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ABSTRACT

The Document introduces a brief picture of learning needs in Medicine and Nursing Profession, e-learning training offer for medical doctor in ultrasound and for Nursing Professionals. A further analysis of training expectations and lacks is available as well.

A revision of the document has been done in order to better specify the cluster of Target Group, the geographical origin of the representatives interviewed. Either the Documentary or the Fieldwork Researchers have processed data coming from the whole Italian territory (North, Centre and South).

National Report FOR.COM Italy

Executive Summary

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Purpose of the report

Representatives of Target Group has been selected among Medical Doctors, Nursing Professionals, Medical Students and Managers responsible of Medical training services.

Doctors and Nursing Professionals represent the first beneficiary of the training courses developed by E-EDUMED partnership. A deep overview of their training needs, learning career expectations, restrictions related to digital divide, lack of time and job commitments, is essential in this first project phase in order to better tailor the training offer and cope with target group needs.

Medical Students have been interviewed as future beneficiaries to detect their training expectations and an update overview of the basic Medical training offer. A deep picture of the actual first training medical offer will allow the partnership to cope with the future medical professionals training needs, avoid redundant existing modules and focus on precise future career prospective. Training courses will be developed according to field work and documentary research thus they will be effective and innovative for the next years. Medical Students will allow tailoring a valuable lasting training offer.

Managers responsible of Medical Training Services have been interviewed in order to assess economic and political assumptions for the enhancement of the e-learning methodology, the rationale behind managers' decisions, costs/benefits ratio, legal constraints and training requirements for medical professional profiles.

Target group

Representatives of target group have been touched according to the following structure:

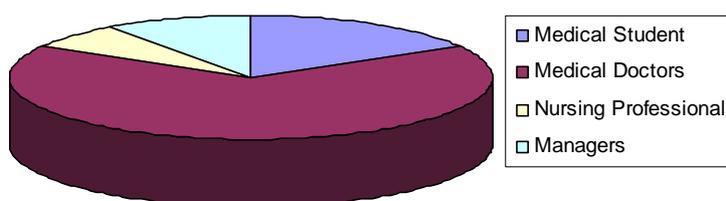
Doctors (20)

Nursing Professional (2)

Medical Students (5)

Managers responsible

of Medical Training Services (3)



Evaluation methodology

National Report has been conducted gathering results come from a documentary research and a field work survey.

Documentary research summarizes information gathered from Universities institutional websites, Ministry of Education, private and public training agencies, professional networks and associations.

Field work research summarizes information come from Paper/electronic Questionnaires administered to representatives of target group.

A questionnaire has been designed for each specific category of Target Group (Doctors and Nursing Professionals Medical Students, Managers).

They have been translated into Italian in order to increase the impact of communication and the quality results of field word research. They have been administered by hand, by email and as a basis for phone interviews. 30 representatives have been touched from 15 of May to 13 of July. They represent a cluster of representatives selected at National level (North, Centre and South of Italy), not just at local level. 5 medical doctors and 2 Medical Students from North, 2 Nursing Professionals from South, 15 Medical Doctors, 3 Medical Students and 3 Managers responsible of Medical Training Services from the Centre of Italy. Responses have been collected, processed and summarized. The Italian version of questionnaires for Managers and for Medical Doctors, Students and Nursing Professionals has been uploaded into Survey Monkey, an online survey software & questionnaire, in order to easily collect more responses and support data processing. https://www.surveymonkey.com/s/e_edumed; https://www.surveymonkey.com/s/eedumed_manager

Emails to invite to contribute to the survey and fill the questionnaire have been sent to the main contacts representatives of target group.

Evaluation Results

As concerns *managers* responsible of Medical Training Services, regarding how important continuous medical education is (quest.1), 100% of responses witness that it is essential for

job performance and efficiency since patients' satisfaction strictly depends on medical professionals' qualification and training.

Being updated and informed about recent technologies, practices, medications absolutely influences the success of medical mission and the impact on patient health.

Moreover, (quest.2) Continuous medical education it is compulsory as stated by the AGENAS Agency (National Agency for the Health Regional Services). It states that each medical doctor (or nursing professional) has to obtain 150 credits during 3 years (2011-2013). Credits are compulsory and are included in Certificates of Service.

As long as training activities have to be attended after working hours, managers think that 50 credits per year are too much, while 30 credits should be a more suitable request. It is very hard to earn requested credits. Sometimes hospitals (i.e. San Camillo Public Hospital of Rome), in order to cope with this problem, have defined periodical ward meetings (as well as clinic audit) as training sessions and assigned the requested number of credits.

