient Safety (EUNetPaS) could be used in informing the future curricula development.

Robust evaluation of individual curricula and learning outcomes is essential to ensure that content develops and remains meaningful. Through evaluation, curricula can evolve to meet the ongoing needs of national bodies and healthcare professionals, as well as serving the best needs of patients. This evaluation will need to consist of two separate aspects:

- The needs of the healthcare professional, through before and after' evaluation against emerging need
- Effective use of resources to deliver this content.

This should be considered as an additional ‘topic 12’ in the WHO curricula.

Since patients are the ultimate beneficiaries of patient safety training, their involvement in curricula development and patient safety education is essential and should be valued and encouraged at every opportunity. The curricula development should take into account differences between professions and both, the professions and patients should be involved in their development.

5.1 Major learning outcomes

The identified education activities result in the participants being able to:

- Use techniques to recognize and ascertain the rate, and nature, of harm in their organization; understand what constitutes an adverse event and how it should be reported and managed.
- Distinguish among the different types of adverse events, and be able to contextualise them within practice;
- Plan, measure and participate in organizational improvement and communicate this across the organisation
- Communicate effectively across teams, organisations, and individual patients and carers to ensure safety is embedded within patient care.
- Contribute to the development of reliable and resilient systems appropriate to their organization, and patient need;
- Play an active role in reflecting on patient safety strategies within their organisations;
- Learn about risk management and human factors.

Education and training activities cover a wide spectrum of patient safety field and aim at providing target audiences with skills and knowledge relating to the concepts of patient safety for the purpose of delivering safe care to European citizens. Education and training strategies should always consider the needs of patients and healthcare professionals and be relevant and proportionate to the daily practice of healthcare within individual Member States.

6. RELATED EDUCATIONAL METHODS AND ACTIVITIES

Beside a variety of traditional methods such as face-to-face, seminars, conferences, etc. reported by respondents, there is a growing tendency to provide education activities using non-traditional approaches. One of these is simulation.

Simulation and its role in patient safety beyond education and training

Simulation is increasingly used in both, pre- and postgraduate education and training. There is considerable progress in this sense of using simulation. To fully explore simulations potentials for increasing patient safety, “non-educational” uses of simulation can and should supplement the existing approaches. Simulation has a role in analysing and improving work systems and processes as well as human error. This can be achieved by using simulation centres as laboratories and especially also in bringing simulations to the actual clinical workplaces in in-situ simulations. Many challenges in patient safety do actually not root in the knowledge, skills and attitudes of the personnel, but in a mismatch between the required tasks and the resources available to do them. Thus simulation can contribute to identify the most promising remedy for a problem.

Simulation in the analysis of work places and procedures: most work processes can be organised in different ways. The cost and benefits of the different options are often in the details and unfold in the interplay between different subsystems of steps. What seemed an ideal set-up in discussions often proves flawed when put into practice. Simulation offers the possibility to re-create workflows. Such a reconstruction in itself can generate valuable insights by those involved and might uncover different mental models held by those involved in the process. Basic assumptions might be different, habits, or wishes. With uncovering differences the ground is prepared to negotiate a common understanding. In addition, simulation allows for systematically changing the conditions under which certain process or task is carried out. Time pressure can be increased or decreased, resources added or taken away. The effects can then be studied in the simulation. Although there will be seldom a 1:1 replication of the causes and effects, simulation can still provide valuable insights, if the results are discussed by experts for the work processes. One of the well - known simulation labs in Europe is the Danish Institute of Medical Simulation (DIMS) which has been active in simulation-based analysis projects. In collaboration with the Danish Hospital pharmacies, it investigated features in a medication label system that made it easier or harder to identify the correct medication. In collaboration with Herlev Hospital, it investigated implications of changes in the work flow around handling delivery complications, by combining ideas for "failure modes and effects analysis" with simulation.

Synthesizing error analysis: this perspective focuses more on the individual, while still including organisational issues. Simulation can also be used to understand in more detail how humans make errors, by synthesizing conditions that might trigger the error. Consider for example, a systematic variation of errors in patient records to investigate which are easier to overlook in tensed conditions of patient care. Such an investigation could be performed in the simulation, not in clinical practice.

DIMS staff has been involved in investigating human errors with simulation. Especially investigating under which conditions humans would not fulfil an intention for an action.

Simulation is useful in the design and optimization of work places and products: building on simulation-based or other types of work place analyses, simulation can also serve as a test bed for proposed solutions and improvements. While simulation would not necessarily guarantee to find the best option (other methods would always add different insights), simulation can serve to eliminate non-effective design ideas early, when trying them in a realistic setting that still allows for studying the effects and influence the test conditions. In most simulation centres there is the infrastructure installed to audio-/video record scenarios. These can then be used for detailed analysis. It can be an impressive learning moment for designers and engineers to see users interact with their products. This would not easily be possible in the clinical setting due to ethical and organisational issues.

DIMS has been active in collaborating with medical device manufacturers, testing their devices in the simulation environment. In collaboration with the Danish Technical University, possibilities to best conduct usability type of studies in the simulation setting are under investigation.

Germany belongs to one of the first countries in Europe to implement modern simulation based medical trainings. Between 1994 and 2000 many simulation centres were founded, mainly at the medical universities. Early on some groups focused on team training and integrated human factors and CRM (Crisis Resource Management) in their training curricula. There are a few examples in Germany where the concepts of regular simulation team training with CRM are well established. For example the paramedics at RKISH (Rettungsdienstkooperation Schleswig-Holstein) have several simulation training ambulances and report great success of applying CRM in the daily work of treating emergency patients. It is well established in Germany that the qualification of instructors is the most important factor determining the quality of simulation training programmes.

Also the first medical societies approved simulation to replace real world experience: the emergency physicians are allowed to replace 25 patient treatments in the ambulance with 3 days of intensive emergency simulation programmes. This is very attractive for all involved: it provides better qualification and therefore better patient safety, it is faster and more systematic and at the end it should be cheaper. Simulation training is not yet compulsory in any medical education or in continuous professional education programmes.

Some more information about simulation in patient safety is available at:

http://qualitysafety.bmj.com/content/13/suppl_1/i91.full?sid=18507948-c25b-45c2-a6f8-b033d42aa1c7

and

http://journals.lww.com/ccmjournal/Citation/2004/02001/National_Medical_Simulation_training_program_in.11.aspx

Simulation based training is used in Denmark and Norway, while France plans to introduce it in the near future. The French National Program for Patient Safety for the 2013/2017 period includes a strong focus on education, patient safety culture and support to healthcare professionals as it aims at developing the experience feedback; root cause analysis; team spirit; mobilizing management on the safety issues; strengthening initial and ongoing education on patient safety issues for healthcare professionals and introducing innovating methods in education (simulation, serious games). Italy is planning to introduce at National level simulation in different areas not only in surgery, where there are already some experiences related to the use of Robotic Surgery.

Also **webinars and e-learning modules** become more and more popular. Hungary put in place a nine-module on-line training covering such topics as: patient safety terminology, practice of improving patient safety, developing patient safety protocols, risk assessment and analysis, handling complaints, role of communication in improving patient safety, basic knowledge of health economy for planning patient safety programmes or role of accreditation in the improvement of patient safety.

Italy launched several online courses regarding different topics like drugs errors prevention, the root cause analysis, or clinical audit.

Initiatives to strengthen educational activities are taking place in some EU Member States. In France, a reform of medical studies (*2ème cycle/master*) has allowed to introduce or strongly strengthen risk management, damage management, positive learning from error, communication with patients, communication and work within the team, communication and work with other health care professionals, etc.[10] In addition, a reform of ongoing education for healthcare professionals (*Développement professionnel continu/DPC*) has made compulsory for every healthcare professional the annual attendance to both professional practices analysis and acquisition of new competencies.

Risk managing, improving communication with patients and their involvement for a better quality and safety, along with other topics strongly linked to patient safety were among the national orientations for the "DPC" in 2013[11].

In France there are also many projects in e-learning, simulation (some of them associating patients) developed either for basic or continuing education.

[10] http://www.enseignementsup-recherche.gouv.fr/pid20536/bulletin-officiel.html?cid_bo=71544&cbo=1

[11] http://www.legifrance.gouv.fr/jopdf/common/jo_pdf.jsp?numJO=0&dateJO=20130302&numTexte=8&pageDebut=03899&pageFin=03900

The Spanish Ministry of Health offers several online courses related to patient safety[12]. One of these courses is on risk management, developed in collaboration with the Carlos III University of Madrid. A total of 23 editions were developed since 2008, including two in English under the EUNetPaS action. The final projects of this course are available for the public at: http://www.seguridaddelpaciente.es/es/formacion/proyectos-curso-gestion-riesgo

Continuous Professional Education

Continuous professional development (CPD) is an essential component of high quality education and training. For healthcare professions, it is often linked to the ethical obligation and fundamental right of each professional to ensure their knowledge and skills are appropriate to provide best possible patient care[13]. As such, the entire concept of CPD is closely interlinked with patient safety and quality of care.

The increasing pace of scientific, technological and policy innovation in medicine highlights the importance of structures which allow for post-graduate education and training to maintain and develop existing knowledge and skills as well as acquire new competences which enshrine the most recent evidence-base for practice.

CPD has therefore been one focus of patient safety education and training, both in terms of the contribution of all CPD to patient safety and in terms of activities specifically addressing patient safety. One example is the reference to the role of CPD in patient safety education and training as provided in Article 4 point b of the 2009 Council Recommendations on patient safety, including the prevention and control of healthcare associated infections. The newly adopted Directive 2013/55/EU amending Directive 2005/36/EC on the recognition of professional qualifications also up-dated the existing provisions on CPD with a special focus on healthcare professionals, highlighting the importance of CPD for "safe and effective practice."

In 2013, the European Commission commissioned a study with the objective of reviewing and mapping continuous professional development and lifelong learning for doctors, nurses, midwives, dentists and pharmacists in the EU, which is scheduled for completion in October 2014. For the scope of this study, CPD on patient safety was identified as an area of special interest. The on-going study will therefore examine the way in which CPD on patient safety is addressed in the EU Member States and aim to contribute to the mapping of patient safety activities.