Most of Managers is quite interested either in e-learning or mobile learning (quest. 3/4) even if this last methodology/device it is not familiar. Digital divide is still an actual issue, in particular for 40/50/60 years old medical professionals.

As concerns the domains on the web for e-learning (quest. 5-6-7), San Camillo Hospital uses its own website to provide information on available courses such as a database with the list of topics, professional profile addressed, earned credits, topics, length, etc..). It further exploits e-learning platforms on ECM (Educazione Continua in Medicina – Continuous Training in Medicine) certified by Agenas <http://ape.agenas.it/homeEsterno.aspx> the Agency responsible for medical training on behalf of Ministry of Health <http://www.salute.gov.it/ecm/ecm.jsp>, a database of qualified provider is listed in the website of Agenas, other websites with additional information and available courses/events are: www.e-ecm.it; www.corsiecm.it.

100% of Managers is motivated to promote e-learning in its Institution (quest. 8), but most only for courses based on theoretical concepts (i.e. about legal issues, safety, guideline and protocols, procedures, medicine for travel, approaches to specific patients, transversal topics, etc..).

All are sceptical about ultrasound or other topics which foreseen practical experience. For example, ultrasound techniques and diagnostic through images strictly require a period of work-shadowing or coaching in order to learn techniques and try them suddenly on site. They think that E-learning is not suitable for topics that foresee practical experience.

By the way, most of managers appreciate e-learning and mobile learning methodologies added values, they won't to use e-learning platform for continuous education for employees either on free basis or on payment basis (quest. 9-10). If it is not free of charge, the use depends on the costs, the quality of the offer, and only for courses based on theoretical concepts.

100% of managers prefer the Italian language for the course information (quest.11). But for some of them, English it is accepted as well since most of the medical publications are in English.

100% of managers are interested in all topics proposed (ultrasound, e-courses for Nursing Professionals, e ECHO-Atlas, Manual) (quest.12). Guideline and protocols have to be stressed as key topics for training courses in a private/public Hospital since medical categories have to be updated and informed.

After a brief explanation of what are, the methodology and the benefits, 100% of managers are interested either in virtual classrooms (even if they don't have had any experience) or Forum on medical topics, ultrasound or nursing issues (quest. 13-14).

As concerns *Medical Doctors, Nursing Professionals, Medical Students, Residents,*

Medical Doctors: Most of responses (quest. 1-2) refer daily to online sources, other information sources are all used, but with a various frequency, different from professional profiles. Moreover, most of them are daily interested in Medical Legislation, Medication, Medical events, Science & Research and Clinical issues.

All medical doctors interviewed profiles stressed how continuous training is important.

The quick and continuous development of Health and Medical fields, as well as the pressing of progress in terms of technologies and management/organization, contribute to make more difficult the alignment of each competence profile to the requested changed standards.

Three characteristics of Medical Professionals in terms of skills and abilities have been outlined:

- ❑ To know: have updated theoretical knowledge;
- ❑ To do: have technical or manual skills;
- ❑ To be: have communication and relations' skills.

Maintaining refreshed those three aspects of medical professional profiles means to be trained and informed.

As concerns familiarity with e-tools (quest. 3), answers were strongly different between professional profiles. Students, more confident with digital tools know Chat, Audio conferencing, Video conferencing, Forum, e-mail groups, Internet Mobile/Mobile learning very well. They don't use WIKI, but they have heard about it.

Medical Doctors and Nursing Professionals with a high work experience suffer from a low confidence with digital tools. All of them get use to Audio/Video conferencing, Forum, Internet and email, but they are not familiar with Chat, WIKI, e-mail groups, Internet Mobile/Mobile learning, they have never heard about them. 100% of responses daily use Internet and prefer receiving information by email (quest. 4-5-6).

100% of responses (quest. 7) prefer or use to attend traditional courses or workshops to update medical skills and knowledge. Added values of E-learning are not diffused.

100% don't have attended online courses either during University or post University courses (quest. 8-9). Notwithstanding, 100% of responses are curious about e-learning potential (quest.10-11). Medical Doctors/Nursing Professionals don't know mobile learning, but they would like to hear more about potential. Medical students are interested in mobile learning, even if they don't have ever benefited from them.

None look for e-learning courses in Internet until that time either (quest. 12).