6.1 Example from Germany

Patient Safety Curriculum of the German Coalition for Patient Safety (GCPS)

The curriculum includes two modules: *Paths to patient safety* – a catalogue of learning objectives for patient safety and the *Initiative to implement patient safety on university level/ undergraduate education for doctors.*

Module 1

Paths to patient safety is a multiprofessional workgroup of the German Coalition for Patient Safety developed a catalogue of learning objectives that describes knowledge and skills relevant for all health care professionals. Starting from studying existing curricula (e. g. WHO Curriculum Guide, Australian National Patient Safety, Education Framework, German Training Concept Patient Safety) and

[12] http://www.seguridaddelpaciente.es/es/formacion/tutoriales/

[13] CPME Policy statement on Continuing Medical Education (CME) and Continuing Professional Development (CPD), adopted in 2001

following the "General Guide for Education and Training in Patient Safety" of the EUNetPaS project the workgroup defines the following nine topics of patient safety:

1. Overview on patient safety
2. Causes for critical incidents and patient harm
3. Systems thinking
4. Involvement of patients
5. Safety culture
6. Team work
7. Communication
8. Learning from critical incidents
9. Patient safety measures

Primarily addressing the needs of undergraduate education and training the "Paths to patient safety" aim at focussing training and learning activities for all health care professions on the most basic and relevant knowledge and skills regarding patient safety. The catalogue has been pretested by education and training organisations recently and will undergo only minor revisions. The German Coalition for Patient Safety aims at implementing the learning objectives in binding curricula for health care professions.

6.2 Example from Denmark (1)

Integration of patient safety, human factors and non-technical skills in the curriculum for health professions in Denmark

Planning an educational event includes the needs analysis, the selection of learning objectives, the method to be used, and the decision of who to train with and evaluation of the event. Previously, the curriculum for a specialist training program was the only basis for the educational event and the curriculum was often perceived as the medical expert. The Can Med roles were introduced and modified to the 7 roles of a doctor in Denmark in 2001 and these roles cover topics such as patient safety and non-technical skills. The learning objectives are now in many specialties based also on patient safety and quality of care data. As the roles (a part from the role as a medical expert) were new for both learners and senior staff, the training activities have focused on these roles. It is, however, important for the educators to help the learners to see the importance of the non-technical skills in order to apply the medical expertise skills.

The methods used now are interactive including case discussions, practical skills training, and simulation based training including role plays, training on advanced surgical simulators and scenario based simulation.

- The patient safety and pedagogical advantages of simulation based training are:
- The learners can train without endangering the patient
- The simulated setting provides a safe learning environment
- Training can be repeated and customised to the learners need
- Emergency situations and rare events can be trained
- Training activities can be conducted for the real team
- The debriefing and feedback after the scenario stimulates reflection

Training is conducted for individuals or teams depending on the learning objectives. At present only few undergraduate activities involve several professions. In the Capital Region of Denmark, The Danish Institute for Medical Simulation (DIMS) was the first to established training of multi-

professional teams. At present there are simulation centres/units in all the five regions of Denmark. The centres are almost all located in hospitals, but the undergraduate activities can also be conducted at the universities. The centres collaborate about the post graduate activities and to some extent about the continuous professional activities. Training can be conducted in simulation centres or locally – dependent on the purpose of training. Shorter training exercises can also take place locally for individuals or teams. Local training can be preferred if training of organisations (departments) is planned.

One of the most important factors for successful and effective simulation based training is to provide feedback to stimulate reflection. The prerequisite for this is trained instructors understanding the principles of adult learning, the learners' needs and mastering providing constructive feedback.

Undergraduate activities: the undergraduate training activities include several modules in training medical students in communication with patients, practical skills training and ward rounds – the latter is trained together with nurse students.

Postgraduate activities: over the last ten years there has been an increasing interest in planning the educational events according to the adult learning principles and following the above mentioned steps. Examples of activities for individuals as part of specialist training programs focusing on patient safety and using simulation as an educational methods are provided below.

1. For 1st year doctors there is a 4 days course, where patient safety and non-technical skills are addressed. Further to help the learners understand the link between technical (medical expertise skills) and non-technical skills.
2. In the specialist training for ambulance technicians, paramedics, mid wives, nurse anaesthetists patient safety and non –technical skills are part of the training courses at Danish Institute for Medical Simulation
3. In the national specialist training for anaesthesiologists a 3 day course in patient safety, intra-professional communication and patient communication is included. Thereto, non-technical skills are addressed in several of the other mandatory courses – building up competency over 4 year training.
4. Patient safety, human factors, non-technical skills are embedded in the specialist training of medical doctors (there are specific learning objectives around that in the curricula).

Activities for teams in the organisation (CPD): all these activities include aspects of patient safety human factors and non-technical skills. These activities are for the real team members. In many of the larger hospitals in DK, this has been introduced, and, in some hospitals, also implemented.

1. Cardiac arrest team training
2. Trauma team training
3. Identification and initial handling of the critically ill patient in the ward
4. Obstetric team training
5. The full operation room team
6. Surgical skills training

Activities for organisations: in the Capital Region of DK, the simulation centres collaborate about simulation based training of the organisation. Initiatives where all staff members in a given department have been trained as teams in non-technical skills are growing. In 2013 all staff members in 7 departments have participated in the simulation based team training of non-technical skills either in a simulation centre or by bringing the simulator to the department. We are moving towards common

concepts for training based on patient safety issues in the organisation. This is done in collaboration with the Unit for Patient Safety in the region.

Training in human factors, patient safety and non-technical skills are to some extent present in most hospitals in DK. Furthermore, the surgical specialties have increased focus on training on surgical simulators before performing the procedure on a patient. This is part of the specialist training programs.

6.3 Example from Denmark (2)

Patient safety, inter-professional communication and communication with patients: mandatory course in specialist training of Danish anaesthesiologists.

Learning objectives from the curriculum:

Communication:

- Able to handle communication with patients and relatives during crisis
- Able to handle communication with patients and relatives in case of unexpected complications, adverse events, dissatisfaction and complaints about treatment
- Able to adapt communication and conduct to the situation and maintain constructive and clear communication
- Obtains relevant information about professional qualifications of the team members

Collaboration:

- Instructs team members in tasks, if required
- Utilises human resources optimally and defines the specific roles and functions for team members at all times
- Able to assess the need for any further assistance
- Facilitates that the team appears as loyal respecting individual opinions and contributions
- Demonstrates receptiveness and respect for team member input
- Able to handle team conflicts
- Able to conduct critical analysis and reflection on the actual course
- Able to co-ordinate multidisciplinary task management
- Demonstrates understanding for and ability to communicate constructively with cross-disciplinary teams
- Able to adapt communication to the nature of the situation and demands for intensity of action
- Understands and acknowledges conflict of interest in cooperation relations and patient/relative relations
- Contributes to active conflict resolution

Professional role:

- Has respect, understanding and empathy for colleagues and others who have encountered adverse events and errors
- Contributes to mutual learning for adverse events and possible errors
- Includes the aspect of patient safety in day-to-day work

Leadership:

- Assumes team leader position if appropriate

- Includes team member input in decision-making
- Organises and prioritises workload with respect for demands for efficiency and safety in patient management and inconsideration of own and organisational resources

Methods used in the 3-day course:

Mini lectures, cases, group discussion, discussion of video example of a critical incident and based on that simulated patient role plays (using an actor as the patient), simulation based training and debriefing. Team members from other professions such as surgeons participate and play their own role in the scenarios.

The scenarios include training communication with the team after a critical incident – an initial defusing of the team and with the patients and relatives after a critical incident.

The participants are divided in small teams. Each team member receives training in communication skills.

6.4 Example from Spain:

Master on Patient Safety and Quality of Care promoted by the Spanish Ministry of Health in collaboration with the Miguel Hernández University

A total of six editions were developed, the two last ones were online. This master includes 1500 hours (60 credits ECTS according to European Standards) and is distributed in 12 modules.

Learning objectives:

- Awareness of participants about patient safety as well as identification and prevention of errors and adverse events related to health care (AE)
- Knowledge of existing initiatives on epidemiology and prevention of AE; comparisons of existing studies on measurement of EA; analyses advantages, disadvantages and limitations of various epidemiological methods for measuring the frequency and distribution of AE
- Knowledge about the characteristics of voluntary error reporting systems and AE; meeting the methodology used for the analysis and prevention of EA; promoting actions aimed at improving safety in the workplace; developing communication skills to deal with crisis situations
- Differentiation of the sequence or natural history of the production of AE
- Be able to conduct surveys and analysis to identify sources of risk to patients and address their reduction
- Acquiring the ability to manage risks in health institutions.

Methodology

Face to face and online classes with interaction activities between teachers and students

Participation and motivation of the attendees is promoted through presentation of case studies and group work.

The classes are oriented to work with the students with facilitating learning and skills on the design of a draft final project. The project will consist of individual research, original and focused on one of the objectives of the Master content. This project will be publicly defended in front of a panel of academic coordinators.

Additionally, academic tutoring will take place in order to guide the student in finding documentation, case resolution and the field study to be performed as part of his dissertation.

Content

The main content includes:

- Basic Concepts and taxonomy on PS
- Basic concepts on epidemiology
- Quality assurance: Joint Commission, ISO, EFQM, patient satisfaction, etc
- Risk Management
- Evidence based medicine and its utility in PS
- Impact of AE
- Prevention of AE and fundamentals for patient safety practices
- Patient safety culture
- Legal components on PS

6.5 Example from ISQua

ISQua Fellowship

The Fellowship Program was launched at the 2012 Geneva Conference. It was promoted as a 'Learner Led' professional development program that emphasized relevance and allowed flexibility. It was based initially on webinars and a small number of case studies. Credit points could be gathered by way of participation in these activities and via a range of activities available to participants through a variety of sources (conference/workshop attendance, conference/workshop participation, publishing, teaching, researching, reviewing, surveying, editing). The approach was deliberately laissez faire in order to encourage initial enrolments from otherwise very busy people who were spoilt for choice when it came to CPD opportunities and because we were not at that stage sufficiently resourced to create a formal curriculum or to create a large amount of content quickly. Nevertheless, we set a robust standard for completed work. Enrolments were slow to materialize.

A watershed week was the week of the Edinburgh conference. By then we had benefited from the expertise of a professional education manager; we had created a significant amount of high quality content across a wider range of modalities; we had begun to iron out the IT wrinkles that seem to be inevitable in any new program; and, thanks to intense efforts at the Edinburgh conference where our enrolments almost doubled, we now had that important critical mass of participants that enables a program to benefit from its own momentum.

Fifteen months on we have almost 90 participants from 24 countries and representing 23 professions, 25 graduates, activities across seven modalities and ten education partners all injecting rich content into our program.

The Program is still 'Learner Led', it is still flexible and it still encourages relevance.

Two discussion papers follow that outline stages two and three of the program. These are slated for introduction over the course of 2014 and 2015/16 respectively. The philosophy underpinning this three stage development of the program is:

Stage 1: provide a flexible and relevant solid education platform by building a high quality knowledge base and a viable numbers of enrolments;

Stage 2: whilst preserving flexibility and relevance, introduce a more robust structure based on sound pedagogical principles; and

Stage 3: enhance the program by introducing a global standard based on high quality content and delivery and the awarding of formal academic qualifications jointly with partner degree granting bodies on every continent.

2014 Education Plan

Modularisation and Network Restructure

The following is an outline for the implementation of the second stage of development of the ISQua Fellowship programme. Stage one of the Fellowship Program has been deliberately allowed to evolve organically around a number of loosely structured activities. This was done to enable the Program to develop content and establish a platform and to enable us to observe the learning choices and patterns of participants.

Clearly this approach has been beneficial in the formative years and possible given the small number of participants over the first 12 months of operation. Participant numbers are now over 80 and growing, content is extensive and rich and the learning patterns of the initial cohort are well understood.

It is now time then to introduce more structure and rigor to the Program and to acknowledge more completely a number of core pedagogical principles such as motivation, direction of activity(selection sequencing), exposition and critical comment whilst at the same time preserving the important characteristics of being learner led, flexible and relevant.

To achieve this, Stage two of the development of the ISQua Fellowship Program will be organized into coherent modules with completion requirements that ensure participants can achieve both depth and breadth of knowledge across a range of key quality and safety themes.

The Programme has a number of integral activities that need to be developed into organised and coherent modules in order to increase accessibility of use and develop core learning competencies. The activities that have emerged as the most valuable are:

1. Webinars
2. Case studies

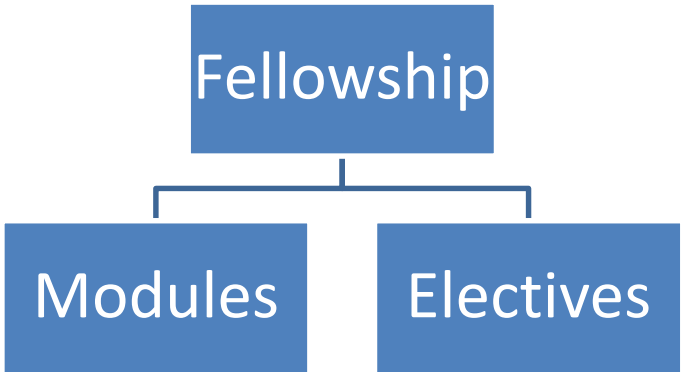
In conjunction with these elements, there are also networking elements that also have to be developed to be provided at the same standard as the above elements, and these are:

1. Fellowship forum
2. Book club

The new structure provides learners with a clearer map of their learning, and will also make the administration of the education system easier to manage. It also facilitates the development of core competencies for each module.

New structure outline

It is proposed that under the new structure, learning will be provided through a combination initially of four modules and elective learning. It provides learners with a clear structure upon which to base their work, and still gives them the flexibility to tailor their area of study to their professional development.



1. Modules

Each module will be comprised of four components;

- Case study,
- Two webinars
- Fellowship forum participation
- Assessment

Each student will be required to complete three out of the four modules in their entirety, and two components from the fourth module.

Sample outline

Module One: Patient Safety	Module Two: HTAI	Module Three: External Evaluation	Module Four: Quality Management
•Webinars •Case study •Forum participation •Assessment	•Webinars •Case study •Book club •Assessment	•Webinars •Book review •Forum participation •Assessment	•Webinars •Journal article •Assessment

Each module will carry ten credits and the individual components for five credits each – totalling forty credits.

10 x 3 = 30

2 x 5 = 10

Total = 40

2. Elective learning

This section can be made up of any combination of the approved activities outlined on our website up to twenty credits may be attained from electives e.g. conference participation, book chapter etc

Timeline

A pilot module on leadership and management is being launched in March 2014, and during the time students are completing it, work will commence on the development of the four basic modules and the software through which they will be delivered.

It is planned that following on from the evaluation of the management module, this new structure will be launched at the Conference in October 2014. New students will commence studies under the new structure, and existing students will have the option to complete under the rules in place when they enrolled or to undertake the new modules.

New Features:

- Study groups
- Mobile app

7. BARRIERS TO IMPLEMENTATION

On the basis of the reported activities, it has been decided to categorise the challenges for the implementation of education and training activities in four main areas related to:

- resources (money, staff, time, expertise etc.)
- resistance to change and lack of awareness
- organization and logistics and
- other reasons.

The barriers relating to difficulties with financing were reported by 7 countries: resistance to change, including insufficient faculty capacities was mentioned by 6 countries; 8 countries reported barriers due to organization and logistics; the other reasons include lack of relevant data for impact measurement, language difficulties and translations, lack of strong leadership.

The major barriers and difficulties reported are lack of resources in the form of financial and time constraints but also the shortage of competent and well trained faculty and teachers. Factors like difficulties to place the education and training in patient safety modules into the curricula or lack of awareness about patient safety topics have been mentioned. Other reported difficulties included: technical difficulties such as shortage of teaching aids, such as suitable classrooms, power point projectors etc.

All reported barriers and difficulties are summarised in Table 8.

In addition to barriers reported during the data collection, below are more examples of difficulties, that hinder implementation of patient safety education and training, as identified during the discussion at the ET Subgroup meeting.

- Lack of resources, workload, shortage of staff and financial constraints are, in a first step, strong barriers to the implementation of “new” activities.
- Lack of awareness on the top/ leadership level. Patient safety has to be seen as priority and leaders should act as role models.

- Lack of safety culture (instead of a "blame culture").
- A better management system to involve health care professionals. If learning and training in the field of patient safety is seen as an extra workload, but not as an integral competence for all health care professionals, it is difficult to motivate people to take part in these activities.
- Lack of knowledge, what is patient safety about, why is it important, which concrete instruments and measures are available etc.
- Need to identify and place the appropriate expertise at faculty level.

8. SUCCESS FACTORS TO IMPLEMENTATION

The identified **important factors** to implement actions on a strategic level include:

- ensuring that the right curriculum is used for the appropriate profession/target group and that it is completed within the defined time frame;
- implementation of patient safety education and training in minimal standards of undergraduate and postgraduate education.
- introducing patient safety as an integral, necessary or mandatory field in education of an undergraduate and CPD (postgraduate included).
- the development and implementation of a patient safety strategy, including
- training plan for undergraduate/postgraduate curricula with clear learning objectives and aims from health professionals at their workplace and in job descriptions
- creation and implementation of a National Strategy on Patient Safety which will include education for both undergraduates and postgraduates on patient safety.
- creating awareness in universities and higher education institutes, make them aware that patient safety and quality of care is crucial for the professionals
- participative process characterized by dialogue and mutual exchange between policy areas, administrative levels, organisations, and other stakeholders.
- making simulation based training part of the specialist training programs AND training for teams such as cardiac arrest team training.

The **practical solutions**, that work well and should be recommended include:

- introducing patient safety in curricula of continual postgraduate education of health professionals and health managers
- multiple plan approach: education of undergraduate, improve the culture of safety in hospitals, improve skills for patient safety instruments and practices of medical staff, requirements and standards for patient safety
- having a web-site where information about education and training programmes on patient safety in EU will be accessible.
- broaden under- and postgraduate curricula via including mandatory patient safety courses;
    - organizing patient safety trainings for healthcare organisation leaders and health managers
    - recommendations to all universities to include Patient Safety in their curricula
    - recommendation to include Patient Safety in the induction courses for newly recruited health care professionals in the hospitals and primary health care facilities (for both public and private sector)

    - presentations/courses on patient safety and quality of care in universities and higher education (as external experts)
    - inviting and funding universities to organise specific training on patient safety and education (e.g. culture, patient empowerment, proactive risk analysis, leadership) - collaboration
- organising national events (e.g. symposium, congress,..) about patient safety and invite universities and healthcare professionals to participate
- organising internships for students in hospitals to make them aware of the importance of patient safety and quality of care (other methodology to do so: focus groups)
- involvement of professional societies in the development of training programs
- nudge theory, evidence; data; research focus; publications.

One of the most relevant aspects related to introducing patient safety for the undergraduates is the modification of university modules or the insertion of new modules. The Recommendation provides an opportunity for the academia to pay attention to patient safety issues while teaching. Thus, it would be helpful to highlight and give prominence to patient safety when teaching, instead of adding new modules in university courses; contextualizing the specific topics in different disciplines. (e.g. present the surgery checklist at the junior surgeons lessons, or hand hygiene during classes on antibiotics resistance related problems). Such simple approach is useful in ameliorating the patient safety culture already at the undergraduate level. The same approach could be considered for the CPD training.

Other factors identified by the ET Subgroup include:

- A well developed, mature patient safety culture which:
    - takes patient safety as a priority on all levels of health care,
    - is perceived supportive in every-day work,
    - promotes learning and improving, not blaming or punishment,
    - involves all health care professionals, managers and patients/families,
    - is forwarded and supported by the role models.
- Promotion of improvement: it is important that improvement takes place so that health care professionals really experience change for better health care in their daily practice.
- Learning from each other: promote exchange of knowledge and experience as one of the key factors for patient safety. "Patient safety" cannot be mandated. Strategies which connect the top-down and the bottom-up perspective are helpful.
- Begin with elements that are easy in implementation: instead of extensive training programs it is helpful to start with smart activities which easily fit into the daily work practice.
- Train the trainers on the issues of patient safety and use suitable methods of teaching patient safety (interactive methods, integrating patients' perspectives, training in communication etc.)
- Be oriented in the available instruments/measures and best practice examples; use the existing measures and experiences (like checklists etc.) and customize to the organisational/local setting.
- Focus on the inter-professional aspect of patient safety: teamwork and the respect the existing differences in the culture of professions are key issues.
- Integration of patients' experience about incidents and improvement of health care processes, communication, etc.

- Work with incentives: dealing with patient safety should not be seen as extra workload. This includes:
    - proper financing and non-pecuniary incentives;
    - self-motivation/responsibility of healthcare professionals;
    - flexibility and adaptability of education and training activities according to profession, healthcare setting, healthcare system, etc.
- Patient safety seen as an intrinsic part of education and training at all levels and for all professionals: it is nothing "extra" to be learned, but the core of health care.