As concerns medical fields (quest. 13), many responses consider e-learning methodology useful in particular to transfer concepts such as Guideline, Procedures and Protocol. It is more suitable for theoretical contents since images and practical interaction has to be learnt in presence. Most of responses assign an average of 30 hours per year of refreshment (quest. 14). 100% of responses prefer an online platform free of charge for continuous education (quest. 15-16), rather than on payment basis. 100% of responses prefer national language (Italian) for course information and content, but English would be fine as well since most of the Medical Publications/Manuals are in English (quest. 17).

All mentioned topics for learning are interesting; but it mostly depends on the quality of the content (quest.18).

100% of representatives of target group are interested in Virtual classrooms, after a brief explanation of what they consist in (quest. 19).

100% of responses are interested in Forum and sharing content with images for a second opinion (quest. 20-21).

As concerns the last question (quest. 22), what information you need for your professional growth, many answers has been given, different from professional profiles: Medical Doctors/Nursing Professionals focused on Guideline, Protocols, Procedure, clinical issues; Students focused on new jobs and career opportunities, European new techniques, technologies, publications and Science and Research last innovations. They have a cross border overview.

General Overview of the process

The analysis of the questionnaires, administered to Managers responsible of medical training, Medical Doctors, Nursing Professionals as well as Medical Students, has highlighted main important behaviours. In order to summarize a clear picture of the most important training needs in medicine, the emerged state of art of medical e-learning, the specific needs and expectations of target group, we will focus on three core themes.

1. Knowledge and use of digital devices/tools in everyday life, in medical profession and lifelong training.
2. Thrust/experience in distance learning about medical topics and knowledge of specific distance learning methodologies/tools.
3. Italian Legal requirements and binds of medical profession since they represent important assumptions to the online courses attendance.

According to these three main topics, the different ages of target groups, has to be considered since it is a discriminating factor for different behaviours, needs, priorities and expectations.

1. As concerns the first issue, knowledge and practice of digital devices/tools in everyday life, Medical profession and lifelong training, there is quite homogeneous picture among *Medical Doctors*. They spend a lot of time in training, refreshment courses, job shadowing and discussions with peers. They daily exploit all main sources of information and deepen any topic relevant for their profession. They don't have deep knowledge in e-tool and distance methodologies/devices. They use email and internet. They would like to spend 30/50 hours per year for training, but they have serious difficulties in matching training with workday.

In the same way, *Nursing Professionals* spend many hours in training and refreshment courses. They almost daily consult main sources of information and relevant topics for their profession. They don't have knowledge of e-tool and distance methodologies/devices either. They sometimes use email and internet. They would like to spend at least 30 hours per year for training but they have serious difficulties in matching training with workday.

Beside that, *Medical Students*, considering their young age and the fact that they are not employed yet in a work place (hospital, health institute, or clinics), they have different competencies, training needs and expectations. The use or are quite familiar with e-tools and they heard about distance and mobile learning. They weekly/monthly consult all sources of information (in particular Science and Research useful for their studies and internship).

Often Professors suggest them Publications, medical events, etc... They use email, internet, e-tools and social network. They spend all day studying and attending internship, thus they haven't looked for distance courses before.

2. As concerns thrust/previous experience in distance learning for medical topics and knowledge of specific distance learning methodologies/tools, Medical Doctors and Managers of Medical Training don't thrust in distance learning for subjects such as ultrasound. Medical Doctors which have 6 years of Master Degree, plus five years of Specialisation course, don't need so many theories but require practice and job shadowing to enhance the quality of ultrasound diagnosis through images. Distance learning it is quite suitable for guidelines, protocols, cross topics such as security and crisis management, privacy, etc... They don't have experience in Virtual Classrooms, but they would like to know more about it.

Nursing professionals don't have any experience either in distance learning or virtual classrooms, but they are curious about methodology, virtual classrooms and e-learning platform. Even in this case Nursing Professionals underline the training needs of practice and request training about guidelines, protocols, cross topics such as security and crisis management, privacy, etc... Students don't have practice as well either in Distance learning or in Virtual classrooms.

This picture could seem seriously negative for a successful e-learning medical pilot project. It is important to face with real needs, lacks and restrictions of Italian contest. Detected data are needed to tailor the best elearning offer in ultrasound, nursing and patient approach. It has to be able to cope with actual medical learning needs. Aware of such feedbacks, elearning courses need to be high quality of content, there should be several meaningful images of case studies (if possible in 3D), videos, practical information and a group to share information, doubts and experience. As good example, despite of this, Fetal Medicine foundation provides distance learning in ultrasound with 3D images and many case studies. E-learning doesn't mean to substitute the practice but should aim at strongly enhancing the skills and knowledge of medical professionals in order to be better prepared to practice.

Information Technology is a flexible and powerful tool able to make the difference.