The ET subgroup has also searched for information about the success factors from the perspective of faculty: Brian Capstick, Visiting Professor at Imperial College and the architect of the incident reporting software that is used by the Veterans' Administration and the Department of Defense in the USA, the Province of British Columbia and some other healthcare providers in Canada and between 70 and 80% of the NHS in Great Britain.

According to Professor Capstick success factors for learning in patient safety include:

1. Scope and Clarity of purpose

Patient safety is a relatively new field of human activity and learning may be more rapid if it is focused on areas which are perceived as a priority and where its signature method of learning from mistakes can yield results that may not be more effectively achieved by some other means. For example, is a patient safety program to be limited to those instances where the healthcare system introduces some new danger such as wrong-site surgery, retained instruments after an operation or hospital acquired infections? Or does patient safety also extend to instances where a patient suffers injury as a result of the disease but where the harm have been prevented (at least to some extent) but for a lapse in the normal standard of care, such as where diagnosis or treatment is negligently or avoidably delayed?

Defining the scope of patient safety to include harm caused by lapses in the standard of care could have significant benefits for education and training. It would bring patient safety more into the mainstream of clinical education and do something to interest clinicians, who are relatively easily motivated to learn how to achieve a more consistent standard of patient care and to avoid litigation.

2. Learning from adverse events

For obvious reasons, learning from adverse events is likely to be a major part of education and training in patient safety. There is much that can be learned from individual case studies and they lend themselves naturally to the sort of participative exercise that adults tend to prefer over more passive formats. Good case studies can be surprisingly difficult to find and to write and it is asking a lot of individual trainers to do this themselves. Some support from a national or local resource is helpful in this context, such as the WHO's admirable video and booklet Learning from Error[14].

Learning derived from the study of large numbers of patient safety incidents in the aggregate is, of course, the ultimate aim of incident reporting systems, and there are a few factors that may speed up the learning that can be derived from them.

(a) Nurture a community of enthusiastic users

An important success factor for learning from an event reporting system is to create and nurture an enthusiastic user community. This is easier to achieve initially if you create a pilot system with an

[14] http://www.who.int/patientsafety/education/vincristine_download/en/

easily manageable agenda in an area which is likely to demonstrate some useful learning early on. One approach is to focus initially on those instances where the patient has suffered serious harm,[15] although these are amongst the least likely to be reported[16]. A smaller system is easy to extend with the help of the user community and this process helps to promote ownership and keep a sense of forward movement. If you allow an incident reporting program to grow too big, it can be surprisingly difficult to cut back once the program has been rolled out across an entire healthcare system.

(b) Focus on actionable causes

Patient safety incidents typically have multiple causes, but learning how to prevent them may well be more rapid if there is a focus on causal factors that can be actioned or corrected at the level of the healthcare system. In practice, there are about 30 processes in a healthcare system that are apt to cause serious injury to the patient when they fail[17] and these are a good place to start. They include processes like robust systems for supervision of junior clinicians, the induction of new staff, the identification of higher-risk patients and making effective arrangements for higher risk patients once they have been identified. These are things that can be improved by action at local level and clinicians enjoy hearing about them.

Learning about actionable causes is likely to be more easily extracted from a database of adverse events if the relevant causes are identified in the classification system. The conceptual framework for the WHO's International Classification for Patient Safety includes many of them, but their significance might be more obvious if they were grouped together in the eventual classification tree. It is important also to take time when events are recorded to investigate them adequately to ensure that they can be accurately classified. This may limit the number of events that can be recorded compared to a system in which anything goes, but is likely to produce greater learning.

9. RECOMMENDATIONS

Patient safety culture needs education and training – education and training needs safety culture.

Education and training in patient safety:

- should be introduced and implemented in the curricula for healthcare workers and managers in every Member State
- should be on all levels of healthcare professionals and managers learning and development
- should be based on previous European project and WHO work in building/developing curricula
- should find constructive, feasible and effective ways to include the perspective of patients when developing the curricula on patient safety
- should use curricula adaptable to each country – cannot be a static program.

[15] House of Commons Health Committee, Sixth Report of Session 2008-9, Patient Safety, 3 July 2009, HC151-1 2008-09 p4
[16] Committee of Public Accounts, Fifty-first Report of Session 2005-06, A safer place for patients: Learning to improve patient safety, HC 831 p5
[17] Capstick B Learning lessons from litigation for improved patient safety Clinical Risk (2004), 10, 221-226

Annexes

Annex 1 Template

RECOMMENDATIONS AND GUIDANCE FROM THE PATIENT SAFETY AND QUALITY OF CARE WORKING GROUP ON EDUCATION AND TRAINING IN PATIENT SAFETY

TEMPLATE FOR MAPPING EXERCISE

Aim of the work:

To propose a set of specific recommendations and guidance on education and training of healthcare workers (professionals and healthcare managers) in patient safety, to be published in June 2014, together with the second report on implementation of the Council Recommendation on Patient Safety and HCAIs (2009/C 151/01).

How is the work planned?

The work will start with mapping the recent good practice regarding European experience in education and training in patient safety.

For this purpose, a template for reporting on education and training[1], was sent out for comments of the subgroup. The amended version taking into account the subgroup comments was sent out not only to members of the subgroup, but also to other members of PSQCWG. Replies will be discussed at the next teleconference in October and once agreed, there will be presented to the PSQCWG at its next meeting 4 November 2013.

The outcome of this work will take the form of a toolbox, with practical solutions on how to effectively implement the provisions of the Council Recommendation and will include examples of good practice in education and/or training in patient safety from EU Member States. Furthermore, the toolbox will attempt to include issues such as: organization/institution resources needed to perform the education activity, including the faculty capacities; importance of focus on students as future health professionals; importance of including training for healthcare managers and professionals as lifelong learning opportunity; patient involvement (e.g. how to use patient experience or patient stories as educational tools); communication between professionals groups and between professionals and patients, values such accountability and compassion.

How can this work be useful for the Member States?

The education and training toolbox will provide a useful and updated guidance for the Member States, aiming at introducing and implementing education and training in patient safety for healthcare professionals and managers, as it is required by the Council Recommendation on Patient Safety.

Relevant types of education and training to be included:

All education and/or training activities that are designed to promote improved performance in the field of patient safety should be considered relevant and therefore included in the mapping. This includes education and training offered within the higher education (HE) curricula; formal and informal continuous professional education (CPD) activities offered by external agencies; and activities provided within internal healthcare settings.

Deadline for sending a fulfilled template:

Please send the filled template **by September 16** to:

SANCO-ET-SUBGROUP@ec.europa.eu and Basia Kutryba at kutryba@cmj.org.pl

THANKS IN ADVANCE FOR YOUR COOPERATION!!!

[1] Based on the questionnaire elaborated by the EUNetPaS project (http://ns208606.ovh.net/~extranet/)

PSQCWG subgroup on education and training in patient safety

Title of the learning activity (education and training)
Titles of specific modules/ courses taught (e.g. reporting and learning; infection prevention and control; safe surgery; human factors engineering, risk management etc.) New modules/ courses interested to teach in the future
Organized by (please name the university/institution/other)
Year of establishment (the year that this education and training was first conducted)
Type of education and training (e.g. undergraduate studies, MSc programs, postgraduate education/courses, continuous professional development , other)
Is this education and training accredited (yes/no) and by whom (please provide the full name of accreditation body)
Delivery platform (e.g. face-to-face – classroom, conference, seminar; webinar; distance learning – books, open learning courses; e-learning, shadowing etc.)
Duration of education and training (in units of time: hours/days/months/years) If higher education please provide also the ECTS[2] or ECVET[3] units.
Cyclic repetition (is the learning or training activity designed to be applied once, every month/semester/year, etc.?)
Target audience by disciplines e.g. undergraduates, postgraduates, professionals, managers
Type of audience: multi professional; unprofessional
Major learning outcomes: e.g. new knowledge, skills and behaviours to be acquired
Does this education and training provide any degree or qualification for the participants (yes/no; what degree or qualification)
Assessment of participants' knowledge/skills gained (yes/no)
If yes, please indicate type of assessment (written/oral/other)
Short description of education and training (–no more than 150 words, including structure, main topics, learning process).
Five keywords that best describe this education and training
Evaluation of education and training by the participants? (yes/no)
If yes, indicate type of evaluation (e.g. participants' satisfaction, knowledge, skills etc.) and impact of education and training , if measured (e.g. changes in indicators or in participants', patients' perception)
The significant **barriers** that needed to be overcome when putting the training in place
Resources required
Faculty capacities (or organisation/ institution resources) and academic qualifications required

[2] ECTS – The European Credit Transfer and Accumulation System (http://ec.europa.eu/education/lifelong-learning-policy/ects_en.htm)

[3] ECVET - The European Credit system for Vocational Education and Training (http://ec.europa.eu/education/lifelong-learning-policy/ecvet_en.htm)

Faculty interest in teaching / expanding patient safety curricula
Faculty training required
Total number of trainees to date (if known)
Comments In this section we would like you to answer the following questions: From the reported experience what is helpful/important to implement action on a strategic and on a practical level? What practical solutions work well and can be recommended?
Link to the source (webpage with information or other contact details providing access to relevant information about this education and training)
CONTACT PERSON FOR THIS EDUCATION AND TRAINING
Name and surname
Telephone Number
Email address

MEMBER STATE/EUROPEAN STAKEHOLDER PROVIDING INFO:

Name and surname
Affiliation
Country
Telephone Number
Email address

Annex 2 Glossary

Patient Safety and Quality of Care Working Group

The Patient Safety and Quality of Care Working Group (PSQCWG) was established in 2005 as a working body of the European Commission in the field of patient safety. The Group contributed to the development of the Council Recommendation on patient safety, including the prevention and control of healthcare associated infections (2009/C 151/01); in 2009 it came with a reflection paper on healthcare quality, presented to and discussed by the Working Party on Public Health at Senior Level in May 2010. Since then the Group changed its name into the Working Group on Patient Safety and Quality of Care.

The Group is actively involved in the EU initiatives related to patient safety and quality of care, including consultation of the Commission inquiry about implementation of the requirements of the Council Recommendation, or development of the recommendations on reporting and learning systems and on education and training in patient safety.

Education and Training Subgroup

The Education and Training Subgroup (ET Subgroup) is a subgroup of the Patient Safety and Quality of Care Working Group of the European Commission . The subgroup was set up to propose a set of specific recommendations and guidance on education and training of healthcare workers (professionals and healthcare managers) in patient safety, to be published with the second report on implementation of the Council Recommendation 2009 in April 2014. The members of ET Subgroup are representatives from the 10 Member States (Cyprus, Croatia, Finland, Germany, Hungary, Italy, Latvia, Poland, Romania, Slovenia, The United Kingdom) and Norway, and also the EU umbrella organizations: CED, CPME, EFN, EPF, ESQH, HOPE, ISQua, PGEU and WHO.

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Italy: Alessandro Ghirardini, Rosetta Cardone, Susanna Ciampalini, Angela De Feo, Lucia Guidotti

Latvia: Guna Jermacane, Evija Palceja

Norway: Torunn Omland Granlund, Eva Turk,

Romania: Carmen Angheluta

The United Kingdom: Bruce Warner, Daniel Eghan

CED: Nina Bernot, Aleksandra Sanak

CPME: Sarada Das, Anamaria Corca

EFN: Paul de Reave

EPF: Kaisa Immonen-Charalambous, Cristina Padeanu

ESQH: Paul Bartels

HOPE: Silvia Bottaro, Pascal Garel

ISQua: Peter Carter

PGEU: Jamie Wilkinson

WHO: Agnes Leotsakos

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Austria: Patrizia Theurer

Belgium: Margareta Haelterman, Hilde Peleman, Laure Istas

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Estonia: Eve Pilt

France: Michèle Perrin

Ireland: Philip Crowley

Lithuania: Egidijus Banys

Luxembourg: Martine Debacker

Malta: Carmel Abela

Portugal: Ana Diniz Couto

Slovakia: Peter Bandura, Zuzana Slezáková

Slovenia: Eva Murko

Spain: Yolanda Agra

Sweden: Ellen Ringqvist, Hans Rutberg

The Netherlands: Hanneke Merten, Martine de Bruijne.

Also the CED members:

Associazione Italiana Odontoiatri,

Finnish Dental Association and

The Swedish Dental Association.

A list of received contributions is presented in the Table 1.

Education and training in patient safety: Focus on the acquisition of knowledge, attitudes and skills to support changes in patient safety behaviour. The principles involve non-technical skills, not

discipline specific. Examples: reporting incidents, human factors engineering, information transfer between professionals and towards patients.

(Cordula Wagner, Professor of Patient Safety, NL)

Continuing professional development (continuing professional education): The systematic maintenance, improvement and continuous acquisition and/or reinforcement of the lifelong knowledge, skills and competences of health professionals. It is pivotal to meeting patient, health service delivery and individual professional learning needs. The term acknowledges not only the wide ranging competences needed to practise high quality care delivery but also the multi-disciplinary context of patient care. **[**For example, this might include technical, scientific, regulatory and ethical developments, as well as research, management, administration and patient-relationship skills. Activities can be categorised as formal/informal and mandatory/voluntary.]

(definition of the study commissioned by SANCO on the continuing professional development (CPD) and lifelong learning of health professionals in the EU and EFTA/EAA countries)

Nudge theory (or Nudge): a concept in behavioural science, political theory and economics which argues that positive reinforcement and indirect suggestions better influence behavior than do laws and edicts.

(Nudge: Improving Decisions about Health, Wealth, and Happiness, Richard H. Thaler, Cass R. Sunstein).

Tables

Table 1 Examples of education activities sent by respondents

Country	Organizer	The name of the education activity with modules[18]
AUSTRIA	Hospital HietzingmitneurologischemZentrum Rosenhügel,	1) Basic training in risk management 2)Regularly risk management meetings
BELGIUM	Basic skills: The Federal Public Service of Health; Second guidance program: 8 Belgian universities, under the co-ordination of the Federal Public Service of Health.	Planned: Second national program on quality and patient safety (2013-2017): guidance and support program. Workshops on basic skills for patient safety: •RCA, HFMEA, patient safety culture, ICPS (WHO), care process management chronic care model, indicators •about 3000 participants between 2007-2012 •most of them are quality and patient safety collaborators. Second guidance program, developed in close collaboration with 8 Belgian universities: 2014: supporting implementation of patient empowerment projects on micro level – patient safety culture – leadership – implementing improvement processes-coaching Belgian hospitals in the development of medication reconciliation and integrated care – impact after a clinical incident 'second and third victims': survey and training – proactive risk management in the OR. Some topics from 2014 will be further deepened, other topics will be new

[18] These are selected examples, i.e. in Germany only members of the German Coalition for Patient Safety (GCPS) were approached for providing the examples of education and training activities. Universities, medical/nursing schools, nor others have been included in the mapping survey

	GZA Ziekenhuizen	1.Introduction course – Quality and Patient Safety 2.Training program 'Quality' 3.Workshop Patient Safety 4.Prisma-method
	2. Psychiatrisch Centrum Dr. Guislain	Medication safety
	3. AZ Sint-Jan Brugge-Oostende.	Reporting incidents and near incidents. Making standard procedures. Clinical Pathways.
	4.KHBO, Oostkamp, Belgium 5.HIVA, (Belgium) 6.Dutch paramedic Institution, (The Netherlands) 7.NIG, Leuven (Belgium) 8.Orpadt Jette (Belgium) 9.BICS Brussels (Belgium) 10.Leuven (Belgium) 11.LOGO, Brugge (Belgium) 12.Orpadt Jette (Belgium) 13.Vesalius Institution Oostende,(Belgium) 14.VUB Jette (Belgium) 15.KUL, Leuven (Belgium) 16.Oostende (Belgium) 17.VVIZV, Gent Belgium 18.ICURO, Brussels 19. Federal Government department of public health (Belgium) 20. AZ St Lucas, Brugge, Belgium 21. Flemish association of hospital pharmacists, Brussels 22. VVIZV, Gent (Belgium) 23. Kluwer, Gent (Belgium)	Fall prevention with the elderly at home Quality assurance in the prevention policy Fall prevention & fall training Fall prevention Policy prevention infections at the dialysis unit Policy prevention infections at ICU Fall prevention with elderly: an ongoing challenge also in the Flanders Fall prevention training Policy prevention infections Policy prevention postsurgery infections Policy prevention and MRSA infections at the dialysis unit Fall prevention with the elderly: dream or reality Prevention of wounds by elderly Forwards to a better patient safety Patient safety Patient safety: top priority? Week of the patient safety liability and patient safety workshop medication safety

	24. VZA, Belgium 25.VZA, Belgium 26. Griffith, Antwerp 27. Orpadt, Belgium 28. Orpadt, Belgium 29. VVIZV, Brugge 30. Vesalius Institution, Oostende 31. VBVK, Brussel 32. Amelior, Sint Niklaas (Belgium) 33. BICS, Brussel 34. Pfizer, Brussel 35. Pfizer, Elewijt (Belgium) 36. KATHO, Brugge 37. BD, Vilvoorde (Belgium) 38. Universal hospital Groeninge, Kortrijk 39. Deloitte & Touche, Antwerpen	Safety in hospitals Symposium quality and safety at ICU Combine environment and safety Patient safety and ADE-management Compliance about hygiene of the hands Nosocomial infections in Belgian hospitals Disinfection of hands and instruments Infections: trends in prevention and treatment Management of infections in nephrology Prevention of infections at ICU prevention of post-surgery infections at ICU training reference nurse infection management Patient safety congress Benelux prevention of surgical site infections (SSIS) Pfizer patient safety day Pohert safety day continuing education : safe surgery The safety imperative in the quest for lab and Hospital Accre Risk management during natural disasters How to cope with risks in the hospital
BULGARIA	Medical University of Varna	Health Management master program: risk management
CROATIA	1) Zagreb University, Faculty of Medicine 2) Agency for Quality and Accreditation in Health Care and Social Welfare, Croatian Society for Quality Improvement in Health Care	1) Quality of nursing care 2) The workshops on patient safety (Patient safety indicators)
CYPRUS	1) Educational Programmes Management Team, Educational Sector, Nursing Services, Ministry of Health, Cyprus.	1) Infection Control Perioperative Nursing Wound Management

	2) Education Offices in Public - General Hospitals, Nursing Services, Ministry of Health, Cyprus.	Intensive care nursing (adult, child, infant) Nursing Process Vaccination Safety during surgical operations Communication Skills Workshops for nurses. 2) Nursing Care of Patients with Tracheotomy Prevention and Management of Bedsores Nursing Care patients after coronary artery bypass Safe Handling of Hazardous cytostatic drugs Training Nurses in Intensive Care Essential Objectives Assessment of Respiratory and Respiratory Mechanics Support Safely Patients Move Home nursing care for patients with mechanical ventilation Hospital Infection Prevention Measures Use-Misuse of Antibiotics Hepatitis C and substance use Cardiac arrest team training takes place in hospitals. Triage.
DENMARK	1) Danish Society for Patient Safety 2) The unit of Patient Safety in the capital region of Denmark. 3) Central Denmark Region in cooperation with the North Denmark Region 4) Bachelor students in nursing, physiotherapy, occupational therapy, biomedical laboratory medicine e.g. 5) Faculties of Health Science at University of Copenhagen, Aarhus University, Southern Denmark University, and Aalborg University 6) The specialist societies in plan the specialist training of doctors in collaboration National Board of Health and the simulation centres in	1) Basic Course for Risk Managers. Basic Principles for Patient Safety Legal aspects The Risk Manager's Role Human Factors Communication Tools Tools for reactive Analysis (Root Cause Analysis and Significant Event analysis) Improvement Methods The second Victim Care for the harmed Patient 2) The short courses are: Patient Safety introduction course is applied two or three times a year. Root Cause Analysis is applied one time a year. Healthcare Failure Mode and Effect

	the country. 7) The simulation centres/unit refer to the regions or the universities. There are simulation centres in all the 5 regions at the hospitals. There is a growing interest for a national collaboration about these activities. In The Capital Region of Denmark, the Danish Institute for Medical Simulation (post graduate activities) and Centre for Clinical Education (pregraduate). There are centres in Århus, Odense and Ålborg.	Analysis are applied one time a year. Statistical process control introduction course is applied once a year. 3a) Two day basic course for clinical staff with a key function in patient safety and clinical leaders. The course covers terminology and concepts, and the science of patient safety, basic legal issues, reporting, analysing and learning from adverse event, actions to improve safety, the first and the second victim, further specific and different improvement tools and project are presented 3b) Two day advanced course focusing on different tools and methods to enhance patient safety e.g. patient safety culture, Global Trigger Tool, Statistical Process Control, the surgical checklist, Safe Hand Hygiene etc. 4) Modules in patient safety are integrated into the general curriculum of the basic health care educations at bachelor level. The modules are tailored to fit the specific professional group as well as they are slightly different in size and content. They cover basic aspects of the science of patient safety, legal issues, reporting and learning as well as safe clinical practice. 5) Modules of e.g. 5 ETCS point are offered on a voluntary basis to master level students in health science, public health, clinical management and quality of care, medicine etc. The courses cover basic aspects of patient safety and quality of care; terminology and concepts, the science of quality improvement, epidemiology in quality improvement, legal issues, reporting and learning, patient safety culture and non-technical skills, improvement models, sustainability in improvement, quality management, accreditation, patient involvement/empowerment, and patient satisfaction, quality indicator monitoring and auditing. Pre-graduate activities: communication with patients; ward rounds; practical skills training Post-graduate activities: for individuals as part of specialist training programs using simulation.