E-learning Methodology will offer high level content, technology potential, students' interaction, share and teamwork in virtual classrooms. For example 3D images and virtual classrooms will support medical and nursing professionals in training without having the presumption to be exhaustive, but propaedeutical to practice.

The collaborative and committed behaviours of medical professionals will represent the core engines of successful learning venture.

3. Italian regulations concerning ECM – Continuous Medical Education require refreshments courses and a precise number of credits (150 for 3 years) for all medical professions. The request is very hard and it very difficult to fulfil the training extra working day. E-learning course, tailored to target group needs, will support learning flexibility and teamwork (National and international).

General Overview of Web-Based Learning in medical education

Continuous medical education it is compulsory as stated by the AGENAS Agency (National Agency for the Health Regional Services on behalf of Ministry of Health). It has stated that each doctor (or nurse) had to obtain 150 credits during 3 years 2008-2010. As concerns 2011, the Ministry of Health has recently published a legal reference; it confirms the same decision, 50 credits per year (150 within 2011-2013). Credits are compulsory and are included in Certificates of Service.

Ministries of Education, Health and Agenas Agency assess and certify ECM (Continuous Medical Education) training providers (Universities, Hospitals itself, Training Agencies, etc...). Quality of Education, didactic team, services, credits system applied, structures are evaluated and assessed. A list of certified Providers is published on Official Public Websites.

E-learning platforms on ECM (Educazione Continua in Medicina – Continuous Training in Medicine) are thus certified by Agenas <http://ape.agenas.it/homeEsterno.aspx> the Agency responsible for medical training on behalf of Ministry of Health <http://www.salute.gov.it/ecm/ecm.jsp>.

A database of qualified providers is listed in the website of Agenas, other websites with additional information and available courses/events are: www.e-ecm.it; www.corsiecm.it.

Some Hospital and Medical University are providers of Distance Medical learning itself. Some training providers are specialised in Distance Learning for Medical Education, other are specialised in blended medical learning.

Some examples of distance learning providers are listed below:

Agenas <http://ape.agenas.it/homeEsterno.aspx> the Agency responsible for medical training on behalf of Ministry of Health <http://www.salute.gov.it/ecm/ecm.jsp> provides a database of qualified providers.

Other websites with additional information and available courses/events are:

www.e-ecm.it; www.corsiecm.it;

Med3 is a consortium of Public Institutions which provides Distance learning <http://www.med3.it/> ;

Distance Courses for medical professionals <http://www.ecm-fad.it/>;

Research engine for Continuous Education in Medicine <http://www.virtualecm.it/>

Online courses could be different for each medical professional (medical doctor, nursing, physiotherapist, etc...) or shared by more categories.

As concerns the subjects, usually e-learning methodology is employed for cross issues such as guidelines, protocols, transversal skills (English, Informatics, etc...) or innovative in Science and Research fields.

A brief example of training offer which focuses on cross topics is mentioned below:

<http://www.ecm-fad.it/>

- Approach to specific patients
- English language for health professions, different glossaries for different specialised areas
- Travel Medicine
- Pregnancy diabetes, screening and follow up

<http://policlinico.ecmcampus.it/> Major Hospital of Milan

- Transplant and organ donation a cultural challenge
- Informatics for Health
- Tools for Scientific Research on the Web
- Medicines, Health and Statistics
- Differential Diagnosis with objective exam

<http://www.ecmcampus.it/> - News on HIV problems and hepatic infections
- Sexual violence: guideline and protocols

<http://www.ecmlearn.it/> - Approach to chronic pain and pain connected cancer
- Therapy of pain: not opiate analgesics
- Primary headaches

Standards and professional competences in Ultrasound and Patient approach

Technician Qualification

Bachelor Degree in Techniques of Medical Radiology through Images and Radiotherapy

Students attend a three years university course. They deepen knowledge about techniques, instruments, radiotherapy, and ultrasound functions. At the end of the course they can continue University Studies enrolling a Master Degree in Medicine and Surgery or can be employed in Hospital as technician of diagnostics through images (Radiotherapy and Ultrasound).

As an example, *Bachelor Degree in Techniques of Medical Radiology, through Images and Radiotherapy* provides the qualification in Technician in Medical Radiology (Technical Health Professions) (University of Rome <http://www.unicampus.it/offerta-formativa/corso-di-laurea-in-tecniche-di-radiologia-medica-per-immagini-e-radioterapia>).

Medical Doctor Qualification

1st step of training to become Medical Doctor - Master Degree in Medicine and Surgery (6 years, 360 credits)

Training in Ultrasound starts since the beginning of the training path. In fact, Medical Students during the Master Degree in Medicine and Surgery, which lasts 6 years, usually have specific modules/exams concerning Diagnostic through images including ultrasound and radiotherapy. They study diagnostics through images either focusing on general techniques or ultrasound in specific medical fields (oncology, diseases of blood, etc...).

(University of Rome <http://www.unicampus.it/offerta-formativa/corso-di-laurea-magistrale-a-ciclo-unico-in-medicina-e-chirurgia>)

As an example of training module included in Master Degree in medicine is "Introduction to ultrasound and vascular Echo-Doppler". The module either includes physical and technological principles of ultrasound or practice in small groups coached by an expert professional.

As concerns the relation with patient for doctors, there are specific didactic modules included in the Master Degree in Medicine and Surgery. It briefly investigates patient approaches in general psychology and focuses on particular kinds of patients (i.e. oncology and/or old patient).

2nd Step of training to become Medical Doctor - Course of Specialization (5 years)

- *Specialist in Diagnostic through images*: as soon as the six years are finished, Graduate Medical Doctors can decide to become expert in Diagnostic through images, Radiotherapy and Ultrasound. They enrol a Specialisation course which usually lasts five years in Diagnostic through images or radiotherapy.

(University of Rome <http://roma.unicatt.it/2200.html> <http://www.unicampus.it/scuole-di-specializzazione/scuola-di-specializzazione-in-radiodiagnostica>)

- *Medical Doctor Specialised in other medical fields* (gynecology and obstetrics, paediatrics, internal medical doctors, cardiologists, etc...): ultrasound is essential for several kinds of medical professionals. During the specialisation course which lasts usually five years, medical doctors deepen knowledge about instruments and techniques of ultrasound, have practice on these in hospital through job shadowing.

3^d Step of training after Specialisation Courses– *Vocational Training, High Training, Master Medical Doctors*, which have started working, need to benefit from continuous training and refreshment courses in order to enhance skills and competences, being acquainted about last practices, instruments, and techniques.

The duration and the delivery is quite different, it can be a workshop, a conference, a traditional course, a distance course, a clinic audit, etc... The broadly recognised high level of training centres allow to outline a list of the most qualified Centres. Usually they are spin off of University research centres, professional associations, and private agencies.

According to the Italian legal framework, medical professionals (medical doctor, Nursing Professionals, etc...) have to earn 50 credits per year for training attended in extra working hours (150 credits for 3 years). Continuous medical education it is compulsory as stated by the AGENAS Agency (National Agency for the Health Regional Services). Credits are compulsory and are included in Certificates of Service.

Brief examples of Continuous Training Courses for Medical Doctors, graduated and specialised:

- *MASTER IN ADVANCED ENDOSCOPY (1 Year – 60 credits) (High Training – Alta Formazione)*

High Level Specialisation in digestive endoscopy, diagnostic and operative

Languages: Italian and English Cost: 5000,00 €

Participants need to have a Master Degree and a Specialisation in Gastroenterology and digestive endoscopy or Internal Medicine or General Surgery or Digestive Surgery Internship in Hospital 20 credits

- *TRAINING COURSES* (3/4 days of theoretical course and Practice) provided by Centre of Research and Training in Internist Ultrasound, Interventional and vascular.

Training actions aim at deepening the theory and practice of clinic ultrasound according to the scientific guidelines of national and international scientific societies. Three training levels are provided: basic, intermediate and continuous training in clinic ultrasound (internal and vascular).

Medical Doctors acquire knowledge about uses of ultrasounds in Internal Medicine and similar fields, the methodology of carrying out the ultrasound test. Practice is taught through directly or indirectly, or through tutoring of experts.

<http://www.ecografiabologna.org/>

The Italian Group of ultrasound in Internal Medicine (GIUMI) includes professional that work or wish to deepen the practice of clinic ultrasound.

<http://www.ecografiabologna.org/giumi/index.html>

- *SIUMB* is a multidisciplinary Society which includes several professionals (internal medical doctors, radiographers, surgeons, general medical doctors, and gastroenterologists). It has a training School to support and provide studies and training activities towards use of ultrasound in Medicine and Biology. They can be workshop, traditional courses, congresses, etc... The methodology is mainly in presence. <http://www.siumb.it/presentazione.html>

Standards and professional competences in Nursing Professionals' Education

1st Step of training - Bachelor Degree in Health Nursing Profession (3 years)

(About 19 exams + qualification exam to start working, 180 credits)

Graduated in Nursing are defined as Health operators according to the competencies set by the Ministry of Health (14/09/1994 and next modifications/addenda).