		5. For 1st year doctors there is a 4 days course, where patient safety and non technical skills are addresses – the link between technical and non-technical skills. 6. In the specialist training of ambulance technicians, paramedics, mid wives, nurse anaesthetists – patient safety and non – technical skills are part of the training courses at Danish Institute for Medical Simulation 7. In the national specialist training for anaesthesiologists a 3 day course in patient safety, intra-professional communication and patient communication is included. Thereto, non technical skills are addressed in several of the other mandatory courses – building up competency over 4 year training. 8. Patient safety, human factors, non-technical skills are embedded in the specialist training of medical doctors (there are specific learning objectives around that in the curricula). Activities for teams in the organisation (CPD) – all these activities include aspects of patient safety human factors and non-technical skills. These activities are for the real team members (not students). In many of the larger hospitals in DK, this is introduced – and implemented in some hospital. 7. Cardiac arrest team training 8. Trauma team training 9. Identification and initial handling of the critically ill patient in the ward 10. Obstetric team training 11. The full operation room team 12. Surgical skills training Activities for organisations In the Capital Region of DK, the simulation centres collaborate about simulation based training of the organisation. Initiatives where all staff members in a given department has been trained as teams in non-technical skills are growing. In 2013 all staff members in 7 departments have been included simulation based team training of non-technical skills either in a simulation centre or by bringing the simulator to the department. We are moving towards common concepts for

		training based on patient safety issues in the organisation. This is done in collaboration with the Unit for Patient Safety in the region. Training in human factors, patient safety and non-technical skills are to some extent seen in most hospitals in DK. Furthermore, the surgical specialties have increased focus on training on surgical simulators before doing the procedure on a patient. This is part of the specialist training programs.
ESTONIA	1), 2)Tallinn Health Care College 3) Tartu Health Care College 4) Centre of Continuing Medical Education of Medical Faculty, Tartu University 5) North Estonia Medical Centre (Hospital), Training Department	1)The basic of infection control Patient safety min integrated in other subjects and topics (E.g. surgical nursing, nursing procedures etc.). 2) Nurse specialist training 3) Nursing management and enterprise 4) Infection diseases 5) Patient safety is part of most of the following learning activities even if it not indicated in the title. 6) Trainings taken by infection control specialists (a doctor infectionist and a special nurse on infection control) in Foundation of Pärnu Hospital on patient safety and targeted to professionals that deal with prevention of contagious diseases. In – house trainings organised by Foundation of PÄRNU Hospital. Participation of Pärnu Hospital staff at trainings organised by other institutions.
FINLAND	1) National Institute for Health and Welfare 2) Continuing education modules 3) Finnish Dental Association	Risk management Infection prevention and control
FRANCE	Ministry of Health and National Authority for Health	A first National Program for Patient Safety has been launched in 2013 (for 2013-2017). It embodies 4 major orientations among which “Education, ongoing training, patient safety culture and support” (orientation 3). 35 deliverables are due by 2017. Many of

		the topics they address (feedback and analysis after a sentinel or adverse event, communication with patients, multi-professional communication, team building, dealing with risks, the use of innovating methods like simulation, etc.) have been stressed, since the Program has been launched, in ongoing training and educational programs as well). Some of these topics also get extra funding. Many specialised programs (quality of management in drugs circuit, prevention of healthcare associated infections, etc.) already exist. The National Program for Patient Safety aims at tackling issues through the common roots and links to all healthcare professionals and activities. The OMS patient safety multiprofessional guide will be proposed.
GERMANY* * In Germany only the members of the German Coalition for Patient Safety have been asked to report (voluntary basis). So the reported examples are a small selection. E.g. we didn't address universities, f Chambers of Physicians or others separately. In total 30 examples were reported. Please note: not all reported examples are shown here.	1) Ategris- die Kette der diakonischen Krankenhäuser 2) University of Cologne 3) Apothekerkammer Nordrhein, including acitivites in cooperation with Bayerische Landesapothekerkammer 4) Kassenärztliche Vereinigung Westfalen-Lippe 5) Landesapothekerkammer Rheinland-Pfalz 6) Berlin Chamber of Physicians in cooperation with the German Coalition for Patient Safety 7) Apothekerkammer Berlin including cooperation with Deutsche Pharamzeutische Gesellschaft 8) Apothekerkammer Hamburg 9) Bavarian Chamber of Physicians 10) University of Ulm, department of obstetrics and gynaecology in cooperation with GCPS 11) Sana Kliniken AG and	1) Five reported activities:Expert standards in Hospital/ Nursing; Patient identification strap; CIRS; 2) Conference, safety for medication 3) Six reported examples: Improvement of medication safety by community pharmacists; risks of pharmacotherapy; management of adverse pharmacological interactions; medication review in the community pharmacy; Apotheker für Geriatrische Pharmazie/ postgraduate training. 4) 2 examples: MRSA; infection protection act for medical doctors and infection protection act for medical assistants 5) 2 examples about medication safety, AMTS – Arzneimitteltherapiesicherheit 6) Incident analysis – intensive training 7) 2 examples for activities on medication safety, interaction 8) Education in basic pharmacy 9) Patient Safety-Risk management 10) Simparteam- simulation team training in obstetric emergencies 11) ERiKA- Event and risk communication analysis (Ereignis und

	Gesellschaft für Risikoberatung (GRB) 12) Chamber of Physicians of Lower Saxony in cooperation with Techniker Krankenkasse 13) MVZ Strahlentherapie Buchholz ADKA, Bundesverband Deutscher Krankenhausapotheker e.V.	Risikokommunikationsanalyse) 12) Basic course "Medical quality management" of the Center for Quality of the Chamber of Physicians of Lower Saxony 13) Patient safety in radiation oncology, radiation protection. Handling of medication errors, Process optimization
IRELAND	HSE Quality and Patient Safety Directorate in partnership with the Royal College of Physicians of Ireland	Diploma in leadership and Quality Improvement Hospital Leadership training in quality improvement Quality Improvement training for trainees Cross Border Patient Safety Training Programme
ITALY	Ministry of Health in partnership with professional organizations. AssociazioneItaliana Odontoiatri, Italian Dental Association, AIO.	1. Manual for training on Patient safety. 2. Manual for Training on clinical governance and patient safety. Also: Reporting and learning; Infection prevention and control; Safe surgery; Risk management.
LATVIA	1)University of Latvia, Faculty of Medicine 2) Children' University Hospital 3)Pauls Stradins Clinical University Hospital, Department of Education and Science 4) Riga Stradins University 5) Medicine colleges.	1) Economics and Management in Health Care course includes introduction to patient safety; Introduction to medical studies course Master programme for nursing managers - Health care quality course includes patient safety topics (system approach, human factors, safety culture, learning from errors, proactive approach, good practices) 2) Risk Management and Patient Safety; 3) Basics of transfusiology for doctors; Radiation Safety for medical irradiation; Care of patients with different health

		problems; Patient care Hyperbaric oxygenation use in medicine; Hygienic and anti-epidemic measures in hospital; Vascular diseases and surgical care of patients; 4) Patient safety for residents; Patient safety related issues are included in various courses of study, for example Doctor Professional Communication (communication, skills), Infection Control course etc. 5) Patient safety related issues are included in various courses of study.
LITHUANIA	Vilnius University Faculty of Medicine Lithuanian University of Health Sciences Kaunas College Klaipeda State College, Faculty of Health Sciences Panevezys College Institute of Hygiene	Requirements for patient safety in Lithuania and abroad Postgraduate education/courses Clinical essentials of antibacterial treatment The use of antibiotics in the practice of clinician, microbiologist approach Antimicrobial treatment of infectious diseases Patient safety and medical devices cleaning - sterilizing process monitoring in health care facilities Fundamentals of Health Care and Nursing Ergonomics and human occupation Occupational therapy in Physical Dysfunction, Practice, Module: Health care quality assurance In Bachelor ("Nursing" and "Midwifery") programs topic "Patient safety" included are below modules: Basic Nursing I and II; Clinical Nursing I and II; Adult care nursing; Geriatric nursing; Special care nursing; Critical care nursing; Mother and infant care nursing I and II, Quality and safety in health care etc.