They are responsible for the general nursing assistance. It has to be preventive, healing, palliative and rehabilitating. The nature of the assistance has to be technical, relational and educative. The main functions are: prevention of diseases, assistance to patients/disables of all ages and health education.

As concerns the subjects, they will be an example, Human Anatomy, Physiology, General Pathology and Bio clinics, general Nursing, Clinic Nursing, Public Health, European Nursing, Health Management, Clinic Nursing Methodology, Health Law, General deontology and applied bioethics.

As soon as the Nursing students awarded bachelor degree, they can continue university studies enrolling Master Degree in Nursing Profession or enrolling the Master described below.

2nd Step of training – Master Degree in Health Nursing Profession and Obstetrics

More advanced training of scientific and management issues.

3rd Step of training – Vocational Training, Master/Short training courses for Health Nursing Profession

As Medical Doctors, Nursing Profession has to be continuously updated and informed about last practices, technologies, approaches, guidelines and protocols. Continuous training is essential for the quality of the work. Each year, they have to earn 50 credits in training activities (150 in 3 years). They can be workshop, distance courses, congresses, Master, clinic audit, etc...

Training courses could have different contents; it depends on the interest and work specific activities of the worker. There could be a course focused on Nursing Profession competencies or specific issues such as ultrasound for Nursing Profession, or security, crisis management, etc...

As an example, few training options have been listed below:

- *MASTER FOR HEALTH NURSING PROFESSION* (6 months/1 year)

Case Management in Nursing Profession and Obstetrics

Cost: 780,00 €

Core topics are: planning the assistance of patients in the Operative Units; informing and training patients and their families; prepare for discharge; coordination of resources and activities; follow up of patients at home or in extra hospital structures; Models and programmes of Nursing Case Management/ Primary Nursing; impact of Nursing Case Management, self-care and possible issues, the nursing diagnosis, standards and measurement instruments (Braden, Barthel, Fim); guideline and protocols, communication with patient (old, with cancer disease, etc..), health information and therapeutic education, caregiver.

- *TRAINING COURSES* (3/4 days of Theoretical course and Practice) provided by Centre of Research and Training in Internist Ultrasound, Interventional and vascular.

Training actions aim at deepening the theory and practice of clinic ultrasound according to the scientific guidelines of national and international scientific societies.

Three training levels are provided: basic, intermediate and continuous training in clinic ultrasound (internal and vascular). Nursing Professionals acquire knowledge about uses of ultrasounds in Internal Medicine and similar fields, the methodology of carrying out the ultrasound test. Practice is taught through directly or indirectly, or through tutoring of experts. <http://www.ecografiabologna.org/>

The Italian Group of ultrasound in Internal Medicine (GIUMI) includes professionals who work and wish to deepen practice in clinic ultrasound, forthcoming innovations, last techniques, etc... <http://www.ecografiabologna.org/giumi/index.html>

As concerns ultrasound for Nursing Professionals they usually receive just general information about instruments and procedures in ultrasound in the 3 years university training path.

As concerns, the relation with patient for Nursing Professionals, there are didactic modules included in the training path (degree 3 years) where analyzed (general psychology) is and, moreover, it is included in other modules considering specific kind of patients.

General Educational overview

A brief premise about the university system in Italy has to be done.

Higher Education is organized into Four Different Stages:

1. *Bachelor degree ("Laurea Triennale")* is awarded after a three-year course of study and aims at transferring the core subjects as well as more specialized, professional topics. During the third year, students usually acquire work experience by doing an internship.

The degree is awarded after 180 credits ECTS earned credits and students can either enter the job market or continue studies attending a Specializing master.

2. *Master degree ("Laurea Specialistica/Magistrale")* is awarded after two years of graduate studies for a total of 120 credits ECTS. It aims to provide rigorous, advanced training in more highly specialized areas. Note: Some specific studies, such as Medicine, are made up of a single long cycle which lasts six years. Students have to earn 360 credits (CFU) in six years; 60 credits/per year (1.500 hours).

3. *Specializing Master ("Master Universitario")*

Graduate Students can enrol usually a one-year Specializing Master. The "Master Universitario" focuses on specific topics and aims at providing practical professional skills to fresh graduates or professionals wanting to develop specific skills and competences.

4. *Doctoral Program - PhD ("Dottorato di Ricerca")*

A PhD is awarded after three additional years of study and aims at enhancing professional competence to carry out high level researches, University teaching and cooperation with companies, public bodies and other universities.

Educational contexts - Ultrasound

Aware of the aforementioned premise concerning Italian Education System, A Student could choose to become a *Technician of Diagnostic Through Images* (ultrasound and radio).

He has to award a Bachelor Degree in Techniques of Medical Radiology through Images and Radiotherapy obtaining the qualification of *technician*.

Differently, a student could choose to become a *Medical Doctor* (specialised in Internal Medicine, Obstetrics, or Cardiology, etc...). He has to award the Master degree and the Specialisation obtaining the qualification of Medical Doctor specialised in Internal Medicine for example.

Technician and Medical Doctors could deepen his competencies in Ultrasound as requested by his job, through workshops, training courses, etc...

Educazione Continua in Medicina (ECM) - Continuous Medical Education regulated by the Ministry of Health has been established through the decree of 30th December 1992, n. 502, integrated with decree of 19th June 1999, n. 229.

Training activity is mandatory for each professional who has to earn a number of vocational credits (CFU) per year.

The main objective of Continuous Medical Education is to update medical professional competences. Individual experience needs to be continuously refreshed by training, studies, and practice stages in order to ensure a high quality patient assistance.

National Commission of ECM on behalf of Ministry of Education and Health certifies the training Institutions/Agencies that are able to provide qualified training courses and credits according to continuous medical education legal framework.

The Survey "La Formazione Continua nelle Regioni e nelle Aziende Sanitarie" (Continuous training Offer in Italian Regions and Health Care Public Agencies) has been promoted by the Department of Public Function in the framework of the project "Governance dei Sistemi Sanitari Regionali", 2006 (Governance of Regional Health Systems). It shows the state of the art of the Continuing Medical Education in Italy during the first five years.

In each Local health department it has been constituted a Unit area for continuous training (Operative Training Units - Unità Operative Formazione).

The training courses carried out dealt with the following main sample topics: security and risk management, clinical governance, ICT, emergency, quality and accreditation.

Local, National or International Institutions, recognised at National and International level, provide training courses/credits and certify individual competencies in specific fields.

Programme ECM for 3 years 2011 – 2013

The programme ECM (Continuous Training in Medicine) has been regulated by the Decision of the National Commission ECM on 13/01/2010. Compared with the previous years, there are some changes which aim to develop an ongoing monitoring of individual areas of competencies. It is confirmed, same as in the past, that a health Professionals must achieve 150 learning credits in 3 years 2011 – 2013 (50 credits per year - minimum 25 and maximum 75). It is not possible to use the credits earned during the past years. The following training activities are recognised to earn credits:

- In presence training
- Distance Learning
- Individual Training
- Studies Groups, Commissions, Research Activities
- Clinic and /or assistance audits
- Teaching and tutoring

Limits of acceptance could be defined for some aforementioned activities. For example, Nursing Professionals don't have to overlap 60% (or 90 credits) of total training activity through Distance courses.

Furthermore, the number of credits awarded through the participation to sponsored events can be more than 50%.

SIUMB Training School (mentioned above) certifies the qualifications of Medical Doctors in Ultrasound through 2 kinds of *Diploma* (National Diploma in Clinic Ultrasound, National Diploma in Specialist ultrasound) which certify practice and theoretical competencies.

For example, *Fetal Medicine Foundation* aims to improve the health of pregnant women and their babies through research and training in fetal medicine.

The Foundation, with the support of an international group of experts, has introduced an educational programme both for healthcare professionals and parents and a series of certificates of competence in different aspects of fetal medicine.

The ability to achieve a reliable measurement depends on appropriate training and adherence to a standard technique in order to achieve uniformity of results among different operators.

Appropriate training of sonographers and adherence to a standard technique for the measurements are essential prerequisites for good clinical practice.

The success of a screening program necessitates the presence of a system for regular audit of results and continuous assessment of the quality of images.

Training organised by the Foundation, is based on a theoretical course, practical instruction on how to obtain the appropriate image and make the correct measurements in specific fields, and presentation of a logbook of images.

Ongoing quality assurance is based on assessment of measurements and examination of a sample of images obtained by each sonographers involved in screening.

The Fetal Medicine Foundation has introduced a process of training and certification to help to establish high standards of scanning on an international basis. It is imperative that sonographers undertaking risk assessment by examination of the fetal profile receive appropriate training and certification of their competence in performing such a scan.