LUXEMBOURG	1) Institut Universitaire International Luxembourg and Fédération des Hôpitaux Luxembourgeois. 2) Save lives: Clean your hands (infection prevention and control).	1) Training for coordinating medical staff and medical health officers. Module 4: quality and risk management. 2) Ministry of Health, Ministry of the Family (based on the WHO campaign).
NORWAY	1),2) University of Stavanger, Department of Health Studies. 3) University of Oslo. Institute of Health and Society.	1) Patient Safety – University course on master degree level. 10 credits (60 credits = one year). The course is part of a master of science degree in health sciences. 2) Patient safety – University course on a PHD level. 10 credits. The course is part of PHD programs in a) health and medicine and b) risk management. 3) Knowledge, leadership and quality in the medical school.
POLAND	1) Polonia University in Częstochowa 2) The School of Higher Vocational Education in Nysa/ Institute of Public Health/ Emergency Medical Rescue 3) University of Humanities and Economics, Faculty of Health Sciences, Nursing Speciality.	1) Medical care quality and patient safety. Personal data and medical documentation protection. Infection prevention. The specificity of maintaining patient safety at the psychiatric ward. Safe surgery. Safe nephrology. The specificity of patient care at the Dialysis Station. The principles of safe patient transportation. The principles of safe venous catheter tunnelling. The principles the safe administration of medicines: oral, intravenous and intramuscular. Safe nursing practice. 2) Titles of specific modules/ courses taught -infectious diseases - social communication 3) Patient safety- prevention of adverse situations. Safety and hygiene of nurse and midwife working environment - Application of modern equipment for protection and care of patients- ergonomics of work. - Principles of lifting and changing patients' positioning. - Safe equipment- how to protect from infections. Interpersonal communication- an ability to

		cope with stress.
PORTUGAL	Directorate-General of Health (DGS) and Portuguese Association for the Development of Hospitals (APDH)	1)Patient Safety: From Quality and PS to Clinical Excellence - Initial Conference Quality in Healthcare - Final Project Presentation &Final Conference
SLOVAKIA	1) Universities – in undergraduate teaching programme for dental students. 2) Universities – as a part of postgraduate education. 3) Slovak dental chamber – as a part of continuous professional development of dentists.	Hygiene safety in dental office, prevention of cross infection, importance of vaccination of dental staff members, safety work with dental materials and all instruments, equipment in dental office, safety work importance of patient´s history for prevention of healthy treatment, cardio-pulmonal resuscitation courses, x-ray risk and safety.
SLOVENIA	1) Ministry of Health 2) University clinical centre Ljubljana 3) College of nursing Jesenice 4) Medical faculty Maribor 5) Oncologic Institute	1)Clinical pathways manual Reporting and learning system Prudent use of antimicrobials Infection prevention and control Professional guidelines for the management and prevention of infections Safe surgery WHO project 5 moments for hand hygiene Accreditation In the context of postgraduate training for medical doctors t attend a 1 hour lecture on quality, and accreditation in healthcare, including safety. 2)Medical simulation Unit, opened in 2011: delivering a diverse number of training activities to national and international medical practitioners and healthcare workers. The centre has one operating theatre with associated control room, one intensive care unit with associated control room, enabling: 1. Cardiac arrest team training 2. Trauma team training 3. Identification and initial handling of the critically ill patient in the ward 4. Obstetric team training 5. The full operation room team

		6. Surgical skills training (simulation of abdominal, urological, gynaecological operations, pelvic-trainer) System, collecting deviations, including sentinel events, medication errors, etc. Guidelines for safe use of new anticoagulant drugs In 2013 UCC Ljubljana created a strategy on quality and safety 2013, 2014, focusing on: - surgical safety list - hand hygiene - medication handling - catheter sepsis 3) 2 courses: - Basics of quality in health and health care - patient safety (based on WHO curricula) 4) Patient safety - a 7 hour elective course for medical students 5) Safe handling of cytostatic drugs Safe use of radiation therapy.
SPAIN	Spanish Ministry of Health collaboration with: Carlos III –University- Madrid Miguel Hernandez University-Alicante Spanish Society of Intensive Medicine Avedis Donabedian Foundation	Teaching program on Patient Safety at National: level -Online risk management course -Master on Patient Safety -SINASP online course (reporting & learning system) -Hand Hygiene course for clinical professionals -Bacteriemia zero course -Pneumonia zero course The Regions provide basic training on patient safety to their professionals Some Universities have specific courses on PS for undergraduates
SWEDEN	1) Counties and regions	Most counties and regions give basic courses in patient safety. Some give more advanced courses on root cause analysis

		and risk analysis. There are more than 30 simulation canters in Sweden.
	2) The Swedish Association of Local Authorities and Regions, SALAR 3) The Swedish Dental Association 4) The National Board of Health and Welfare 5) The Medical Products Agency 6) The Health and Social Care Inspectorate 7) The Faculty of Engineering at Lund University and the Royal Institute of Technology (KTH) 8) Healthcare settings	Courses in medical record reviewing and SBAR Följer jag lagen? (Do I obey the law?). University courses in patient safety
UNITED KINGDOM	NHS Institute for Improvement and Innovation / NHS QI (successor body)	LEADING IMPROVEMENT IN PATIENT SAFETY (LIPS) Each module has a different focus and topics include: • Getting started (Measurement for Improvement) • Executive Quality & Safety Academy • Leading Improvement in Patient Safety • Pursuing Improvement in Patient Safety • Progressing Improvement in Patient Safety • Sustaining Improvement in Patient Safety
THE NETHERLANDS	1) Organized by VU University Medical Centre in Amsterdam for all their medical students. 2) Organized by VU University Medical Centre in Amsterdam with other teaching hospitals in the region. 3) Organized by the 8 Dutch University Medical Centre in the NL.	Reporting and learning; infection prevention and control; safe surgery; human factors engineering, risk management. There are modules for various groups: 1) Patient safety and it's improvement for undergraduate medical students. 2) Patient safety course for residents. Post academic quality and safety education programme for high potentials (doctors and nurses) working within hospitals.

Table 2 Level of organising bodies

Country	National level (universities, professional organisations, etc.)	Regional level	Local level (hospital)	Other
AUSTRIA			X	
BELGIUM	1)2)X		3)X	
CROATIA	X			
CYPRUS	1)X		2)X	
DENMARK	1)X	2)X		
ESTONIA	X		X	X
FINLAND	X			
FRANCE	X	X	X	X
GERMANY	X	X	X	X
HUNGARY	X			
IRELAND	X			
ITALY	X	X	X	
LATVIA	X		X	
LITHUANIA	X			
LUXEMBOURG	X			
NORWAY	X			
POLAND	X			
PORTUGAL	X		X	
SLOVAKIA	X			X
SLOVENIA	X		X	
SPAIN	X	X	X	
UNITED KINGDOM	X			
THE NETHERLANDS	X	X	X	
COUNCIL OF EUROPEAN DENTISTS				X
SWEDISH DENTAL ASSOCIATION	X	X		X

Table 3 Type of education and training

	Countries
Undergraduate	CROATIA, DENMARK, FINLAND, LITHUANIA, LATVIA, THE NETHERLANDS, NORWAY, POLAND (2), POLAND (3), SLOVAKIA, ESTONIA, SLOVENIA
Postgraduate	BELGIUM,COUNCIL OF EUROPEAN DENTISTS, DENMARK, GERMANY, HUNGARY, IRELAND, LITHUANIA, LATVIA, THE NETHERLANDS, NORWAY, POLAND (3), SLOVAKIA, ITALY, ESTONIA, SLOVENIA
Continuum education	BELGIUM, DENMARK, PORTUGAL, FINLAND, AUSTRIA, ITALY, COUNCIL OF EUROPEAN DENTISTS, UNITED KINGDOM, SPAIN, LITHUANIA, LATVIA, THE NETHERLANDS, POLAND (3), SLOVAKIA, SLOVENIA, GERMANY
MSC programs	LITHUANIA, POLAND (3)
Other	CROATIA (Workshops), NORWAY, SLOVAKIA, CYPRUS, ESTONIA ITALY (Workshops, ad hoc seminars, meetings)

Table 4 Target audience

Country	Students	Doctors/Dentists	Nurses/Midwifes	Pharmacists	Managers	Multiprofessional	Other
AUSTRIA					X		new hospital employees all employees interested in this matter
BELGIUM		X	X	X	X	X	
CROATIA	X		X		X	X	
CYPRUS			1)X 2)X		1)X 2)X	2)X	1)X
DENMARK	X	X	X		1)X 2)X	2X	1)X 2)X
ESTONIA	X		X		X		X
FINLAND	X	X	X	X	X	X	X
FRANCE	X	X	X	X	X	X	X
GERMANY	X	X	X	X		X	
HUNGARY		X	X	X	X		Residents
IRELAND		X	X	X	X		
ITALY		X	X	X	X	X	Also junior doctors are involved in this matter
LATVIA	X	X	X	X	X		Clinical leaders Physicians radiologists and radiologic-assistant
LITHUANIA	X						postgraduate studies for professionals
LUXEMBOURG		X	X		X		

NORWAY	3)X	X	X		X	X	X
POLAND	1)X 3)X				3)X	1)X, 2)X	2)X 3)X
PORTUGAL	X	X	X	X	X		
SLOVAKIA	X	X	X	X	X	X	X
SLOVENIA	X	X	X		X		
SPAIN		X	X	X	X		
UNITED KINGDOM					X		Professionals ,clinicians in leadership roles
THE NETHERLANDS	X	X	X				X
COUNCIL OF EUROPEAN DENTISTS							Postgraduates professionals
SWEDISH DENTAL ASSOCIATION		X					

Table 5 Faculty capacities, training and interest

Country	Academic qualifications required	Healthcare professionals with expertise in QI and PS	Others
AUSTRIA			having completed the education for a certified risk manager, enough human resources to provide education;
BELGIUM	X	X	X
CROATIA			
CYPRUS			2)X
DENMARK	X	X	Expertise in post graduate medical education and simulation
ESTONIA	3)X		1)X, 2)X
FINLAND	X		
FRANCE	X	X	X
GERMANY		X	X
HUNGARY			
IRELAND		X	
ITALY		X	X
LATVIA	X	X	Appropriate capacities
LITHUANIA			Enhanced collaboration among health policy developing bodies, education and health (hospitals) institutions
LUXEMBOURG		X	2) X
NORWAY	X		3)X
POLAND	1)X 3)X		
PORTUGAL			
SLOVAKIA	X		X

SLOVENIA	X	X	
SPAIN		X	
UNITED KINGDOM		X	
THE NETHERLANDS			
COUNCIL OF EUROPEAN DENTISTS			Lecturers Board of Italian Dental Association, AIO & external lecturers
SWEDISH DENTAL ASSOCIATION			

Table 6 Delivery platform, duration and qualifications of participants

Country	Delivery platform	Duration	Qualifications/Diploma MA/diploma etc.
AUSTRIA	face-to-face-classroom,	Different formats e.g. 3 hours (medical doctors) 4 hours (medical assistants) Regular Care:4x/year Doctors:4x/year All other 1x/year 3 – 4 days	Different
BELGIUM	The pedagogical resources used are diverse: seminars, training days with exercises, discussion, examples of good practice from home and abroad, toolkits, learning community, e-learning. Classroom	Basic skills: •on RCA, HFMEA and ICPS: on a yearly basis •on patient safety culture: every 4 years (when hospitals a patient safety culture measurement). Second guidance program: 10 a total of 10 activities are organized on different themes, five in Dutch and 5 in French 1.Introduction course – Quality and Patient Safety (3.5h – twice a year for all new staff, and 1.5h for all new nurses).	