<http://www.fetalmedicine.com/>

Fetal Medicine Foundation provide also free of charge lecture notes and videos as an example

<http://www.fetalmedicine.com/fmf/online-education/01-11-136-week-scan/>

Educational Contexts – Nursing Profession Education

The Reform of the University System started in the 1992. Bachelor Degrees (*Short Degrees*) were introduced. At the end of 1992, Decree n.502 (later on 517) defined the competencies of the University, of the Regions, and of the local Agencies for Health care in the field of Nursing Education. There were almost 1000 students enrolled to the first University Courses for Nursing activated in 18 Italian Universities.

After a transition phase, in 1996/1997 all the basic training for nursing profession belonged to the University. On the Degree, beside the signature of the Responsible of the course, was the signature of the Rector of the University.

Nursing Profession Education actually consists of first in the 3 years *Bachelor Degree in Nursing Profession* (180 credits). Students are required to have a High School Diploma (5 years) and 18 years old.

A further important reform was defined by law 251/2000 (Reform of the Health Nursing Professions). This law established that a Nursing Professional could continue his University studies enrolling the *Master Degree in Nursing Profession* increasing the level of qualification.

Conclusions

Analysis has been conducted processing information gathered from documentary and field work researches. Representatives of target group have been touched and interviewed on the phone, by email, or through web. On the other side, institutional Public Health and private and public Higher Education Institutions' websites have been investigated in order to collect all the main relevant data. Need of Long-life Medical Education is broadly shared either among medical professionals or among Public Institutions, Hospitals, Clinics, etc...

Italian regulation, furthermore, binds medical professionals to attend an intensive training programme and earn 150 learning credits in 3 years extra working day.

Professionals' Individual Motivation, training needs and legal assumptions represent a flourishing ground to make pilot project on medical distance learning growing up.

Moreover, some important remarks have to be underlined. Distance learning in medical education it is not broadly diffused.

Medical Professionals (medical Doctors, Nursing professionals) use to attend workshops, job shadowing or traditional training courses to enhance their skills and in particular practice.

It is recognised that Distance course for medical education is more suitable for theoretical concepts (guideline, procedures, protocols, legal frameworks, or cross issues such as security, patient approach, etc...). Ultrasound for a medical doctor already specialised in a medical field, need to be deepen with many images (3D if possible), case studies, high quality of content, group discussions and practical information. As good example despite of this, Fetal medicine Foundation, provides distance learning in ultrasound with 3D images and many case studies. E-learning doesn't have to substitute the practice but should aim at strongly enhancing the skills and knowledge of medical professionals to be better prepared to practice.

Information Technology is a flexible and powerful tool able to make the difference. 3D images, videos and virtual classrooms will support medical and nursing professionals in training without having the presumption to be exhaustive, but propaedeutical to practice.

The collaborative and committed behaviours of medical professionals will represent the core engines of successful learning venture.

Annexes List of Internet and web-based learning providers in medical education

Fetal Medicine Foundation aims to improve the health of pregnant women and their babies through research and training in fetal medicine. <http://www.fetalmedicine.com/fmf/>

<http://www.fetalmedicine.com/fmf/online-education/01-11-136-week-scan/>

www.e-ecm.it Distance Courses for Medical Professionals

www.corsiecm.it Distance Courses for Medical Professionals

<http://www.med3.it/> Med3 is a consortium of Public Institutions which provides Distance learning.

<http://www.ecm-fad.it/> Distance Courses for medical professionals

Agenas <http://ape.agenas.it/homeEsterno.aspx> the Agency responsible for medical training on behalf of Ministry of Health <http://www.salute.gov.it/ecm/ecm.jsp> provides a database of qualified provider in the website of Agenas.

Major Hospital of Milan <http://policlinico.ecmcampus.it/>

<http://www.ecmcampus.it/>

<http://www.accme.org/> ACCME Accreditation Council for Continuing Medical Education

<http://www.amc.org.au/> L'AMC Australian Medical Council Inc.

<http://www.amee.org/> AMEE Association for Medical Education in Europe

<http://www.uems.net> European Reference Framework in the field of Continuous Medical Education - UEMS Union Européenne des Médecines Spécialistes

<http://www.jcehp.com/> JCEHP Journal of Continuing Education in the Health Professions

<http://www.lcme.org/> LCME Liaison Committee on Medical Education is the website of the Authority responsible for certification of Medical Schools

<http://www.sacme.org/> SACME Society for Academic Continuing Medical Education

<http://www.sund.ku.dk/wfme/> WFME (World Federation for Medical Education)

<http://www.mededuc.com/> Medical Education is a Journal specialised in Medical Issues

<http://www.pedagogie-medicale.org/index.htm> it is a Journal specialised in Pedagogy