	Classroom Face to face and classroom	2.Training program 'Quality' Change management (2h) Brainstorming (2h) Measuring (2h) Mapping processes (2h) Implementation of improvement actions (2h) 3.Workshop Patient Safety (1h) 4.Prisma-method (6h). Awareness sessions: +- 1 hour Subthemes: +- 4 hours 2h30.	
CROATIA	1) Classroom, seminars, practical work 2) Classroom, conference	1) One semester course – 10 ECTS 2) Once per year	1) No 2) No
CYPRUS	1) Yes 2) Yes	1) Not yet, but is expected in the near future some of the programmes to receive accreditation in the form of ECTS or ECVET. Possible accrediting bodies: Cyprus University of Technology, University of Nicosia. 2) No.	
DENMARK	1) Yes, 2) Yes 2) Lectures, group discussions, role plays and	1)No, 2)No	

	simulation based training 1)No, 2)No 3) Duration from hours to several days		
ESTONIA	1),2),3),4),5) Yes	No	
FINLAND	1)E – learning 2)Face to face –classroom 3)Face to face – conference	1) 10 X 0,5 hours 2) From 1,5 hours to one day 3) From 1 to 2 hours	No
FRANCE	Face to face, e-learning	various	Yes
GERMANY	- Face to face – classroom - Workshops - Seminar - E- learning	Different formats, e.g.: 3 hours (medical doctors) 4 hours (medical assistants) Regular Care:4x/year Doctors:4x/year All other 1x/year 3 – 4 days	Different.
HUNGARY	Open e-learning course	90 hours	No
IRELAND	Face to face, workplace coaching, on-line support (webex, email) phone support	70	Yes. Diploma
ITALY	-University Master on PS - Face to face – classroom	12 hour a week for 20 weeks Classroom 3-4 hours Workshop 4-6 hours	the participants receive a certificate

	- Workshops - Seminar - E- learning	Seminar: between 6-10 hours E-learning around 8-16 hours for each manual (5 MANUALS); range of credits for each course:8-16 CME	
LATVIA	1)Classroom, face-to-face,lectures 2)Face-to-face Classroom 3) Open learning courses (full-time courses)	1) 3 ECTS (once a week for 1 semester). 2) 12 hours 3) - 20 hours (12 hours lecture, 8 hours practical class) - 10 hours - 40 hours (36 hours lecture, 4 hours practical class) - 10 hours (6 hours lecture, 4 hours practical class) - 105 hours (15 hours lecture,90 hours practical class) - 10 hours (5 hours lecture,5 hours practical class) - 10 hours (8 hours lecture,2 hours practical class). 4) 6 academic hours.	1) No 2) No, but participants receive postgraduate training points. 3) -Yes, Certificate - Yes, Certificate - Yes, reference - Yes, reference - Yes, Certificate - Yes, reference - Yes, reference
LITHUANIA	Face-to-face – classroom, Seminar, Conference	Vilnius University Faculty of Medicine - Medical ethics - 3 ECTS credits, 80 hours; Clinical pharmacology, drug registration and consumption safety - 3	No specific degree in patient safety

		ECTS credits, 80 hours; professional communication and psychosomatics - 3 ECTS credits, 80 hours Lithuanian University of Health Sciences - Fundamentals of Health Care and Nursing (5 ECTS), Ergonomics and human occupation (6 ECTS), Occupational therapy in Physical Dysfunction (21 ECTS), Practice (30ECTS), Approximately 8 ECTS in Bachelor's programs, other 8-72 hours Kaunas College - Duration of education and training. 3-9 ECTS credits of the study program subjects, specializations (480-960 hours), courses, internships, conferences (6-90 hours) Klaipeda State College - 160 ECTS, 3.5 year Panevezys College 210 ECTS Institute of Hygiene - 1-2 days	
LUXEMBOURG	1) Classroom 2) Classroom; e-learning	1)12h 2)3h	1) No specific degree in patient safety 2) No
NORWAY	Yes 3)Yes	3)Yes, The Dean's Office, University of Oslo.	
POLAND	1)Yes 2)Yes	2)Yes, The Ministry of science and higher education,	

	3)Yes	Accreditation Commission, consent to carry out the direction of emergency medical rescue. 3)Yes, Certificate of the Minister of Science and Higher Education. Certificate of the Minister of Health.	
PORTUGAL	Face-to-face - classroom Conference	80 hours/12 days/3 months	No
SLOVAKIA	face-to-face – lectures+ seminars+ clinical exercises, seminars, books, open learning courses	In undergraduate study it is difficult due to different contents in different teaching subjects – approximately = 182 teaching hours	
SLOVENIA	Lectures, seminars, workshops, clinical exercises	Ad 3) 42 hours and 54 hours, see also table 1	
SPAIN	Most of them are online courses	- 120 hours - 1 500 hours - 20 hours - 20 hours - 20 hours - 6 hours	Only the Master it is a University Degree
UNITED KINGDOM	Face-to-face open learning seminars, projects	9 months in total – each module requires 3-4 days + private study	No
THE NETHERLANDS	face-to-face – classroom, conference, seminar; webinar; distance learning – books, open learning courses; e-learning, shadowing etc.) Classroom, workshop, discussion group, thesis.	1) Couple of classroom presentations and workshops during undergraduate training period 2) 2 days 3) Two years part-	

		time	
COUNCIL OF EUROPEAN DENTISTS	Face – to – face – classroom Conference Seminar	Hours	
SWEDISH DENTAL ASSOCIATION			

Table 7 Evaluation of education program and qualifications for participants

Country	Evaluation by participants Yes/No	Recognition (accreditation – by whom? Edu points)
AUSTRIA	Yes	No
BELGIUM	Yes No No	Training program 'Quality' is accredited by the federal public service of health, food chain safety and environment. National Institute for Health and Disability Insurance (NIHDI). No No
CROATIA	No	
CYPRUS	3) Yes 4) Yes	1) Not yet, but is expected in the near future some of the programmes to receive accreditation in the form of ECTS or ECVET. Possible accrediting bodies: Cyprus University of Technology, University of Nicosia. 2) No.
DENMARK	1) Yes, 2) Yes	1)No, 2)No
ESTONIA	1),2),3),4),5) Yes	No
FINLAND	No/Yes	No
FRANCE	Yes	Yes
GERMANY	Yes/No	Yes No
HUNGARY	No	Yes Semmelweis University Faculty of

		Health- and Public Services
IRELAND	Yes	Yes. RCPI
ITALY	Yes	In Italy most of all the CPD courses are accredited
LATVIA	Yes	1)Yes (Ministry of Education and Science) 2)No, but concerted and accepted from Latvian Medical Association 3)Yes (approved by Latvian Physicians Association) 4)Yes (Ministry of Education and Science) 5)Yes (Ministry of Education and Science).
LITHUANIA	In some courses – yes (participants' satisfaction, knowledge, skills)	Yes The Centre for Quality Assessment in Higher Education, Approved by Ministry of Health of Lithuania 2010-11-10 No. 10-(22.2-12)-7199
LUXEMBOURG	1)Yes, 2) Yes	3) No, 2) No
NORWAY	Yes 3)Yes	3)Yes, The Dean's Office, University of Oslo.
POLAND	1)Yes 2)Yes 3)Yes	2)Yes, The Ministry of science and higher education, Accreditation Commission, consent to carry out the direction of emergency medical rescue. 3)Yes, Certificate of the Minister of Science and Higher Education. Certificate of the Minister of Health.
PORTUGAL	Yes	No
SLOVAKIA	Yes	Yes, -undergraduate study accreditation by Ministry of Education. -postgraduate study – accreditation by

		Ministry of Health. -Continuous professional development accreditation by Ministry of Health.
SLOVENIA	Yes	Yes
SPAIN	Yes	Yes Each course is accredited by a different Agency
UNITED KINGDOM	Yes	No
THE NETHERLANDS	Yes	1) Undergraduate (Yes) 2) Postgraduate/resident training (Yes) 3) Post-academic (Not Yet)
COUNCIL OF EUROPEAN DENTISTS	Yes	Yes Italian Ministry of Health
SWEDISH DENTAL ASSOCIATION		

Table 8 Barriers to implementation

	Member States
Financing	FINLAND, IRELAND, SPAIN, LITHUANIA, CYPRUS (1): Limited resources CYPRUS (2): Limited resources DENMARK (1): Course fee may be to large for some potential participants. ESTONIA: Financing of participants SLOVENIA: limited resources
Resistance to change	COUNCIL OF EUROPEAN DENTISTS, UNITED KINGDOM, GERMANY, LUXEMBOURG Find a good balance between theory and practice. LUXEMBOURG (2): Adaptation of the training to an audience that cannot read or write (cleaning staff). POLAND (1): Communication with patients. POLAND (3): Lack of knowledge and skills required for using particular equipment. Low level of coping with stress. CYPRUS (1): Time constraints on behalf of the trainees, difficult (sometimes)to persuade trainees on the need for further training (education).
Organization and logistics	UNITED KINGDOM, GERMANY, SPAIN, THE NETHERLANDS: It was difficult to get specific modules for patient safety into the medical curriculum. LUXEMBOURG (2): Bad timing: several survey at the same time important workload for the trainers and the trainees. POLAND (1): Lack of access to the equipment helpful with changing patients' postioning. Lack of safe equipment (in medical institutions) preventing from adverse stabbing (economic factor). CYPRUS (2): Time constraint ITALY: Different availability of access to web, more specifically, household access to broadband connection varies widely across the country, technological skills of targeted health operators, different promotional activities in different areas. SLOVENIA: strong competition for inclusion of new topics in undergraduate and postgraduate curricula
Other reasons	Time (FINLAND, UNITED KINGDOM, LATVIA, GERMANY), Lack of relevant data to enable impact measures (UNITED KINGDOM), language and translation (HUNGARY), Agreement with the universities and regions

	(SPAIN) software issues (GERMANY);Translation of the power point presentation in Luxembourg national languages(LUXEMBOURG); Strong leadership and priority of PS (DENMARK). Insufficient capacity among the university staff to provide the courses (NORWAY); Lack of university teachers for dentistry (SLOVAKIA). SLOVENIA: lack of academic experts Freedom of choice: Medical doctors are more likely to use CPD for the improvement of their clinical skills instead of other skills such as patient safety, communication abilities etc.